

## **TECHNICAL PRESENTATION – GEOLOGICAL SURVEY QUEENSLAND**

Richmond Vanadium Technology Limited (ASX:RVT) is pleased to advise that its Chief Geologist Mr Warwick Nordin is presenting at a Minerals Geoscience Webinar for Geological Survey of Queensland on Thursday 25 May 2023.

A copy of the presentation is attached.

**This announcement has been authorised by the Board of Directors of RVT.**

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## About Richmond Vanadium Technology

Richmond Vanadium Technology Limited (**RVT**) is an Australian minerals company currently advancing its 100% owned Richmond – Julia Creek Vanadium Project (the Project) in North Queensland. RVT has adopted the globally recognised World Economic Forum (**WEF**) Environmental, Social and Governance (**ESG**) framework.

The 1.8Bt Richmond – Julia Creek Vanadium Project has a completed Pre-Feasibility Study demonstrating a technically viable and financially attractive development project. The Project has a completed process flowsheet using conventional techniques with a provisional patent application lodged with IP Australia covering the method for the concentration of vanadium.

RVT is completing a Bankable Feasibility Study and progressing approvals for the Project. RVT's ESG metrics and sustainability will be incorporated into its Bankable Feasibility study at every stage from inception to mine decommissioning, and throughout the supply chain to better enable the Company to balance the benefits to the planet, people and profit successfully.

Situated between the towns of Julia Creek and Richmond in Queensland, the Project is 500km west of Townsville and 400km east of Mt Isa along the Flinders Highway and Great Northern railway linked to Townsville Port, and close to existing infrastructure including gas pipeline and HV network line.

The Queensland Government declared the Richmond – Julia Creek Vanadium Project to be a Coordinated Project in May 2022, making it the first critical minerals project to be awarded this status.

The Company's Mineral Resource comprises three main prospects - Lilyvale, Manfred and Rothbury, across 5 tenements. Following resource definition drilling on the Lilyvale deposit in Q3 2019, RVT conducted a Mineral Resource update (compliant with the JORC 2012 code) and a maiden Ore Reserve<sup>1</sup>.

### Richmond – Julia Creek Project Mineral Resource and contained metal

Richmond – Julia Creek Project Mineral Resource and Contained Metal (at 0.30% V <sub>2</sub> O <sub>5</sub> cut off)				
Deposit	Category	Tonnage (MT)	V <sub>2</sub> O <sub>5</sub> (%)	V <sub>2</sub> O <sub>5</sub> (MT)
<b>Rothbury</b>	Inferred	1,202	0.30	3.75
<b>Lilyvale</b>	Indicated	430	0.50	2.15
<b>Lilyvale</b>	Inferred	130	0.41	0.53
<b>Manfred</b>	Inferred	76	0.35	0.26
<b>Totals and Averages</b>		<b>1,838</b>	<b>0.36</b>	<b>6.65</b>

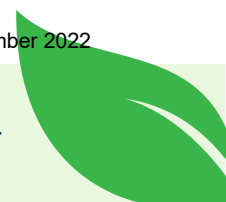
Note:

Reported in accordance with JORC Code (2012), at cut-off grade 0.3% V<sub>2</sub>O<sub>5</sub>.

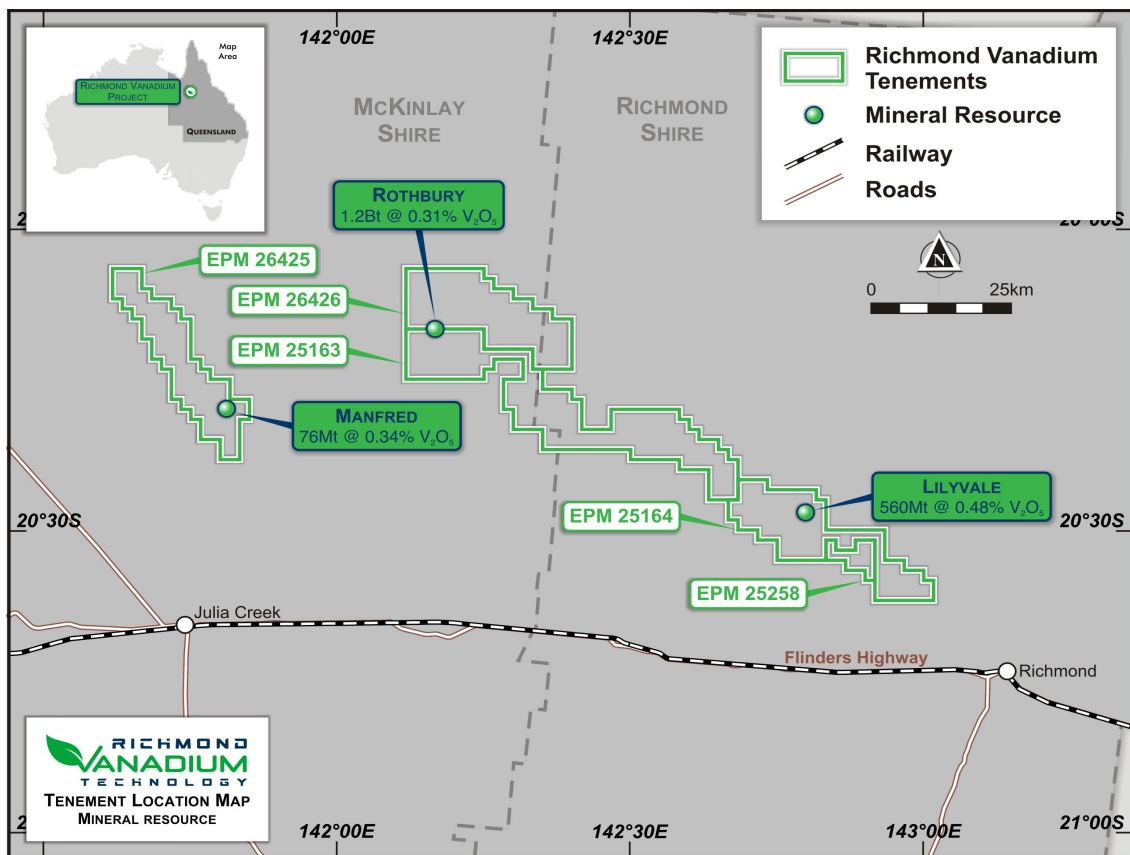
Metal contents calculated using grades with 3 decimal places.

Metal Content varies from Mineral Resource Update by HGS (IRC:ASX "Intermin announces world-class Vanadium Resource", 20 March 2018, due to arithmetic errors. The table above reflects the correct results for Manfred.

<sup>1</sup> Refer Prospectus dated 14 October 2022 and Supplementary Prospectus dated 21 October 2022 released to ASX on 9 December 2022



## Richmond – Julia Creek Tenement Location Map



### JORC Compliance Statement

The information in this announcement that relates to Minerals Resources and Ore Reserves referable to Richmond Vanadium Technology is extracted from the reports titled 'Prospectus' dated 14 October 2022 (which includes an Independent Technical Assessment Report at Schedule 1) and 'Supplementary Prospectus' dated 21 October 2022 released to the ASX on 9 December 2022 and available to view at [richmondvanadium.com.au](http://richmondvanadium.com.au) and for which Competent Persons' consents were obtained (together, the **Original Reports**).

Richmond Vanadium Technology confirms that it is not aware of any new information or data that materially affects the information included in the Original Reports and that all material assumptions and technical parameters underpinning the Mineral Resources and Ore reserves estimates in the Original Reports continue to apply and have not materially changed.

Richmond Vanadium Technology confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the Original Reports and that each Competent Person's consent remains in place for subsequent releases by Richmond Vanadium Technology of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.



# POST-CRETACEOUS TO PROBABLE RESERVE



ASX : RVT



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- involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward looking statements; and may include, among other things, statements regarding estimates and assumptions in respect of prices, costs, results and capital expenditure, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions.

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## COMPETENT PERSON STATEMENT

Where the Company refers to the results of the Prefeasibility study, the Mineral Resource Estimate and the Ore Reserve Estimate as outlined in this presentation and as disclosed in the Independent Technical Assessment Report in the Company's Prospectus dated 14 October 2022 and Supplementary Prospectus dated 21 October 2022 and released to the ASX on 9 December 2022, it confirms that it is not aware of any new information or data that materially affects the information included in that Report and that all material assumptions, including the forecast financial information, and technical parameters continue to apply and have not materially changed.

Information on historical exploration results and Mineral Resources and Ore Reserves presented in this presentation, together with JORC Table 1 information, is contained in the Company's Prospectus dated 14 October 2022 and Supplementary Prospectus dated 21 October 2022 and released to the ASX on 9 December 2022.

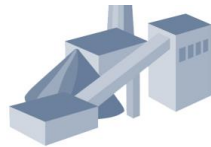


# RVT HIGHLIGHTS



## World Class Project

One of the largest undeveloped oxide vanadium resources in the world capable of supporting a vanadium operation for +100 years at current throughput rates<sup>1</sup>



## Tested metallurgy with proven technology

Proven metallurgical solution via conventional processing resulting in concentrate grades of 1.82%  $V_2O_5$ <sup>1</sup>

Completed process flowsheet, provisional patent application lodged



## Located in Queensland with access to infrastructure and government support

Close to existing infrastructure including gas pipeline, HV network line, major highway and railway linked to Townsville Port



## PFS delivers compelling financial returns

Refining recovery at 86.1% produces average production of 12,700t  $V_2O_5$  pa<sup>1</sup>

At US\$9.60/lb  $V_2O_5$ , project generates NPV10 of A\$613M with IRR of 38% and payback of 3.2 years<sup>1</sup>



## Promising long-term outlook for Vanadium

Vanadium poised to play a pivotal role in commercialisation of renewable energy

Vanadium consumption for VRFBs is forecast to grow at an average 20.7% a year from 2020 - 2029<sup>2</sup>



## Lower carbon footprint compared to titanomagnetite projects

Mineralisation located at average depth of 2m to 25m below surface in soft marine sediment - no drilling, blasting, grinding or roasting required<sup>1</sup>



## Critical Mineral – attracts funding

Queensland Govt constructing a critical minerals facility to process vanadium, building a 1,100km high voltage powerline through North West Minerals Province and contributing to the construction of a vanadium electrolyte plant



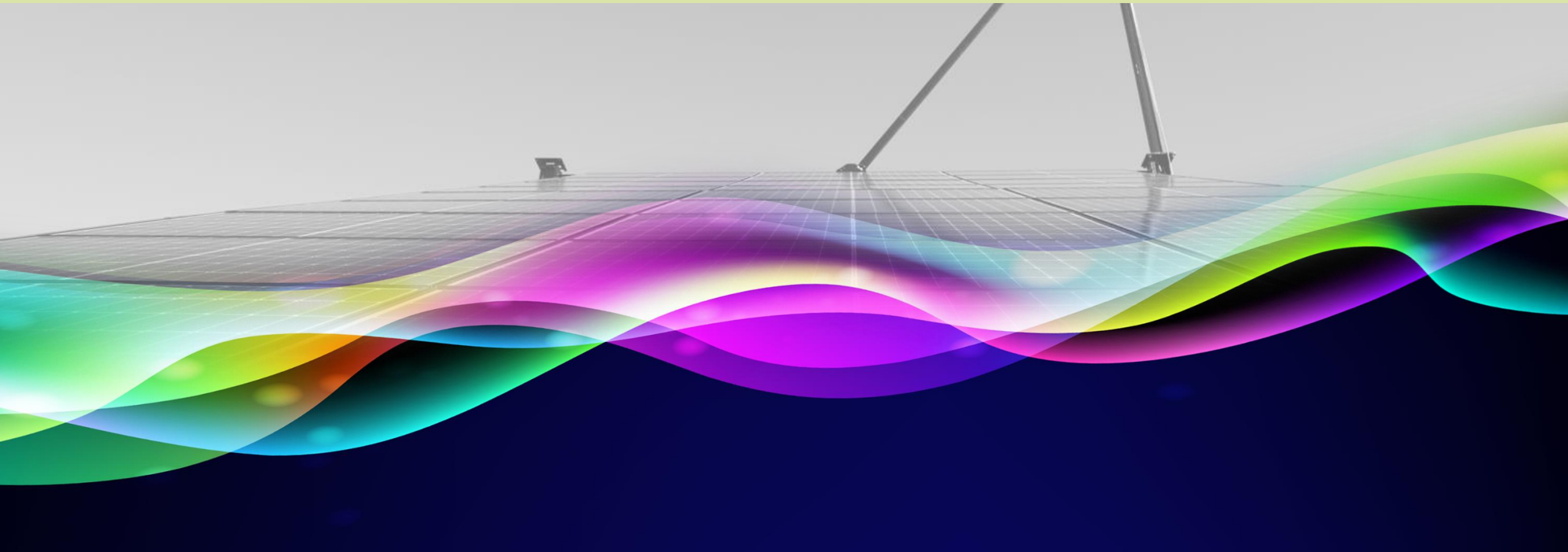
## Co-ordinated Project Status Awarded

The only critical minerals project to be awarded Coordinated Project status by the Queensland Government

<sup>1</sup> Refer RVT Prospectus dated 14 October 2022 and Supplementary Prospectus dated 21 October 2022 released to ASX on 9 December 2022

<sup>2</sup> Outlook for selected critical minerals in Australia 2021 Report, Dept of Industry, Science, Energy & Resources, Australian Government

# PROJECT DETAILS



# RICHMOND – JULIA CREEK VANADIUM PROJECT OVERVIEW

## Location

- Located in mining friendly jurisdiction of North Queensland
- Close to existing infrastructure including gas pipeline, proposed Copper String 2.0 HV network line, Flinders Highway and Great Northern railway link to Townsville Port
- Three main prospects – Lilyvale, Manfred and Rothbury covering ~1,400 km

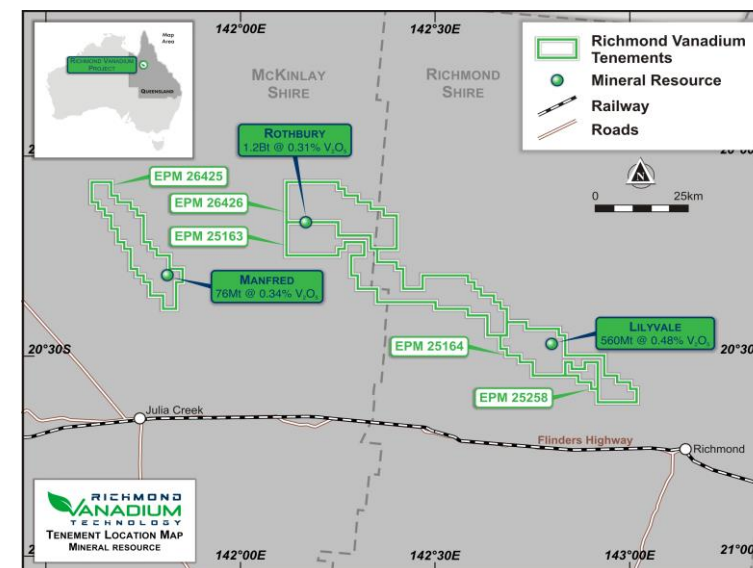
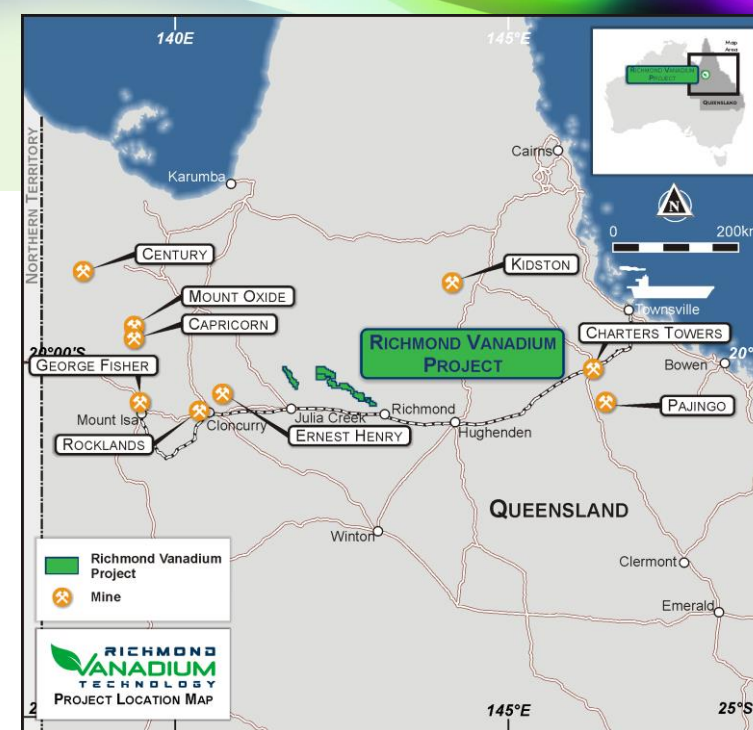
## Mineral Resource & Ore Reserve

- Global Mineral Resource estimate stands at **1.8Bt @ 0.36%** for **6.65Mt V<sub>2</sub>O<sub>5</sub>** at **0.30% cut-off**<sup>1</sup>
- Maiden Ore Reserve for Lilyvale Deposit of **459.2Mt @ 0.49%** for **2.25Mt V<sub>2</sub>O<sub>5</sub>**<sup>1</sup>

## Geology & Mineralisation

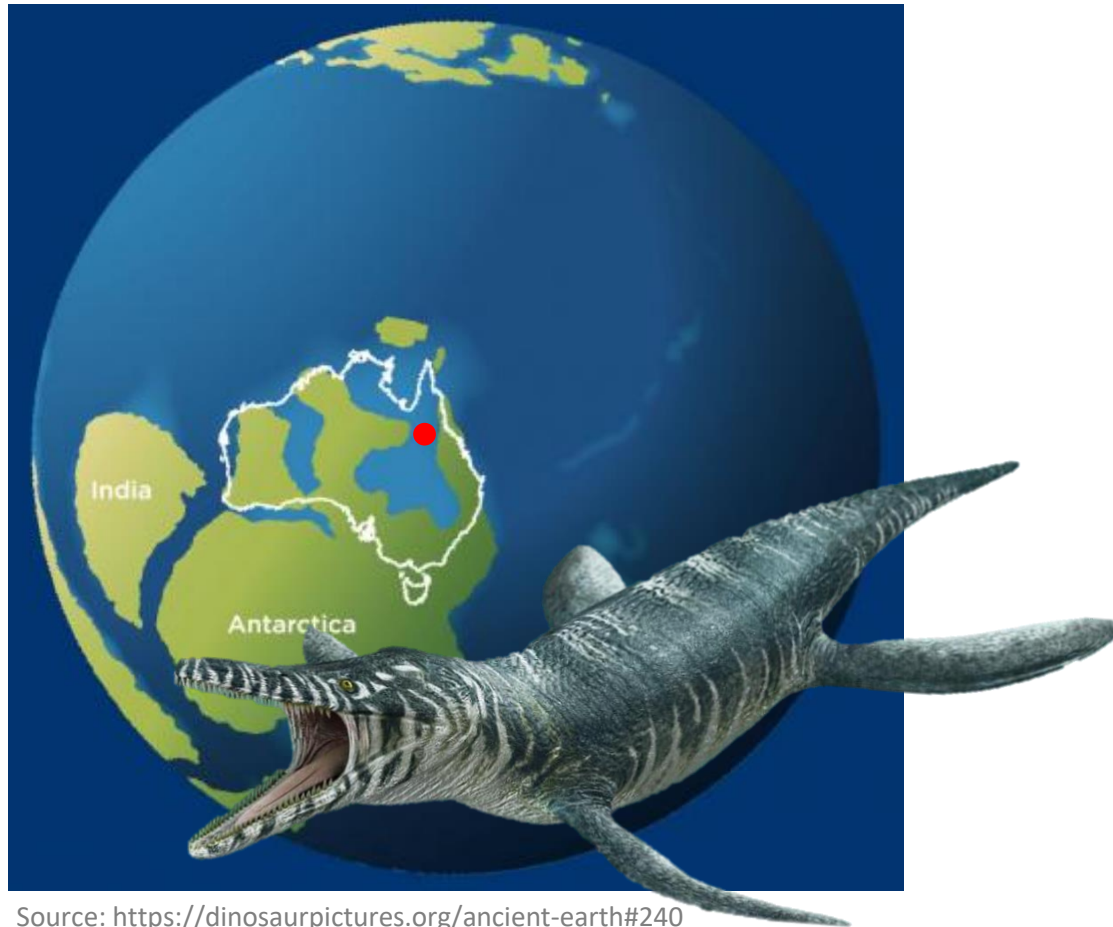
- One of the largest non-titanomagnetite vanadium deposits of its kind (soft marine sediments) globally
- Vanadium mineralisation at an average depth of between 2m and 25m below surface
- Soft sediment means no drilling, blasting, grinding (milling) or roasting - significantly reducing power requirements, capex and operating costs

<sup>1</sup> Refer Prospectus dated 14 October 2022, Section 4 and Supplementary Prospectus dated 21 October 2022 released to ASX on 9 December 2022.



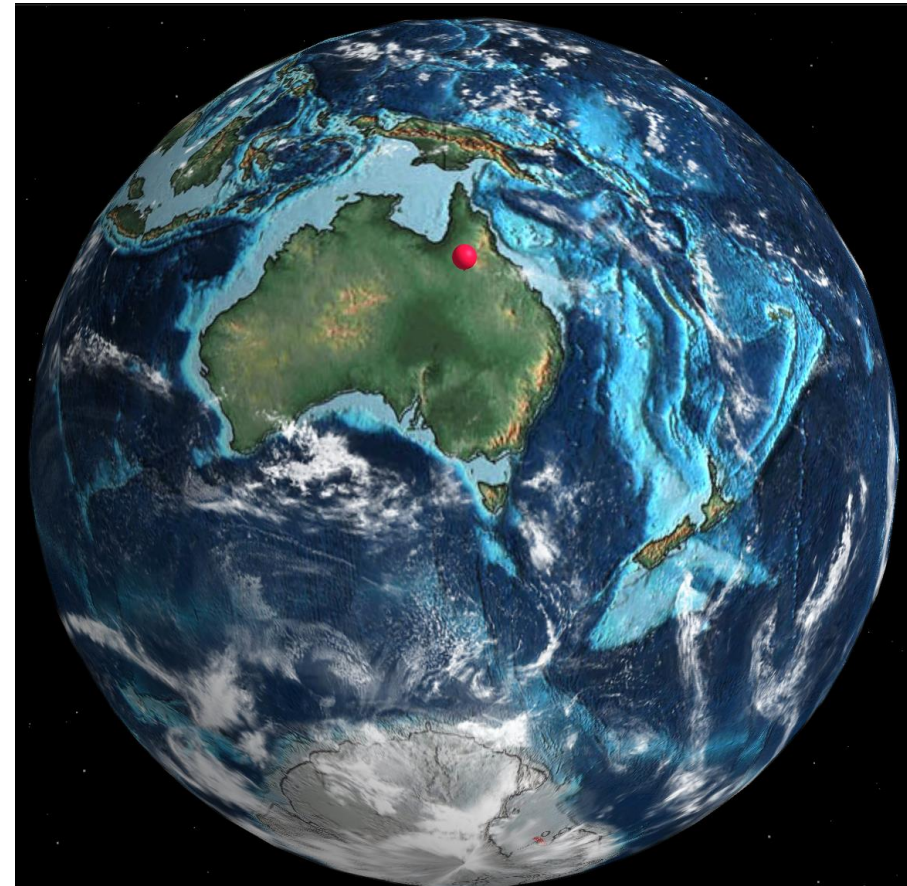
# RICHMOND IN THE EARLY CRETACEOUS, AND NOW ...

105 million years ago



Source: <https://dinosaurpictures.org/ancient-earth#240>

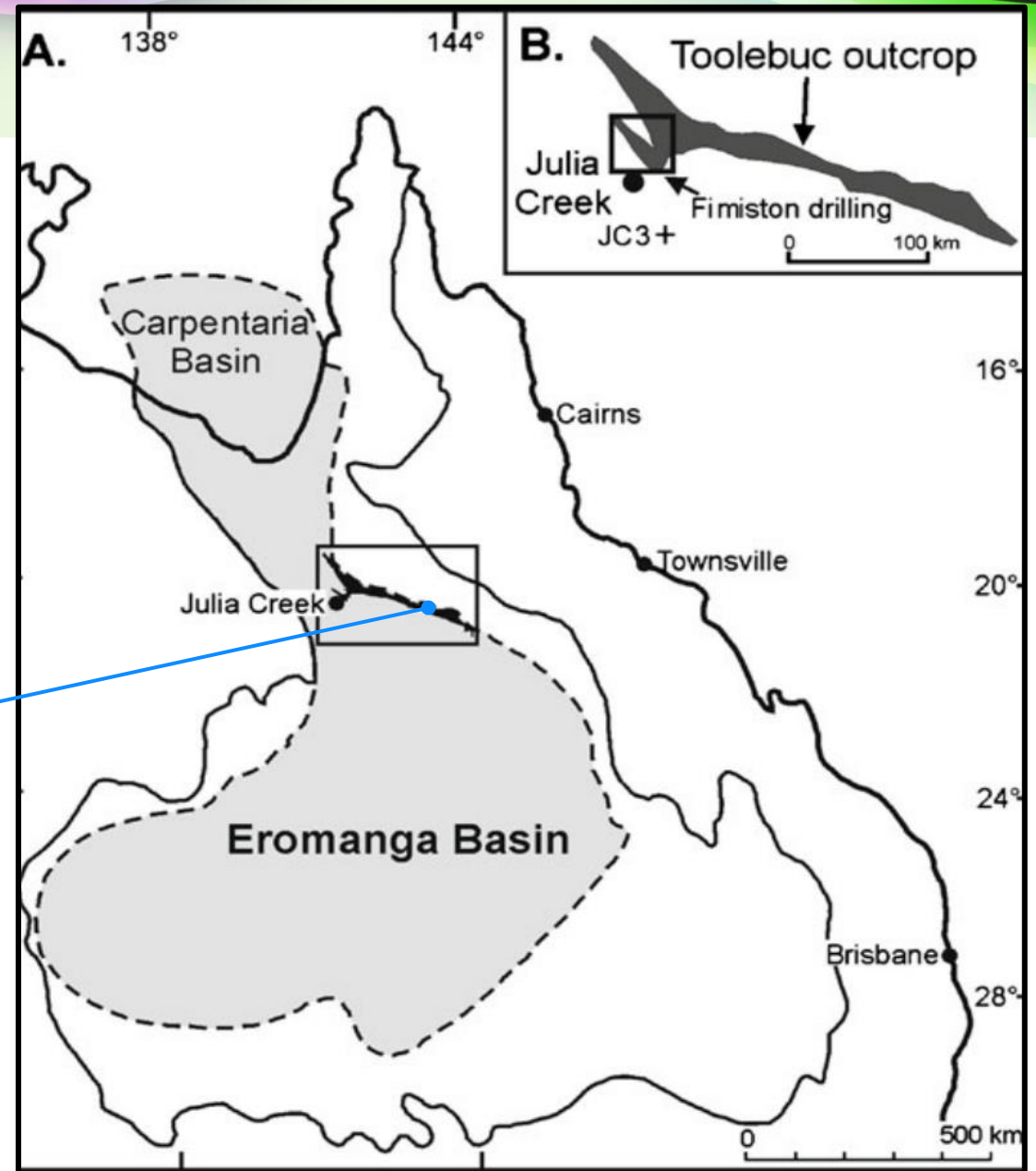
2023



# EROMANGA BASIN

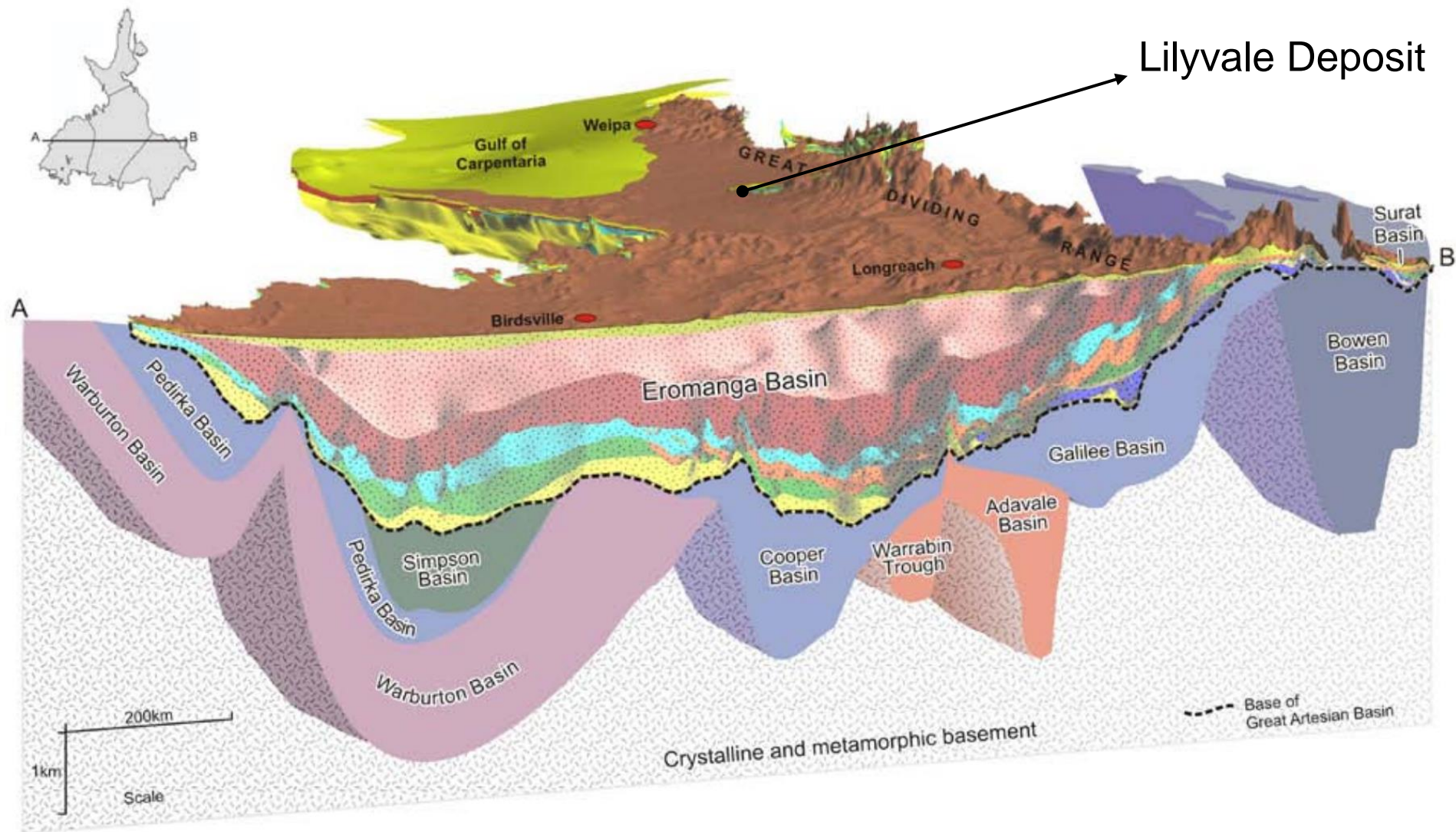
The Richmond-Julia Creek Vanadium Project (RJCVP) lies in the north-eastern corner of the Eromanga Basin

Lilyvale Deposit



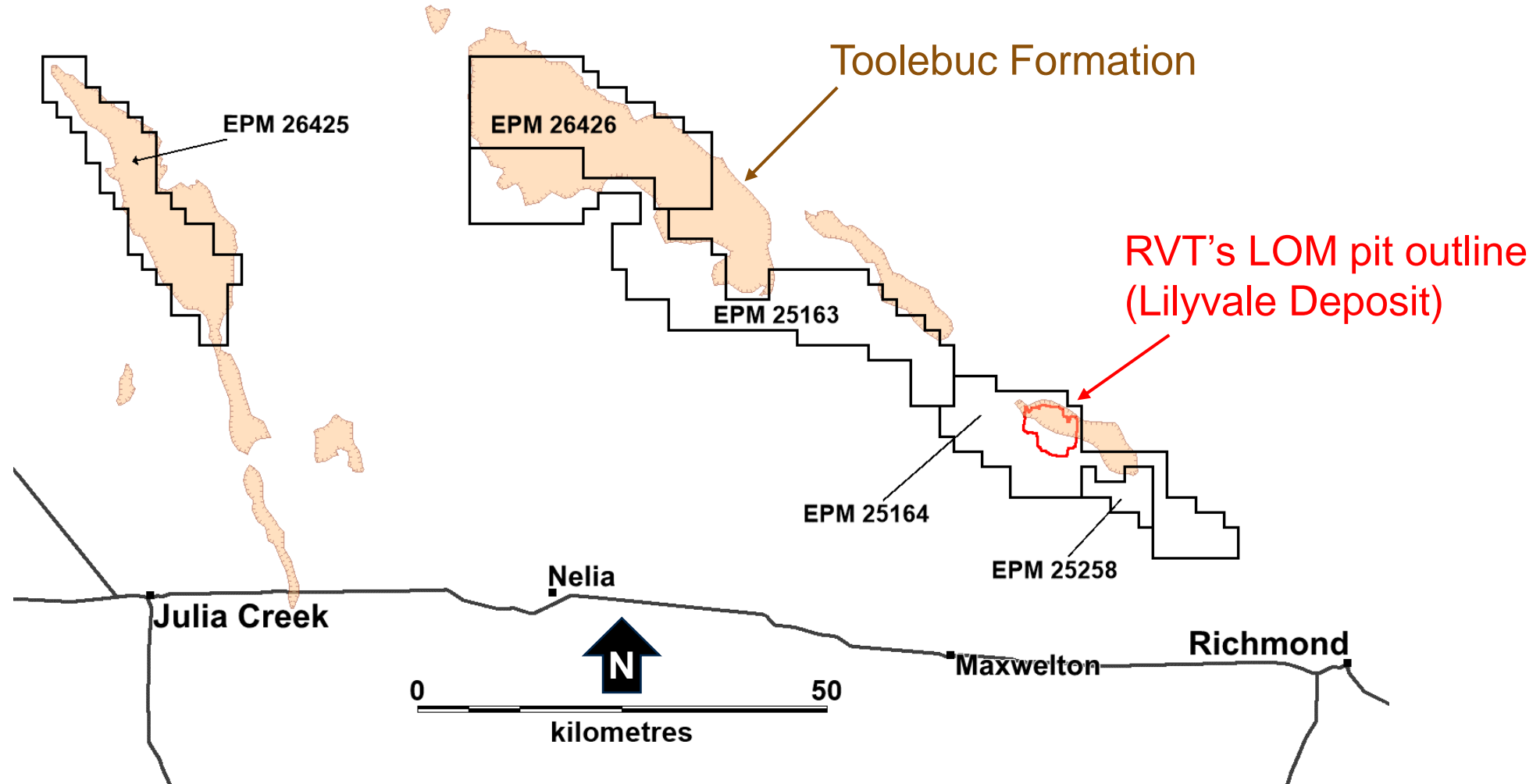
<sup>1</sup> Refer Prospectus dated 14 October 2022, Section 4 and Supplementary Prospectus dated 21 October 2022 released to ASX on 9 December 2022. (Pg.148).

# EROMANGA BASIN



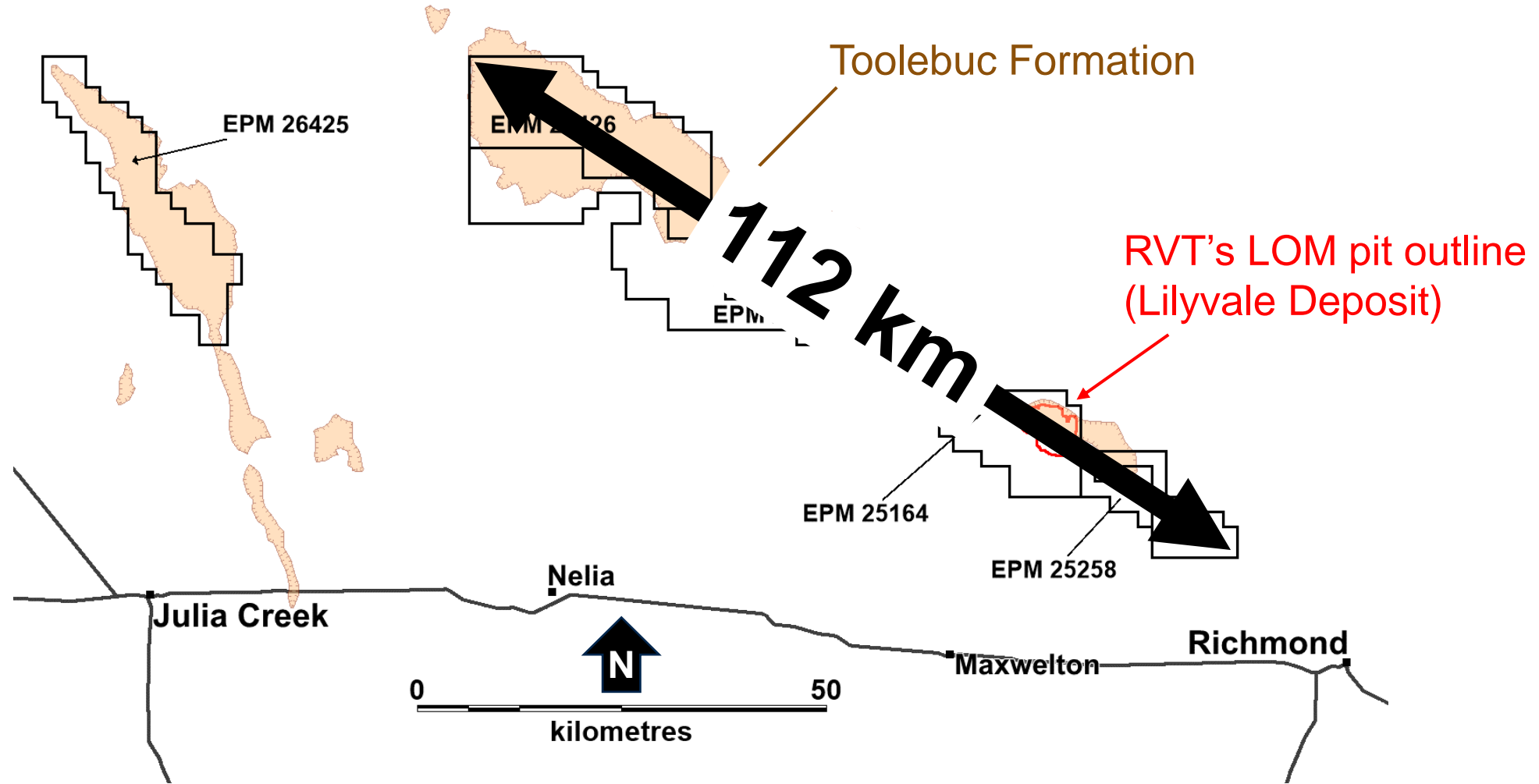
Source: Smerdon BD, Marston FM and Ransley TR (2012) Water resource assessment for the Central Eromanga region. Report to the Australian Government from the CSIRO Great Artesian Basin Water Resource Assessment. CSIRO Water for a Healthy Country Flagship, Australia. ~143 pp.

# RVT TENEMENTS MAP



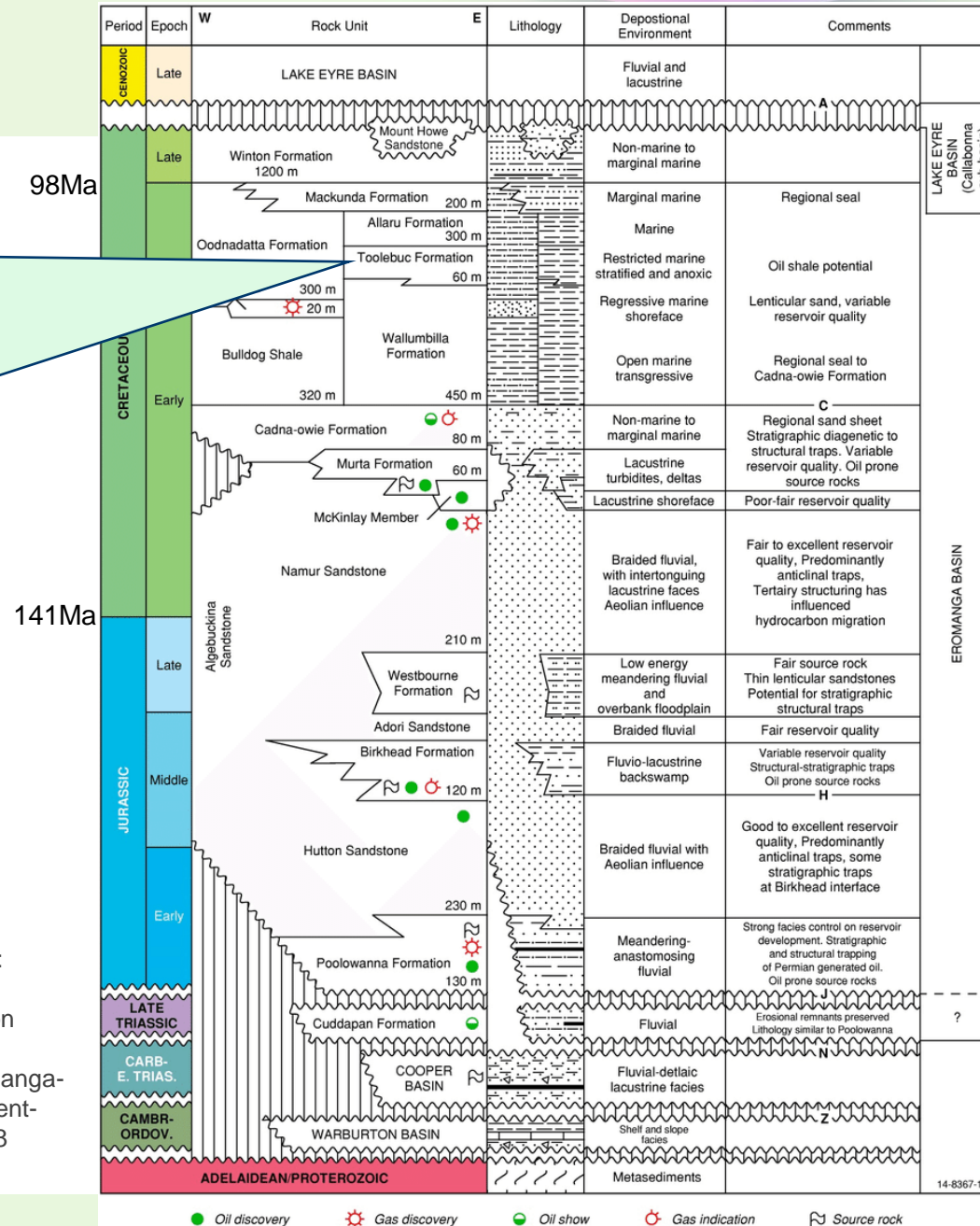
Tenement and Toolebuc source: <https://georesglobe.information.qld.gov.au/>

# RVT TENEMENTS MAP



# STRATIGRAPHIC COLUMN

**Toolebuc Fm.**  
Associated with early Cretaceous (Albian ~110Ma) global marine transgression, paralic, anoxic.



Stratigraphic column source: Cooper Basin architecture and lithofacies: regional hydrocarbon prospectivity of the Cooper Basin, Part 1. - Scientific Figure on ResearchGate. Available from: [https://www.researchgate.net/figure/Eromanga-Basin-stratigraphy-depositional-environment-thickness-and-petroleum\\_fig4\\_310613888](https://www.researchgate.net/figure/Eromanga-Basin-stratigraphy-depositional-environment-thickness-and-petroleum_fig4_310613888) [accessed 22 May, 2023]



Oxidised Toolebuc Fm (calcareous siltstone / coquina)



Fresh carbonaceous shale

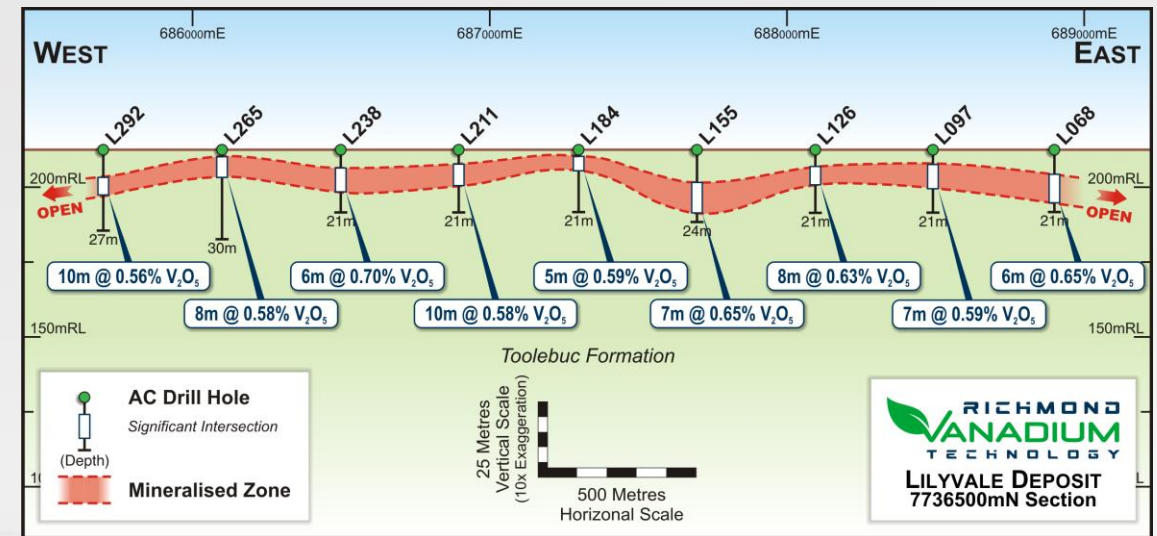


Photograph of chip tray from aircore hole L193 drilled in 2019.

0.63% V<sub>2</sub>O<sub>5</sub> over 8m<sup>1</sup>

# LILYVALE DEPOSIT

- Located 45km north-west of the Richmond township in close proximity to the Flinders Highway and Great Northern railway
- Mineral Resource of 560 Mt @ 0.48%  $V_2O_5$ <sup>1</sup> (Using 0.30% cutoff)
  - Indicated 430 Mt @ 0.50%
  - Inferred 130 Mt @ 0.41%
 } shown 4 slides ahead .....
- Mineralisation is associated with the Toolebuc Formation at an average depth of between 2m and 25m below surface
- Starter pit to focus on upper mineralised zone at Lilyvale as it is:
  - highest grade based on drilling to date (0.52%  $V_2O_5$ )<sup>1</sup>
  - can be mined simply by free-dig open cut mining with very low strip ratio (0.92)<sup>1</sup>
  - amenable to low cost removal of coarse fraction via scrubbing, trommelling, screening, cycloning and flotation to produce high grade concentrate of 1.82%  $V_2O_5$ <sup>1</sup>
  - waste/tailings is non-toxic



<sup>1</sup> Refer Prospectus dated 14 October 2022 and Supplementary Prospectus dated 21 October 2022 released to ASX on 9 December 2022

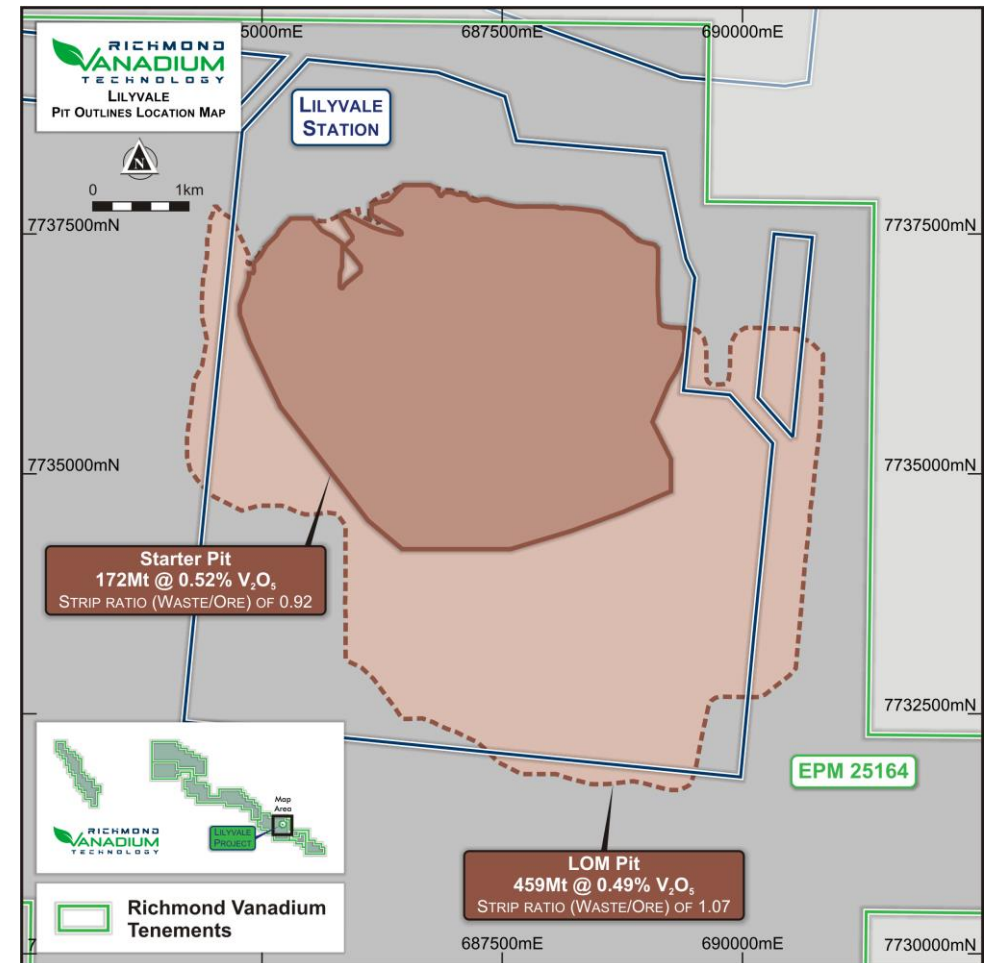
# LILYVALE DEPOSIT ORE RESERVE<sup>1</sup>

- Maiden open pit Ore Reserve at the Lilyvale Deposit of:  
**459.2Mt @ 0.49% for 2.25Mt V<sub>2</sub>O<sub>5</sub>**
- Two pits designed over Lilyvale Deposit Indicated Mineral Resource:
  - LOM (Life of Mine) pit hosting Probable Reserves; and
  - Starter pit focussed on the higher grade part of LOM pit
- Both pits host Probable Reserves designed over Indicated Resources according to the 2012 JORC code
- Preliminary Starter pit designed to achieve a lower strip ratio (0.92) and higher ore grade (0.52% V<sub>2</sub>O<sub>5</sub>) in early pit development periods

## Ore Reserve – Lilyvale Deposit at a cut-off grade 0.30%

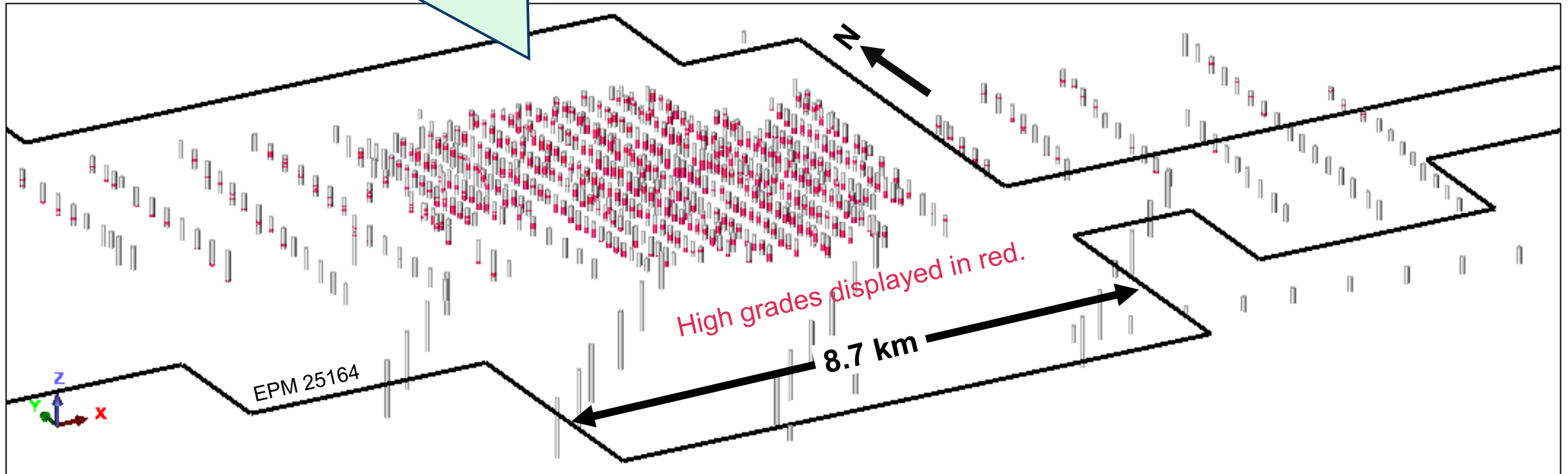
Pit	Total Rock (MT)	Probable Ore (MT)	Strip Ratio (W/O)	Average V <sub>2</sub> O <sub>5</sub> grade for Probable Ore (%)
LOM	951.7	459.2	1.07	0.49
Starter	331.7	172.5	0.92	0.52

Refer to Appendix “Mineral Resource & Ore Reserve Estimates” attached to this presentation



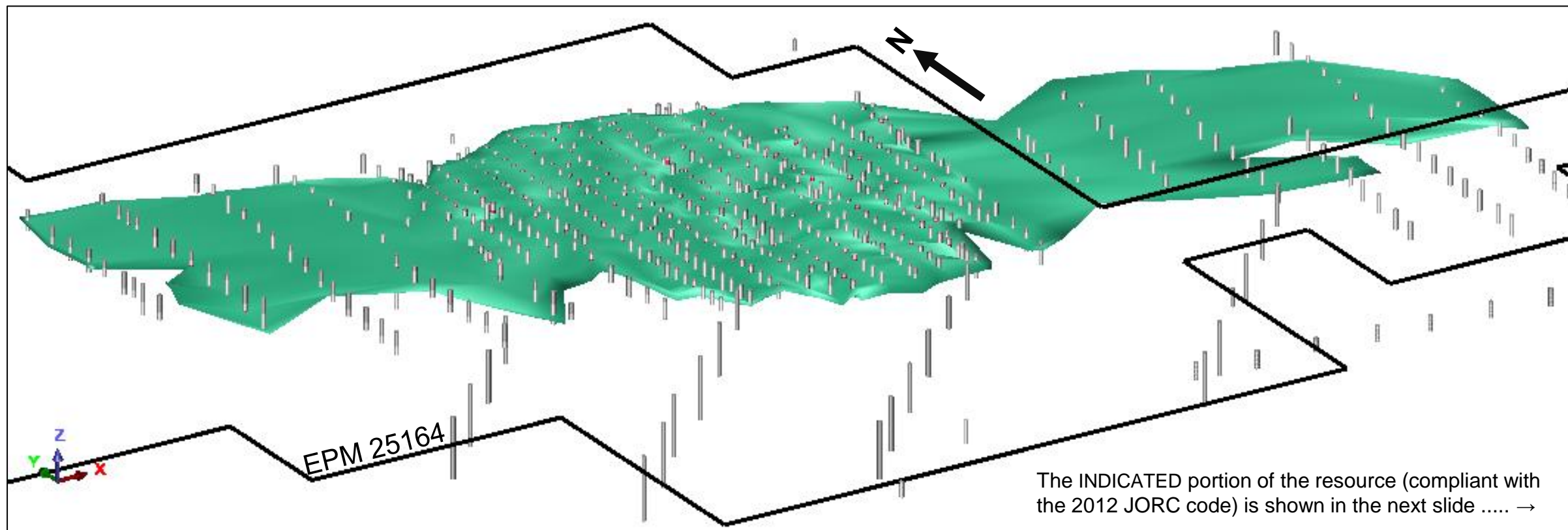
<sup>1</sup> Refer Prospectus dated 14 October 2022 and Supplementary Prospectus dated 21 October 2022 released to ASX on 9 December 2022

333 holes drilled on 200m x 400m grid. Holes averaged 23m in depth  
- most holes ended in carbonaceous shale of the Toolebuc Fm.



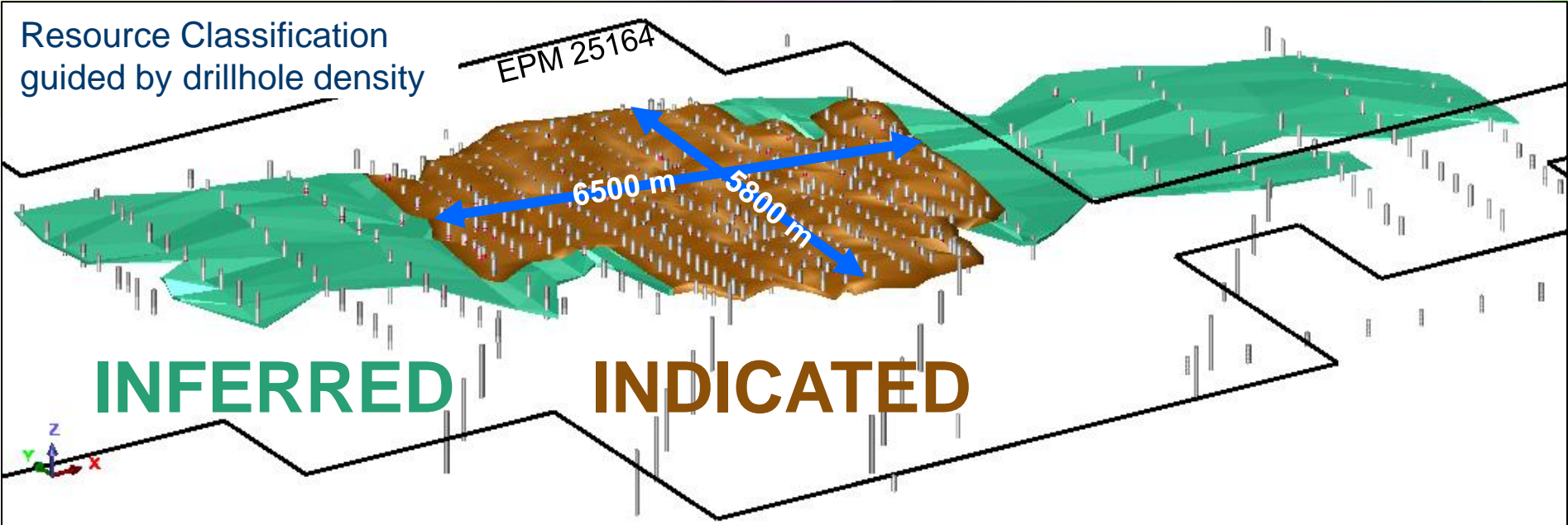
<sup>1</sup> Refer Prospectus dated 14 October 2022 and Supplementary Prospectus dated 21 October 2022 released to ASX on 9 December 2022

## Wireframe encompassing INFERRED RESOURCE <sup>1</sup>

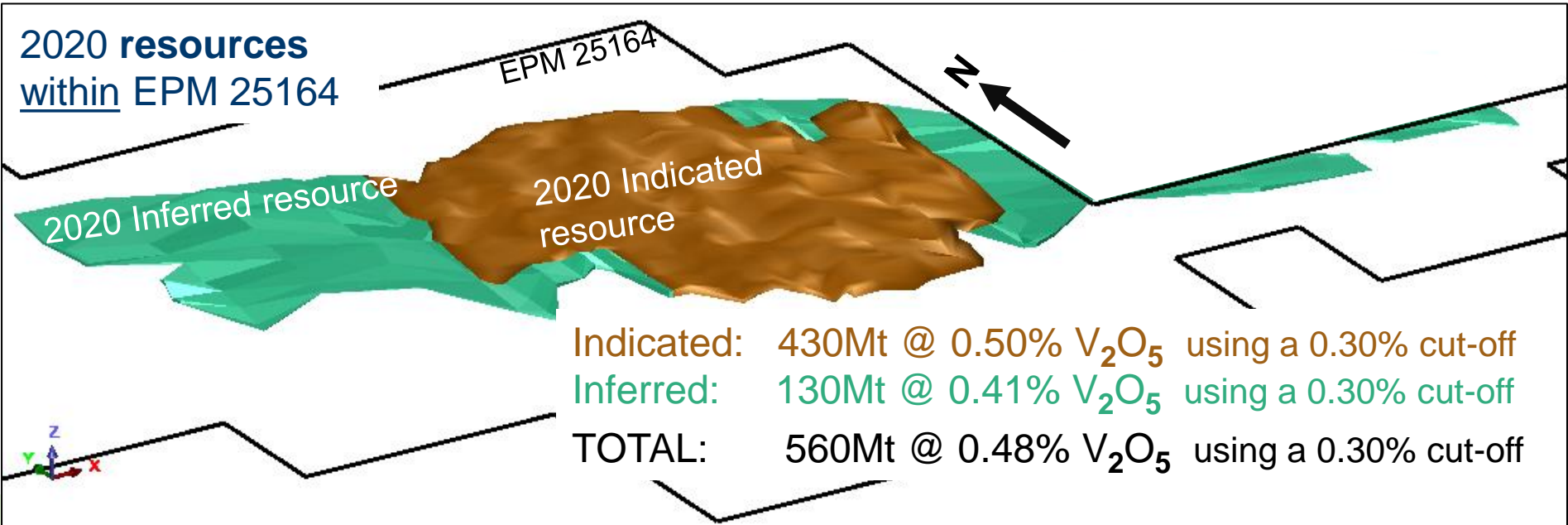


<sup>1</sup> Refer Prospectus dated 14 October 2022 and Supplementary Prospectus dated 21 October 2022 released to ASX on 9 December 2022

Resource Classification  
guided by drillhole density

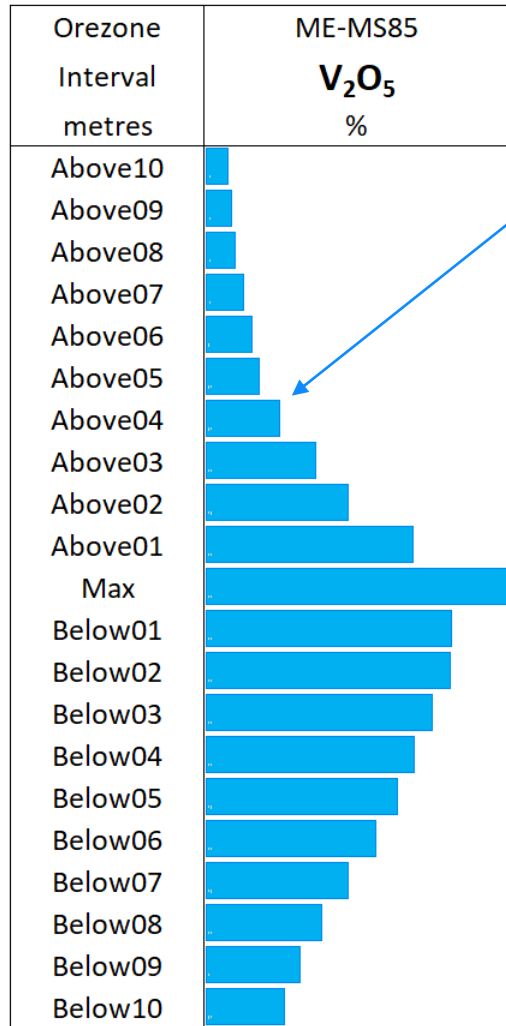


2020 resources  
within EPM 25164



Indicated: 430Mt @ 0.50%  $V_2O_5$  using a 0.30% cut-off  
Inferred: 130Mt @ 0.41%  $V_2O_5$  using a 0.30% cut-off  
TOTAL: 560Mt @ 0.48%  $V_2O_5$  using a 0.30% cut-off

# VERTICAL DISTRIBUTION OF VANADIUM IN THE OREZONE



Average values for each 1m interval for the 333 holes drilled in 2019.

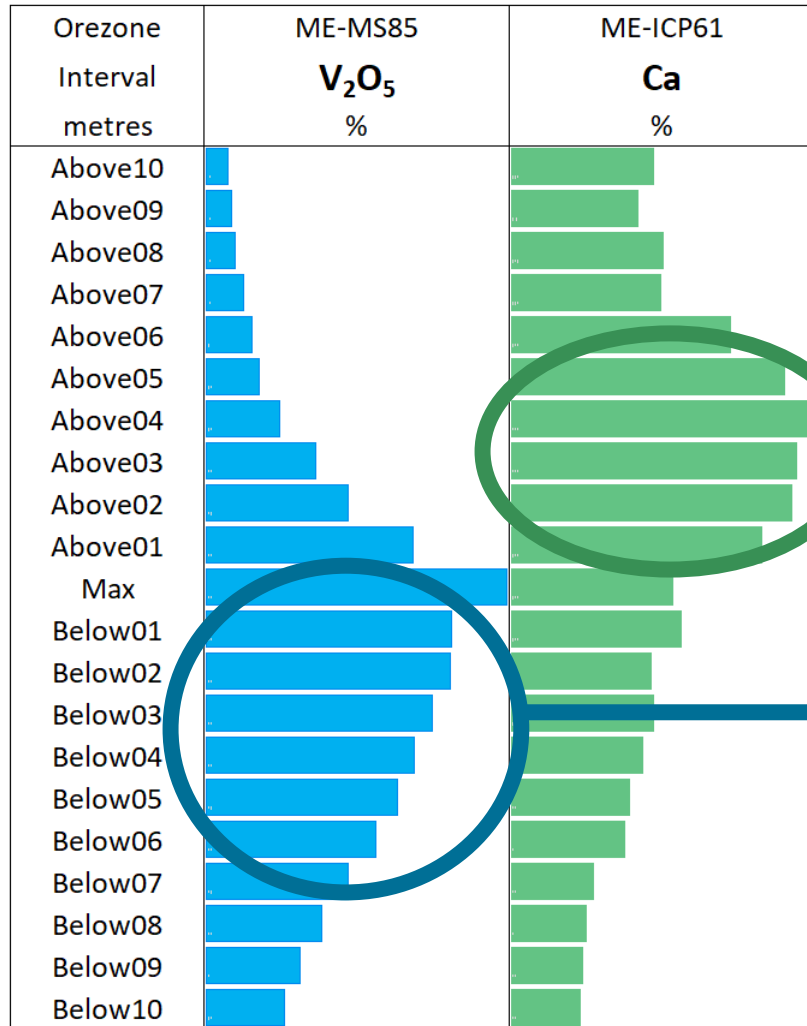
$V_2O_5$  varies 0.10% per m

$V_2O_5$  varies 0.05% per m

Vertical asymmetrical distribution of grade

Calcium displays the same behaviour, but reversed ..... next slide →

# VERTICAL DISTRIBUTION OF VANADIUM AND CALCIUM IN THE OREZONE



**High Ca**  
(↓ vanadium recovery)

**High V**

Note

Vertical asymmetrical distribution of the vanadium and calcium.

Calcium values are higher in the upper half of the orezone - this may present an opportunity for selective mining and processing?

# VERTICAL DISTRIBUTION OF VANADIUM AND CALCIUM IN THE OREZONE

Orezone Interval metres	ME-MS85 $V_2O_5$ %	ME-ICP61 <b>Ca</b> %
Above10	~0.5	~1.5
Above09	~0.8	~1.8
Above08	~1.2	~2.2
Above07	~1.8	~2.8
Above06	~2.5	~3.5
Above05	~3.5	~4.5
Above04	~5.0	~5.5
Above03	~7.0	~5.5
Above02	~10.0	~5.5
Above01	~15.0	~5.5
Max	~25.0	~5.5
Below01	~18.0	~5.0
Below02	~15.0	~4.5
Below03	~12.0	~4.5
Below04	~10.0	~4.5
Below05	~8.0	~4.0
Below06	~6.0	~3.5
Below07	~4.0	~3.0
Below08	~3.0	~2.5
Below09	~2.0	~2.0
Below10	~1.5	~1.5

**UPPER (calcitic) orezone**

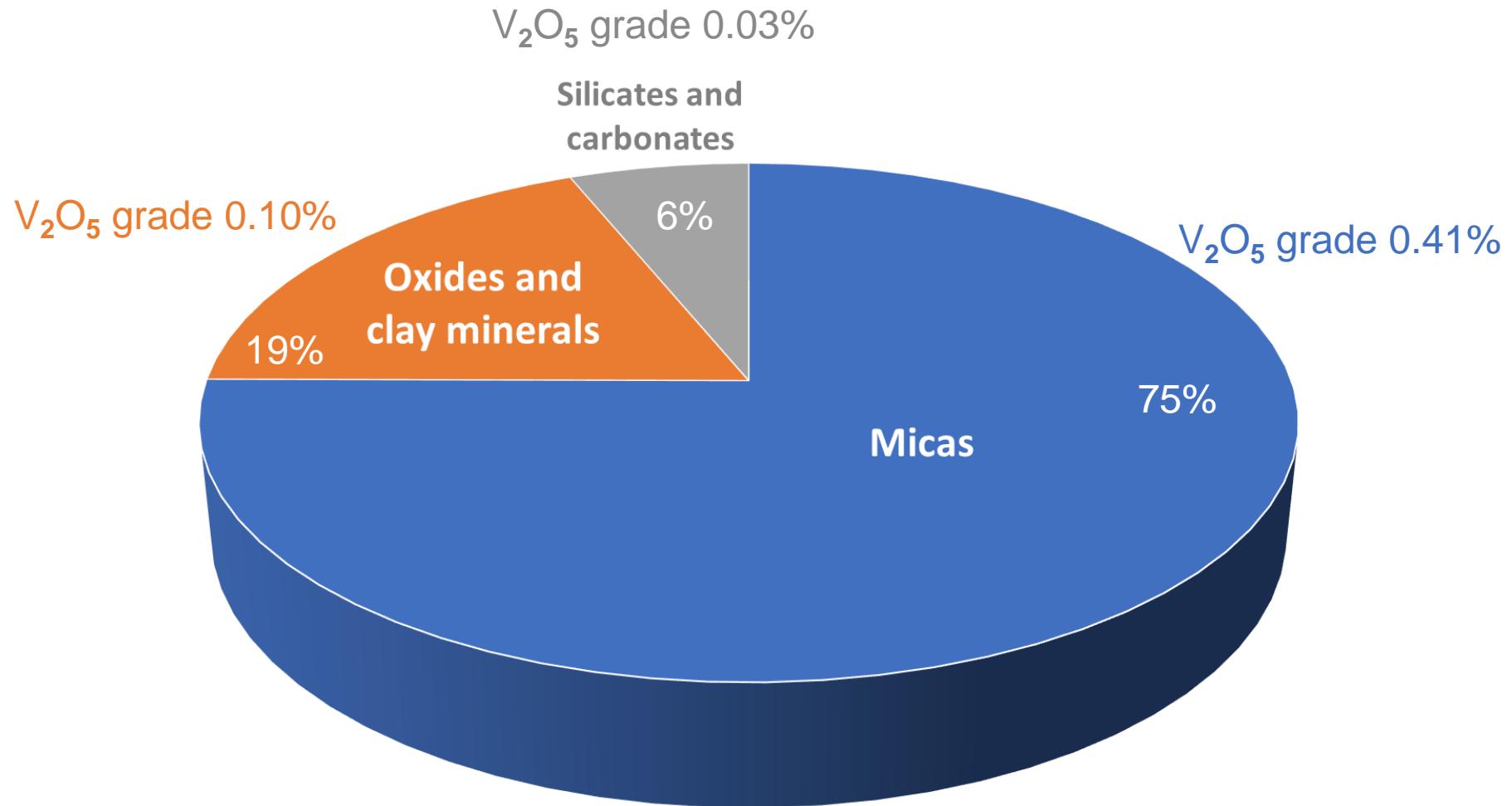
**LOWER (higher grade) orezone**

**Mobility in differing Eh – pH conditions:**

**I suspect that a fluctuating water table (over several million years) has played a large part in the resulting current elemental distribution**



# Vanadium department <sup>1</sup>



# EXPLORATION TO MINING LIFECYCLE

<b>DISCOVERY</b>	Find economical amount of a mineral through active exploration and understanding the characteristics of the land.	<ul style="list-style-type: none"> <li>• <b>2,479 drillholes for 294,904m (RVT has drilled 333 holes for 7,817m)<sup>1</sup></b></li> </ul>
<b>RESOURCE DEFINITION &amp; EVALUATION</b>	Mineral Resources are the concentration of material of economic interest; Ore Reserves are the parts of a Mineral Resource that can be economically mined.	<ul style="list-style-type: none"> <li>• <b>Cut-off grade of 0.30%<sup>2</sup></b></li> <li>• <b>Maiden ore reserve of 459.2Mt @ 0.49% for 2.25Mt V<sub>2</sub>O<sub>5</sub><sup>2</sup></b></li> <li>• <b>76% of Lilyvale deposit in Indicated Category<sup>2</sup></b></li> </ul>
<b>METALLURGY / PROCESSING</b>	Testwork is vital to determine process flowsheets, so extraction and processing can be achieved economically at commercial scale.	<ul style="list-style-type: none"> <li>• <b>4.8 tonnes of material sent for testing</b></li> <li>• <b>Industrial scale testwork on 50kg samples (per round)</b></li> <li>• <b>Proven metallurgical solution via conventional processing<sup>2</sup></b></li> <li>• <b>Concentrate grades of 1.82% V<sub>2</sub>O<sub>5</sub><sup>2</sup></b></li> <li>• <b>Provisional patent application lodged<sup>2</sup></b></li> </ul>
<b>DEVELOPMENT</b>	<p>During development the technical feasibility and economic viability of the project are determined.</p> <p>BFS must be prepared with enough accuracy so the company could submit it to investors or lenders when seeking financing.</p>	<ul style="list-style-type: none"> <li>• <b>PFS completed, financially strong project payback of &lt;5 years (concentrating in Aust &amp; recovering offshore), based on 25-year life<sup>2</sup></b></li> <li>• <b>BFS Project Director appointed</b></li> <li>• <b>BFS commenced, completion by Q3 2024</b></li> <li>• <b>Investment in upstream VRFB manufacturer</b></li> <li>• <b>Additional sample taken for verification of metallurgical testwork</b></li> </ul>
<b>APPROVALS</b>	An EIS details the anticipated environmental impacts, as well as proposing avoidance, mitigation and offset measures.	<ul style="list-style-type: none"> <li>• <b>Awarded Coordinated Project Status</b></li> <li>• <b>Final TOR for EIS released</b></li> <li>• <b>EIS commenced, completion by Q4 2024</b></li> </ul>
<b>PRODUCTION</b>	Less than 1% of exploration projects typically progress to an established mine <sup>3</sup>	

<sup>1</sup> Refer Prospectus dated 14 October 2022, ITAR Sect 5.1 released to ASX on 9 December 2022

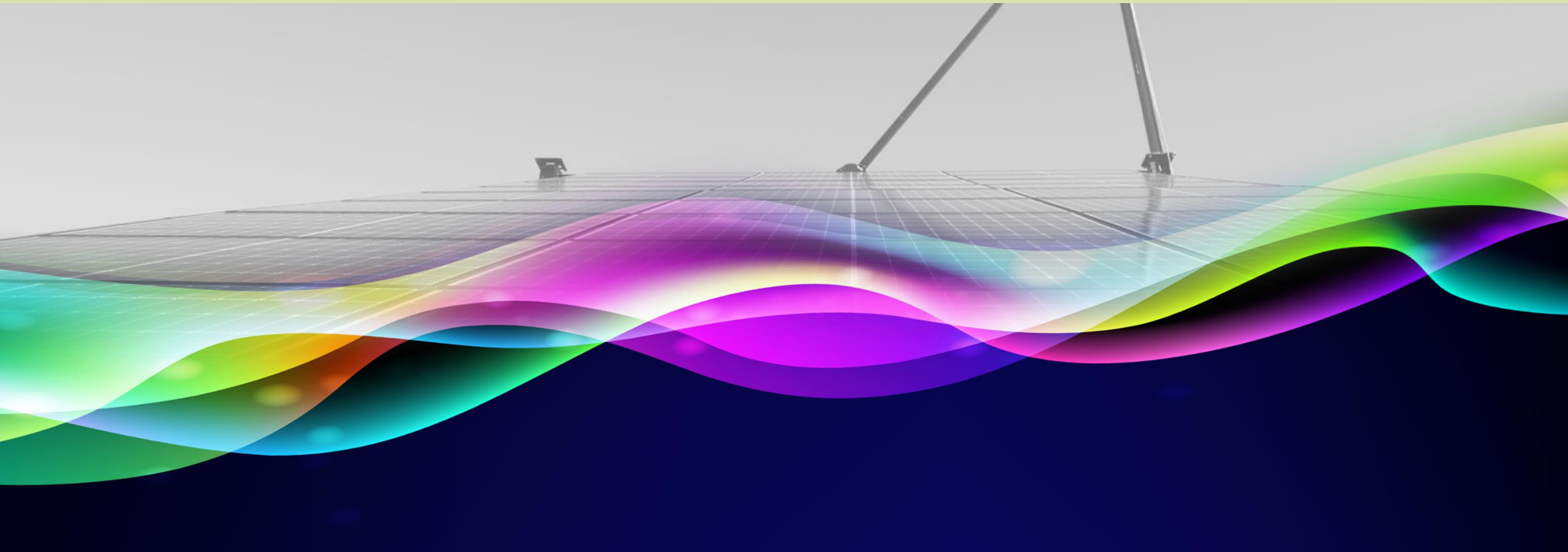
<sup>2</sup> Refer Prospectus dated 14 October 2022 and Supplementary Prospectus dated 21 October 2022 released to ASX on 9 December 2022

<sup>3</sup> Earth Resources, Understanding Minerals Exploration, Victoria State Government

END



# APPENDICES



# MINERAL RESOURCE AND ORE RESERVE ESTIMATES<sup>1</sup>

Richmond – Julia Creek Project Mineral Resource and Contained Metal (at 0.30% V <sub>2</sub> O <sub>5</sub> cut-off)				
Deposit	Category	Tonnage (MT)	V <sub>2</sub> O <sub>5</sub> (%)	V <sub>2</sub> O <sub>5</sub> (MT)
Rothbury	Inferred	1,202	0.30	3.75
Lilyvale	Indicated	430	0.50	2.15
Lilyvale	Inferred	130	0.41	0.53
Manfred	Inferred	76	0.35	0.26
<b>Totals and Averages</b>		<b>1,838</b>	<b>0.36</b>	<b>6.65</b>

Richmond – Julia Creek Project Ore Reserve (Lilyvale Deposit)			
Category	Tonnage (MT)	V <sub>2</sub> O <sub>5</sub> (%)	V <sub>2</sub> O <sub>5</sub> (MT)
Proved	0.00	0.00	0.00
Probable	459.2	0.49	2.25
<b>Total</b>	<b>459.2</b>	<b>0.49</b>	<b>2.25</b>

Note:

Reported in accordance with JORC Code (2012) at cut-off grade 0.3% V<sub>2</sub>O<sub>5</sub>

Metal content calculated using grades with 3 decimal places

Metal content varies from Mineral Resources Update by HGS (ASX:IRC “Intermin announces world –class Vanadium Resource”, dated 20 March 2018), due to arithmetic errors. The table above reflects the correct results for Manfred.

Metal content of molybdenum and nickel can be found in Table 5-1 of the ITAR (Refer Prospectus dated 14 October 2022 and Supplementary Prospectus dated 21 October 2022 released to ASX on 9 December 2022)

Note:

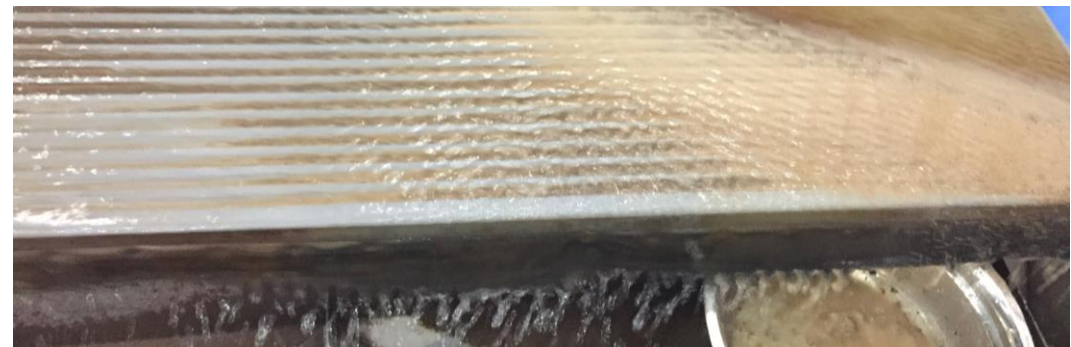
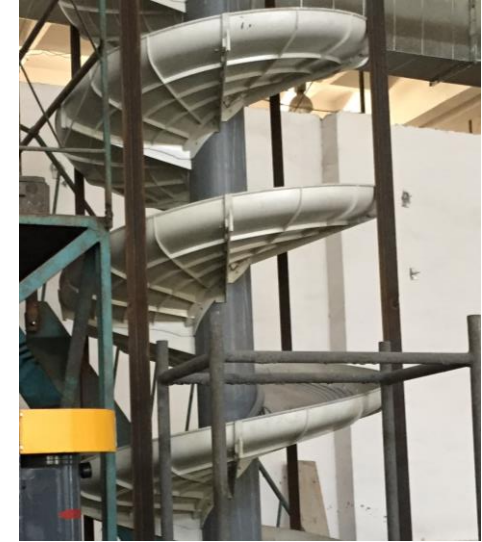
At cut-off grade (COG) of 0.3% V<sub>2</sub>O<sub>5</sub>

The Ore Reserve for the project is reported according to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, JORC

The Ore Reserve statement is based on information compiled by Dr Dawei Xu, MAusIMM

# PROVEN METALLURGICAL RESULTS <sup>1</sup>

- Project is a large, low grade, high calcite content resource
- RVT's process flowsheet uses proven conventional technology
- 1.2 tonnes of vanadium samples sent to two research institutes
- Testwork programs jointly developed, with all testwork supervised by RVT
- Two-step process determined:
  - 1) Ore upgraded from a mined grade of 0.49% to a shipping grade of 1.82%  $V_2O_5$  concentrate
  - 2) Extraction via refining to produce 98%  $V_2O_5$  flake for use in the energy storage and steel markets
- Concentrate produced reduced calcium carbonate grade significantly, enabling consideration of several downstream processing options
- Testwork enabled flowsheet design to be completed during PFS
- Provisional patent application lodged with IP Australia relating to the method for the concentration of vanadium

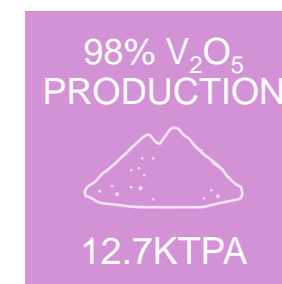
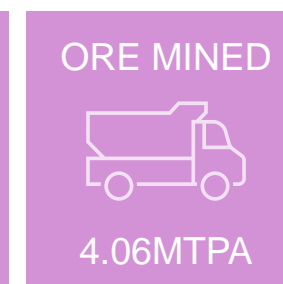
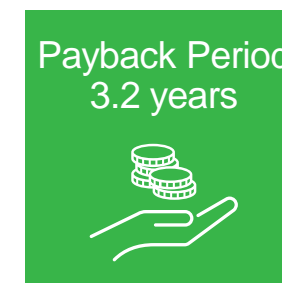
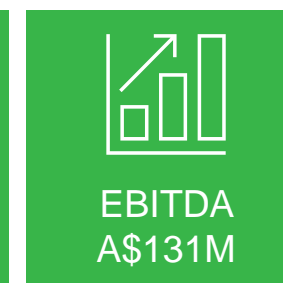
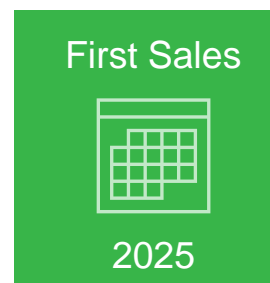
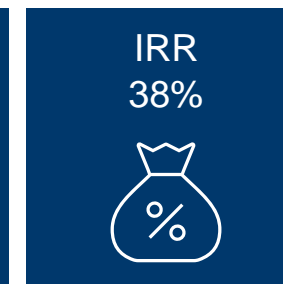


<sup>1</sup> Refer Prospectus dated 14 October 2022 and Supplementary Prospectus dated 21 October 2022 released to ASX on 9 December 2022



# PRE-FEASIBILITY STUDY COMPLETED<sup>1</sup>

- Project **presents opportunity to develop** and produce vanadium concentrate at 1.82%
- Mining and concentration options known while logistics and available infrastructure provide **a positive economic solution**
- Modest capital costs of **A\$242.2m** (US\$176.8m) to concentrate in Australia and recover overseas, and operating cash costs **of A\$8.66/lb** (US\$6.32/lb<sup>2</sup>) of 98% V<sub>2</sub>O<sub>5</sub> flake<sup>2</sup>
- Independent Technical Assessment Report noted costs more susceptible to changes in flowsheet selection, design and mechanical equipment sizing as engineering design advances, than changes in equipment pricing
- At US\$9.60/lb (study price) project generates **NPV<sub>10%</sub> of A\$613.0M (US\$447.5M) with IRR of 38%** and payback of 3.2 years, concentrating in Australia and refining offshore
- BFS will consider preferred onshore refining option due to a changed government landscape, and look at further optimising the process to reduce capital costs



## QUEENSLAND GOVT COMMITTED TO ACCELERATE THE GROWTH OF THE CRITICAL MINERALS INDUSTRY

Building a \$75 million critical mineral demonstration facility in Townsville

Funding the \$5 billion Copperstring 2.0 project, a 1,100 km, high voltage transmission line connecting the North West Minerals Province to the National Electricity Market

<sup>1</sup> Refer Prospectus dated 14 October 2022, at section 4 and also ITAR at Schedule 1 and Supplementary Prospectus dated 21 October 2022 released to ASX on 9 December 2022

<sup>2</sup> AUD-USD FX rate (0.73)

# SUMMARY OF KEY PFS OUTCOMES<sup>1</sup>

Measure	PFS outcome US\$9.60/lb V <sub>2</sub> O <sub>5</sub> (Study Price)
<b>Life of Mine (LOM)</b>	
Total pit volume (Mt)	951.7
Stripping ratio (waste: ore)	1.07
Mined ore (Mt)	459.2
Ore Grade V <sub>2</sub> O <sub>5</sub> (%)	0.49



Measure	PFS outcome US\$9.60/lb V <sub>2</sub> O <sub>5</sub> (Study Price)	Sensitivity Analysis		
		PFS outcome at US\$7.60/lb V <sub>2</sub> O <sub>5</sub>	PFS outcome US\$8.60/lb V <sub>2</sub> O <sub>5</sub>	PFS outcome US\$10.60/lb V <sub>2</sub> O <sub>5</sub>
<b>PFS (Initial 25-year life)</b>	<b>(based on concentrating in Australia, refining offshore)</b>			
Mined ore (Mt)		101.5		
Ore Grade V <sub>2</sub> O <sub>5</sub> (%)		0.49		
Concentrate Produced V <sub>2</sub> O <sub>5</sub> (Mt)		19.75		
Concentrate Grade (%)		1.82		
Refining recovery average (%)		86.1		
V <sub>2</sub> O <sub>5</sub> 98% Flake Produced (kt)		317.5		
Capital costs (\$M)		A\$242.2		
Operating costs (\$/lb)		A\$8.66 (US\$6.32 <sup>2</sup> )		
NPV @ 10% (\$m) (post-tax)	A\$613	A\$139	A\$376	A\$850
Payback (years)	3.2	8.7	4.6	2.5
IRR	38%	17%	28%	48%

**All material assumptions in the sensitivity analysis continue to apply and have not materially changed. The sensitivity analysis included in the ITAR (refer Prospectus dated 14 October 2022, ITAR at Schedule 1, Figure 10-1) shows that the project is most sensitive to the product price followed by the exchange rate. A 15% change in the concentrate product price results in a 31% - 41% change in NPV.**

<sup>1</sup> Refer Prospectus dated 14 October 2022, at section 4 and also ITAR at Schedule 1 and Supplementary Prospectus dated 21 October 2022 released to ASX on 9 December 2022

<sup>2</sup> AUD-USD FX rate (0.73)



# INVESTMENT IN ULTRA POWER SYSTEMS (UPS)<sup>1</sup>

**RVT and UPS have executed an agreement to form a joint alliance to develop both vanadium mining and vanadium redox flow battery manufacturing**

- Formal subscription agreement executed for RVT to invest \$3 million into UPS to acquire 10.94%
- UPS to become primary RVT offtake partner with the purchase of vanadium pentoxide flake from RVT – subject to availability and timeliness of delivery, quality and price
- RVT MD, Shaun Ren, appointed to the UPS board

Ultra has developed its own VRFB system, the Ultra V40 battery module, and a standalone power system which integrates solar and wind turbines into a mobile and scalable power generation system highly suitable for off-grid applications. Ultra's licenced electrolyte is a premium product that has a substantially higher operating temperature range and higher energy density without requiring additives.

Ultra provides RVT with a strategic partnership with an Australian battery manufacturer, as well as substantive off-take agreements in the future.

Ultra's initial markets, both in Australia and overseas, include off-grid applications within the mining sector (such as bore pumps, exploration camps, mining villages and ultimately full mine electrification), remote communities, community batteries, residential microgrids, and the specific charging demands of the electric vehicle sector.

**UPS = AUSTRALIA'S FIRST VANADIUM BATTERY MANUFACTURER**



# BANKABLE FEASIBILITY STUDY COMMENCED

	STATUS
Draft Terms of Reference for Environmental Impact Statement (EIS) issued & responses received	Completed
Expressions of Interest for role of BFS lead contractor issued & responses received	Completed
Appointment of BFS Project Director	Completed
Final Terms of Reference for Environmental Impact Statement (EIS) issued	Completed
EIS and associated approvals process including appointment of subcontractors	Commenced
BFS lead contractor appointment	Underway

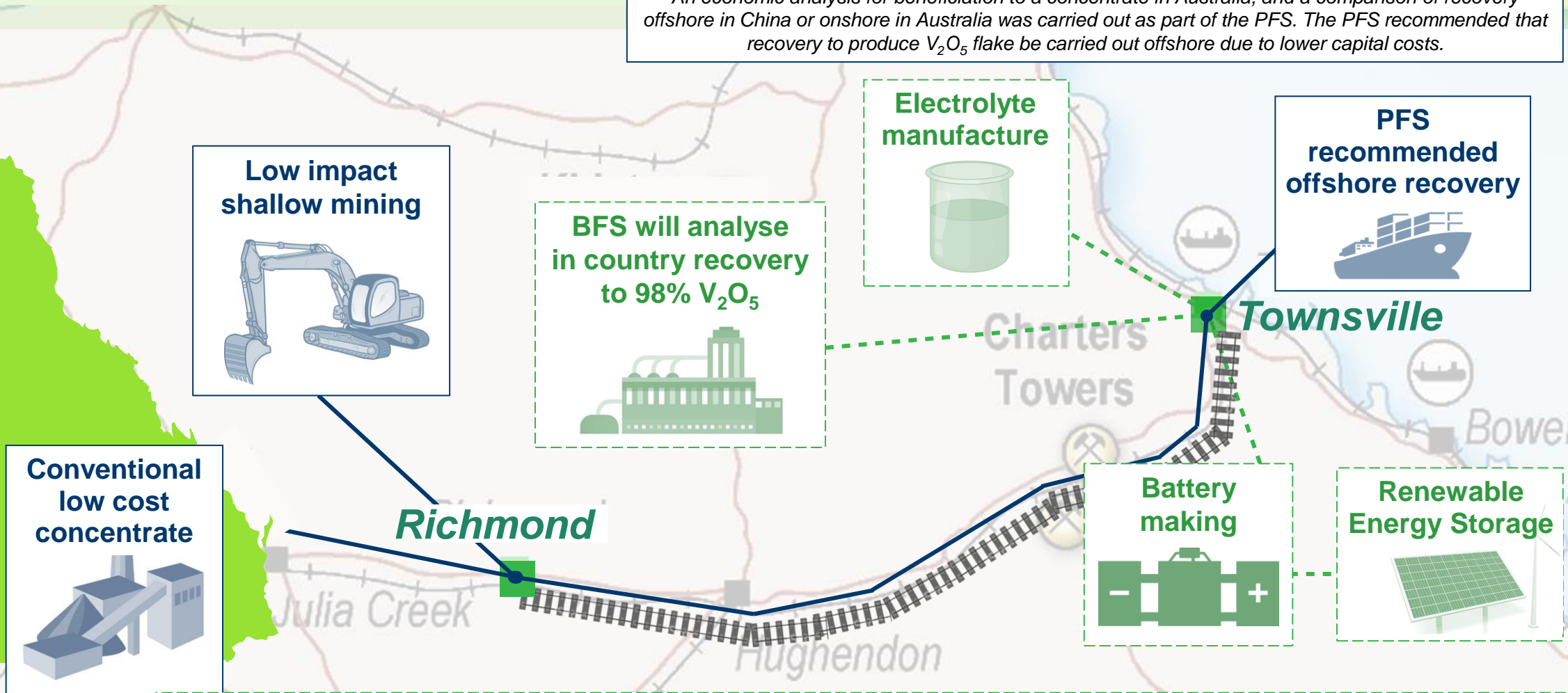


**Peter Hedley**  
appointed as  
**BFS Project Director**

Peter is a qualified Chemical Engineer and a highly experienced Feasibility Study and Project Manager, with over 40 years of experience in projects, study management, engineering and construction in the chemicals and minerals processing industries. Peter was study manager for Australian Vanadium's (ASX: AVL) greenfields mine and processing plant to produce high purity vanadium pentoxide.

# MINE TO METAL TO BATTERY

An economic analysis for beneficiation to a concentrate in Australia, and a comparison of recovery offshore in China or onshore in Australia was carried out as part of the PFS. The PFS recommended that recovery to produce  $V_2O_5$  flake be carried out offshore due to lower capital costs.



**Conventional low cost concentrate**

**Low impact shallow mining**

**BFS will analyse in country recovery to 98%  $V_2O_5$**

**Electrolyte manufacture**

**PFS recommended offshore recovery**

**Battery making**

**Renewable Energy Storage**

The BFS will undertake further analysis of downstream recovery to be conducted in Australia (Queensland) as the preferred option due primarily to a changed government landscape. It is noted that an Australian recovery option may require government funding assistance due to the lower financial returns in this scenario. The BFS will consider further optimising the process to reduce capital costs if it was carried out in Australia as noted in the Company's Prospectus, Schedule 1 (ITAR) released to the ASX on 9 December 2022.

The process flow for electrolyte manufacture, battery making, and renewable energy storage is not a direct asset of the Company, however, it is part of the intended market to which the Company's product is to be supplied, including via investment into and arrangements with Ultra Power Systems Ltd (refer ASX announcement dated 28/02/2023 "RVT signs formal Subscription Agreement with Ultra Power Systems").

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