13 September 2024

STEELPOORTDRIFT VANADIUM PROJECT UPDATE: OPEX REDUCTIONS, EARLY CASHFLOW AND IMPROVED FUNDING DYNAMICS

HIGHLIGHTS

- **Following a comprehensive internal review of the 2022 Definitive Feasibility Study[1] ("DFS"), VR8 has realised significant efficiencies for its concentrator and salt-roast-leach ("SRL") plants through plant modifications and by locating both plants at one location.**
- **Plant modifications has improved operational efficiencies, which is expected to reduce operating costs, and repositioning of the SRL plant to Steelpoortdrift is anticipated to further reduce operating costs, cut pre-production CAPEX and streamline operations.**
- **VR8's ongoing offtake, funding and strategic equity processes for the development of both the concentrator and SRL plants are well advanced. Strategic equity and debt funding will be sought first for the concentrator, followed by funding for the SRL plant.**
- **Mine and concentrator construction anticipated to begin in Q3 CY2025, enabling early concentrate production and accelerating operating cashflow, with SRL plant construction starting after Q1 CY2026.**
- **VR8 in discussions with tier-1 parties for potential EPC/EPC-F services and to explore ways of accelerating its downstream ambitions.**
- **Unequivocal support for the consolidation of both plants at Steelpoortdrift received from Steelpoortdrift communities.**

[1] See ASX announcement, 4 October 2022, "*DFS delivers A$1.9Bn NPV confirming World Class Project.*"

Vanadium Resources Limited (ASX.VR8)
7/63 Shepperton Road, Victoria Park, WA 6100 Australia
contact@VR8.global • (+61) 08 6158 9990
www.VR8.global

Commenting on the Steelpoortdrift Vanadium Project Update, Mr John Ciganek, Chief Executive of VR8 said:

"We are incredibly fortunate to have a world-class management team overseeing the development of Steelpoortdrift, with a wealth of experience operating similar producing vanadium operations in South Africa. This new approach, as recommended by our expert team, follows a step-by-step review of every aspect of our proposed operation. These optimisation initiatives have significantly de-risked the development of the Project and also clearly demonstrate the extensive operational experience of our highly experienced management team. We are confident that the consolidated project and numerous technical improvements identified will lead to substantial long-term positives for our Company and all stakeholders."

Commenting on the Steelpoortdrift Vanadium Project Update, Mr Jurie Wessels, Executive Chairman of VR8 said:

"This latest in-depth technical review has unearthed even greater potential for improvement, which will further entrench our Steelpoortdrift Vanadium Project as one of the most significant and capital-efficient vanadium projects in the world. Prior to this review, Steelpoortdrift was already expected to have bottom quartile operating costs and capital intensity, and this technical review and repositioning further expands upon these advantages. The phased funding approach should also enable us to reach positive operating cash flows sooner, which derisks the overall development of the project both financially and operationally. The unequivocal support for the repositioning received from the communities at Steelpoortdrift has also broadened our resolve to conduct the required investigations towards consolidation and the potential realisation of the anticipated efficiencies."

Vanadium Resources Limited (ASX: VR8; DAX: TR3) (the "Company") provides the following update for its world-class Steelpoortdrift Vanadium Project (the "**Project**") in South Africa.

INTERNAL REVIEW OF PROCESSING PLANT AND LAYOUT

The Company has completed a comprehensive internal review applying relevant operational experience from the current VR8 management team. The review identified a range of project enhancements to the concentrator plant, SRL plant and overall layout of the facilities. The purpose of the review was to consider the potential to enhance the operability and efficiency of the Project by leveraging the direct operations experience of the Company's management team, who have experience operating similar vanadium processing plant and equipment. The team that conducted the review included General Manager Operations, Alex Oehmen (ex-Bushveld Minerals, Operations Manager) and Project Manager, Leon Repsold (ex-Bushveld Minerals, Maintenance and Projects Manager).

Concentrator Plant – Design Modifications

The concentrator plant design has incorporated an additional crushing and silica removal circuit. The rationale for this change was to remove upfront gangue and silica in order to reduce the processing load on the balance of plant, as well as allowing the balance of the plant's flow sheet to be streamlined. Due to the reduced load on the balance of plant, the initially planned secondary mill has been removed from the flow sheet.

Figure 1 (illustrated below) shows the latest front end engineering design ("**FEED**") of the concentrator plant including the additional crushing and silica removal circuit.

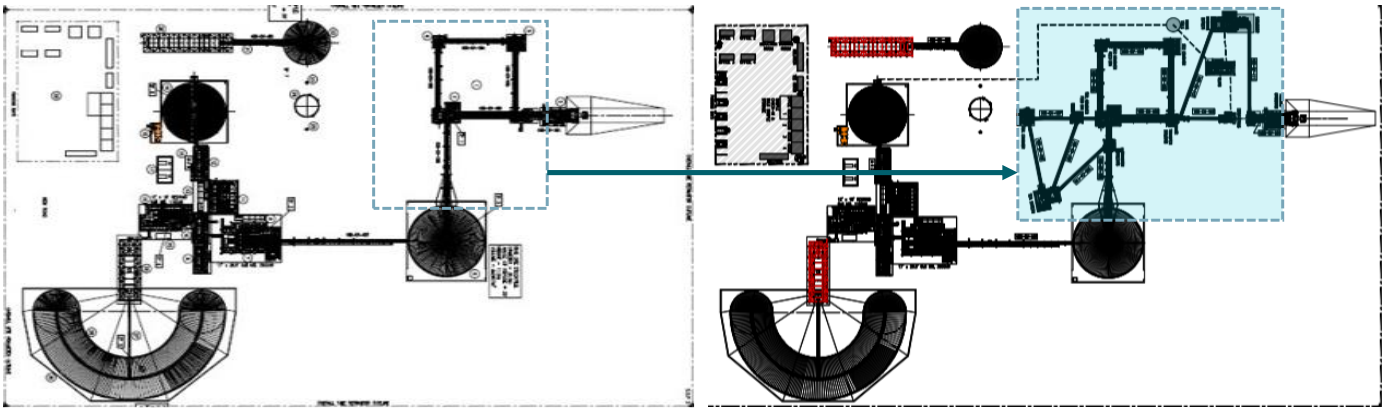

Figure 1: Concentrator Plant Design Modifications – DFS vs FEED

The anticipated benefits of the above design modifications include:

a) Lower operating costs, related to both reduced reagent use and equipment maintenance;
b) Reduction in wasted power and wear/tear on downstream equipment;
c) Higher availability and utilisation of the installed plant; and
d) Lower power demand on operations, due to the removal of the secondary mill.

Figure 2 (illustrated below) shows a schematic of the latest design and main changes of the concentrator plant (as shown by the highlighted blue boxes).

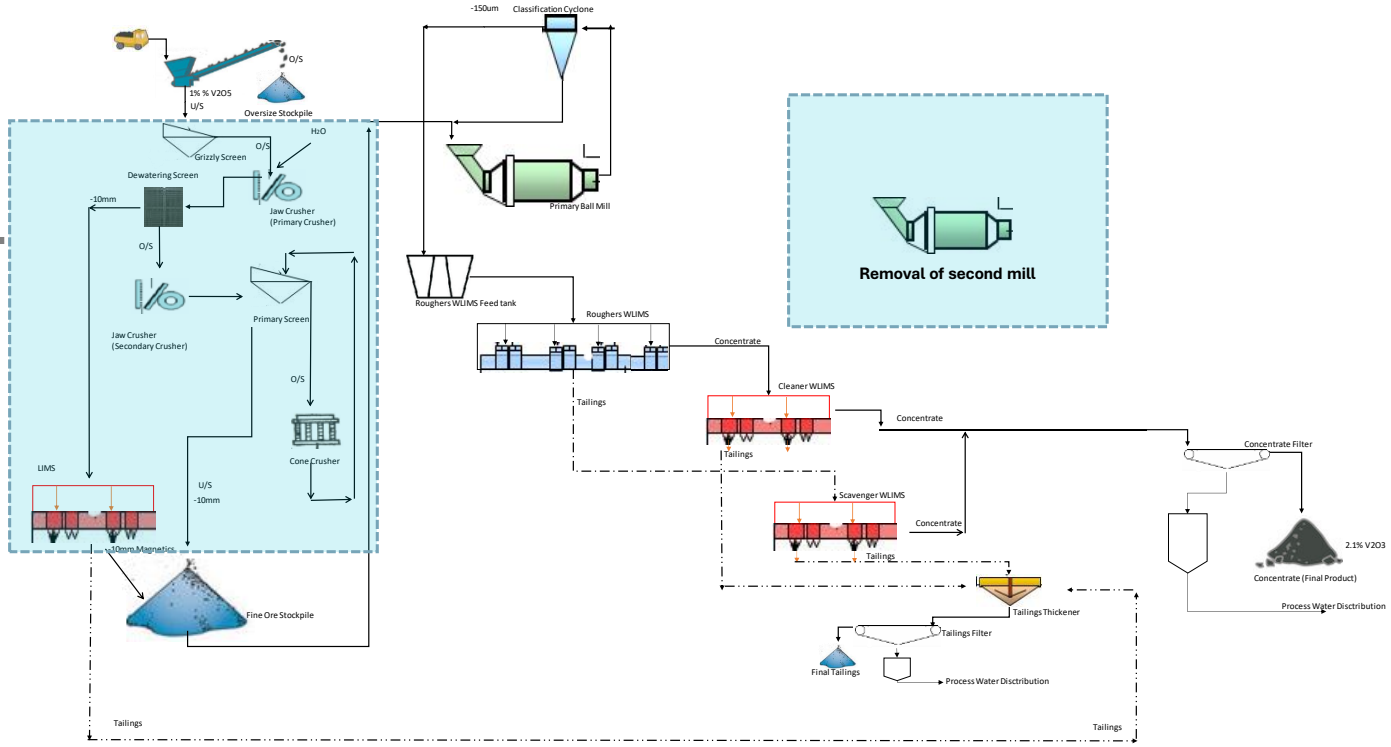

Figure 2: Concentrator Plant Design Modifications

In addition, the location of the concentrator plant has been moved to allow for more space to lay out the plant, provide greater access area for maintenance of the plant once in operation and seamless integration with the SRL plant (illustrated in Figure 7).

SRL Plant – Design Modifications

The SRL plant has incorporated a range of design and plant modifications based on the experience of VR8 management to ensure processes are more practical and efficient, including:

a) Kiln and leach circuit – key changes include:

i. **Concentrate feed system to kiln** – introduced a mixer to ensure better mixing of raw materials before roasting;

ii. **Kiln output** – replaced the milling and crushing section after the cooler with a quench tank; and

iii. **Batch leaching** – replaced continuous leaching with batch leaching consisting of leach vats – a more practical leaching process.

b) Oxide circuit – key changes include:

i. **High quality product stream** – added a batch ammonium metavanadate ("**AMV**") precipitation train to produce high quality products (>99.5% V_2O_5);

ii. **Use of stainless steel** – due to severe corrosion, materials of construction changed from lined mild steel to stainless steel variants for the entire plant which will result in lower maintenance costs during operations; and

iii. **Contaminated reagents to AMV precipitation** – eliminated contaminated reagents to the batch AMV precipitation system and redirected contaminated reagent to the continuous AMV precipitation plant.

Figure 3 (illustrated below) shows the design and plant modifications to the kiln and leach circuit.

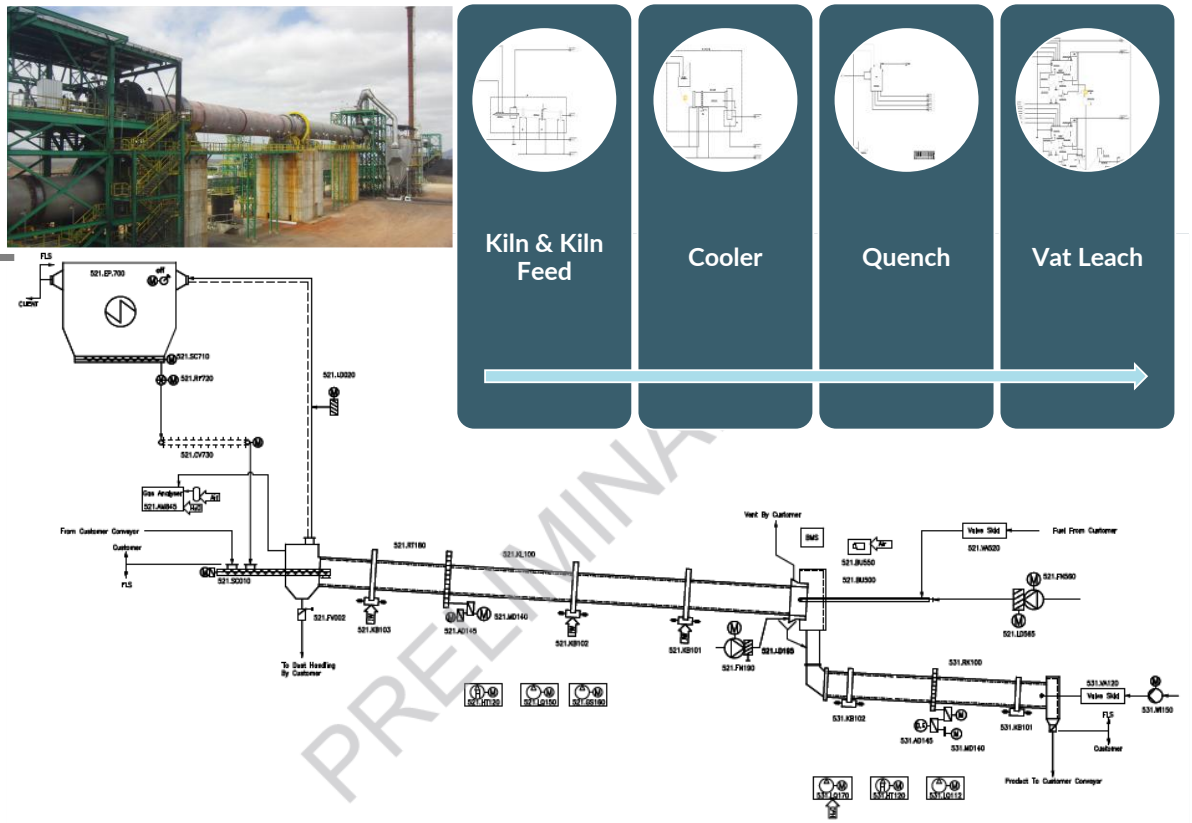

Figure 3: SRL Plant - Kiln and Leach Circuit

Figure 4 (illustrated below) shows the updated block flow diagram for the kiln and leach circuit (as shown by the highlighted blue boxes).

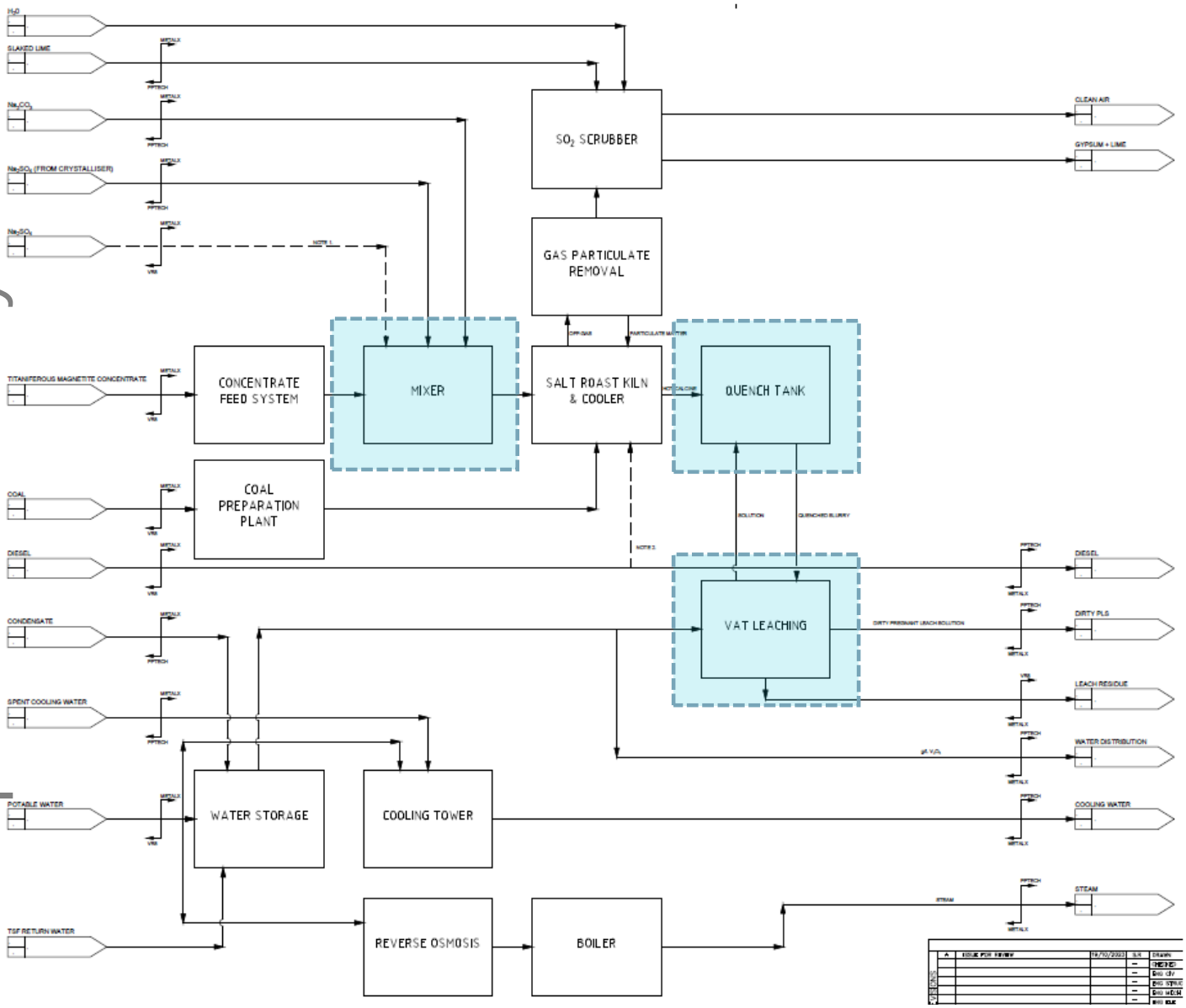

Figure 4: SRL Plant - Kiln and Leach Circuit Updated Block Flow Diagram

Figure 5 (illustrated below) shows the design and plant modifications for the oxide circuit.

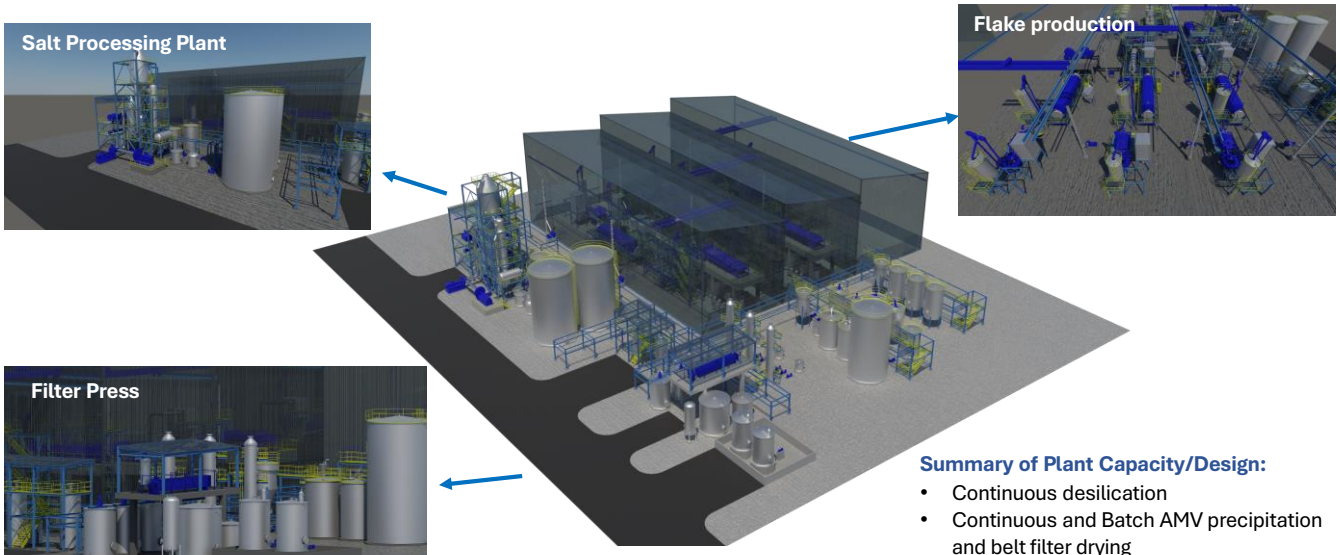

Figure 5: SRL Plant - Oxide Circuit Updated 3D Design

Figure 6 (illustrated below) shows the updated block flow diagram for the oxide circuit (as shown by the highlighted blue boxes).

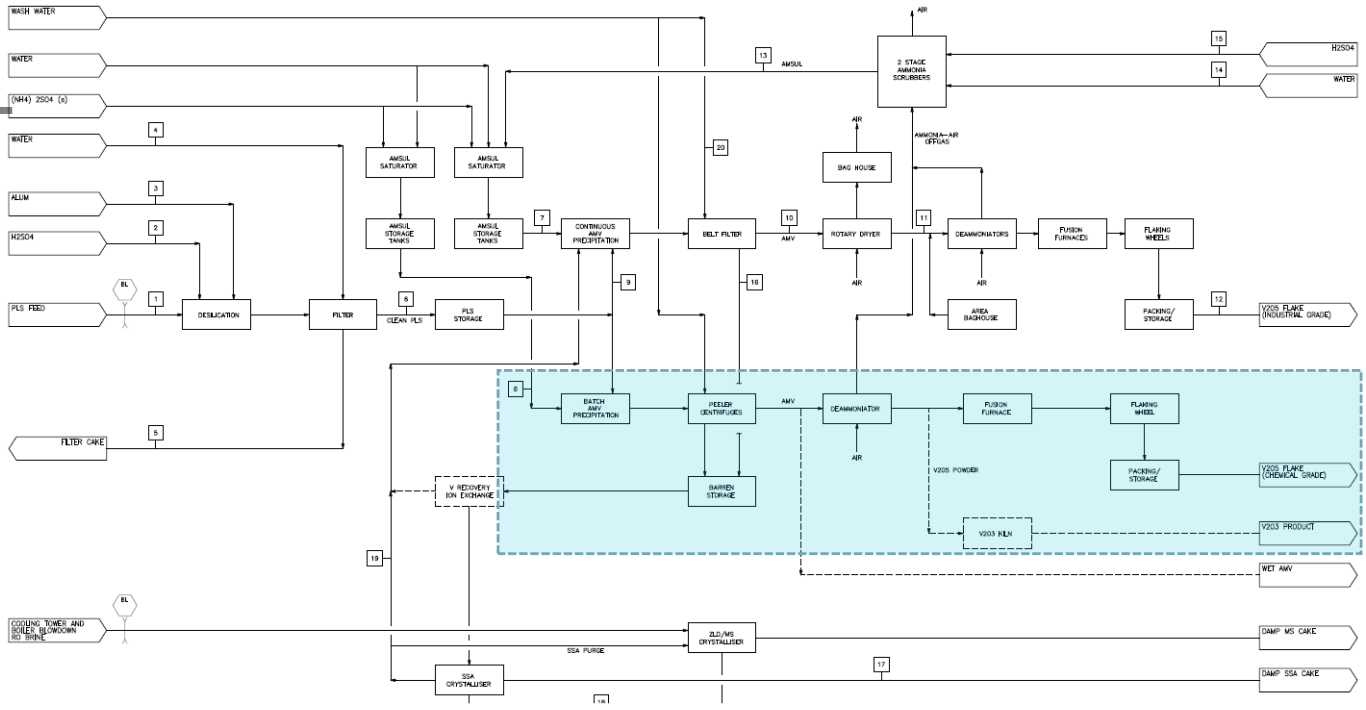

Figure 6: SRL Plant - Oxide Circuit Updated Block Flow Diagram

Relocation of SRL Plant

The location of the SRL plant has been moved from the Tweefontein site to the Steelpoortdrift mine and concentrator site to consolidate all mining and processing activities on to a single site, eliminating the need for duplicate site services and infrastructure, and significantly improving the operational efficiency of both plants. The key benefits of this change include:

a) **Road haulage of concentrate**: Removal of the need for road haulage of the concentrate from Steelpoortdrift to Tweefontein. The DFS assumed a road haulage cost of US$2.51 / tonne of concentrate.
b) **Overland rope conveyor**: Removal of the need for an overland rope conveyor. This was not included in the Company's DFS but was subject to ongoing feasibility studies.
c) **ESKOM Grid:** Only one connection to the ESKOM grid is now required, instead of two separate connections.
d) **Solar Power Farm and Vanadium Flow Battery ("VFB") Storage**: Only one solar and VFB facility is now required, instead of two separate solar farms and VFB storage facilities.
e) **Site administration and site infrastructure facilities**: Single administration and site infrastructure facilities, instead of two.
f) **Alternative road haulage access road:** Eliminated the requirement to build an alternative access road for road haulage trucks to transport concentrate to Tweefontein, which would have been required to remove haul trucks away from community areas.
g) **Direct connection of concentrator and SRL plant**: Having both the concentrator and SRL plant on a single site will allow the process flow to be continuous which will improve efficiencies, such as the use of common management and labour across both plant and reducing the need for stockpiling.

Figure 7 (illustrated below) shows the amended site layout for the Steelpoortdrift site incorporating the SRL plant.

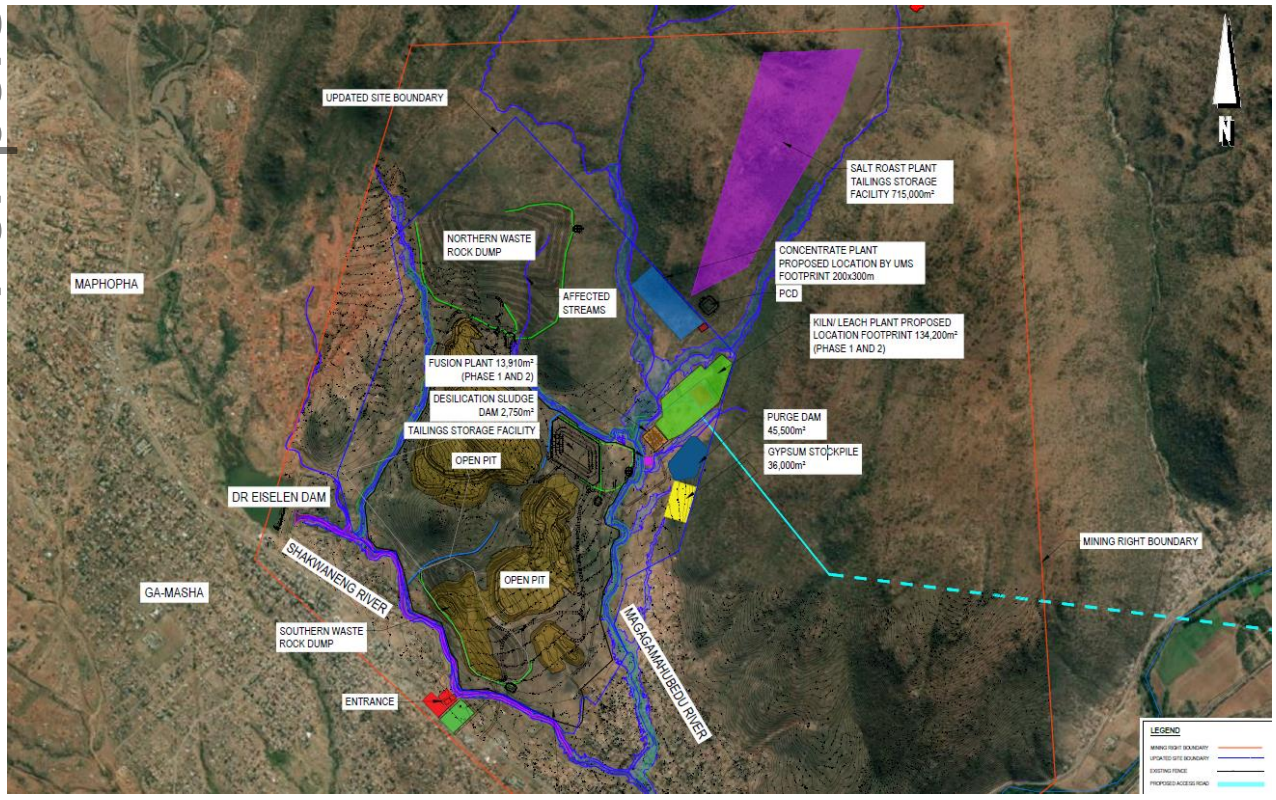

Figure 7: Latest Site Layout for the Concentrator Plant and SRL Plant

FEED AND EPC PACKAGES

Valleyspring was appointed to manage the FEED and prepare EPC and other key contract packages. Valleyspring specialises in project development strategies and have substantial experience in study management, project management and operational readiness planning.

The purpose of the FEED process is to refresh the DFS cost estimates for the Project, and to execute the necessary key contracts (subject to funding) with preferred contractors to deliver the Project on budget and on schedule. This will manage execution risk and ensure the project cost and schedule remains market competitive. VR8 has received strong interest from several contractors to participate in the process. During the FEED process, the key EPC and other contract packages will be issued to the market in a competitive pricing process. Proposals will be evaluated and preferred contractors selected. Based on these proposals, the project cost estimates and implementation schedule will be finalised.

The Company may opt to terminate the competitive tender process early if it is considered advantageous. In such a case, the Company could award the EPC contract to a partner offering favourable development and/or financing terms. The FEED has a completion target date of Q1 CY2025 and will position VR8 to secure the required funding for the mine and concentrator.

ENVIRONMENTAL AND REGULATORY APPROVALS

Separate Approvals for Concentrator and SRL Operations

An Integrated Environmental Authorisation ("**IEA**") application for the Steelpoortdrift site based on the mine and concentrator operation is in the last stage before being granted by the Department of Mineral Resources and Energy ("**DMRE**"), and the Water Use Licence ("**WUL**") has been granted by the Department of Water and Sanitation ("**DWS**"). Both the IEA application and the WUL provide for the position of the concentrator in its initial location as outlined in the original DFS (i.e. next to the concentrator tailings storage area).

The new location of the concentrator site is illustrated in Figure 7 above. As the current IEA application does not make provision for the new position of the concentrator, the IEA will need to be amended to reflect this change. This amendment will trigger a new Environmental Authorisation ("**EA**") application, through a Basic Assessment process which will take approximately 7 months from inception to issuance of the EA. The benefit of applying separately for the concentrator plant is that it will require a shorter process and will not include a Water Use Licence Application ("**WULA**"). As a result, the mine and concentrator site will be able to start construction, separately to the SRL plant, as soon as the EA has been granted. It is envisaged that the Basic Application will be granted July 2025, in parallel with the completion of final detailed engineering designs along with the purchase of long lead equipment. On this basis, construction of the concentrator is anticipated to commence in Q3 CY2025, with commissioning to start during Q3 CY2026 and production ramp up from Q4 CY2026.

The SRL plant and its related activities will need an IEA and WULA. A Scoping process and EIA process will be required for the application and the anticipated timing for this process is estimated to be between 10 to 12 months. The majority of the engineering work has already been undertaken for the SRL plant and is expected to be readily incorporated on to the Steelpoortdrift site, as shown in the preliminary locations in Figure 7 above. The remaining detailed engineering work required for the relocation of the SRL plant to the Steelpoortdrift site is expected to commence in Q1 CY2025, after the selection of the preferred EPC contractor. As a result of all of the above changes, the SRL site will be able to start construction as soon as the IEA and WUL have been granted, which is anticipated for

during Q1 CY2026. However, timing may be adjusted to allow for more production of concentrate to ramp-up, potentially using cashflows from concentrate sales to support funding of the SRL plant capital expenditure.

Concentrate Operations, Offtake & Funding

The staged sequence of approvals and construction of the mine and concentrator operation, and the subsequent SRL operation, will result in the potential to commission the concentrator within 12 months from the start of construction and commence production of concentration during the remaining construction of the SLP plant. The early sale of concentrate, not originally included in the Company's previous financial models, has already attracted multiple expressions of interest, with potential to secure offtake agreements. As a result, it is envisaged that there may be the potential to generate early cashflow from the sale of concentrate, further derisking the development of the wider Steelpoortdrift Vanadium Project.

It is envisioned that the Company's existing offtake, strategic equity and debt financing processes will support this intermediary funding milestone towards the full financing and development of the SRL. Upon receipt of the relevant IEA and WUL for the SRL operation, the Company will continue to proceed to raise debt and equity funding for the remaining total SRL CAPEX.

PROJECT TIMELINE

An overview of the latest project timeline is shown below.

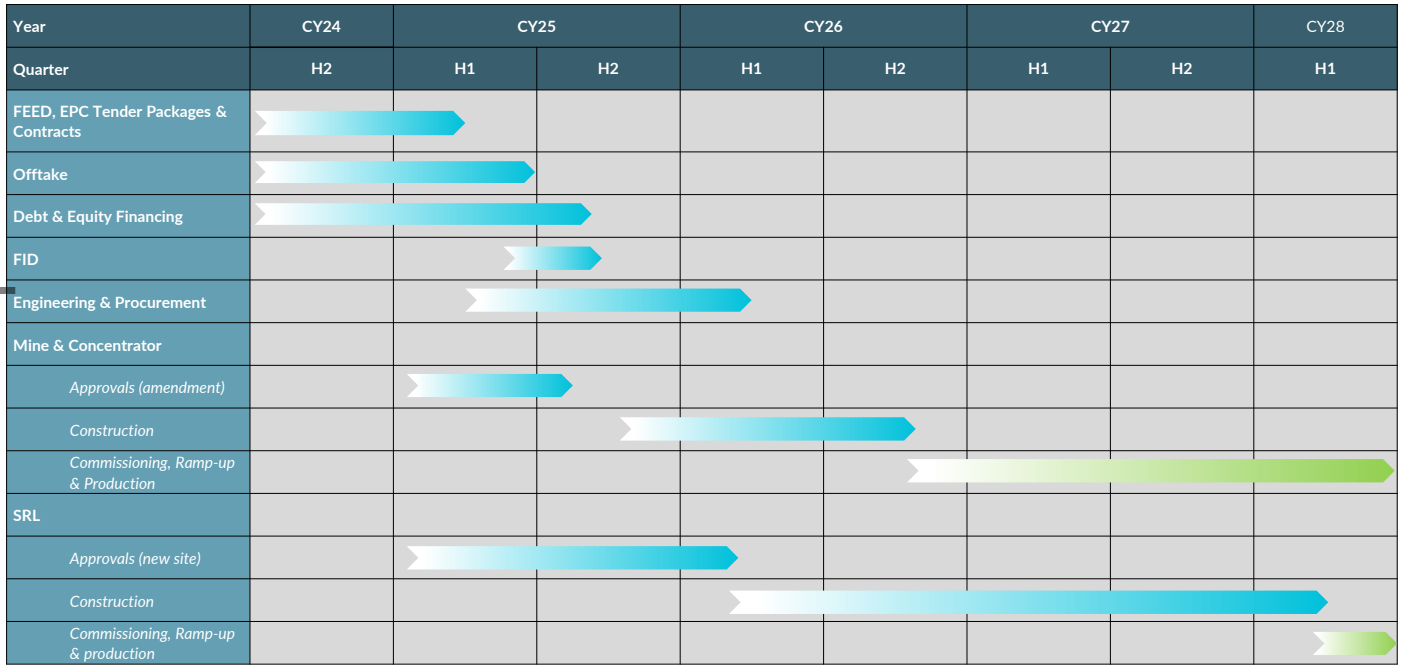

Figure 8: Updated Project Timeline

This announcement has been authorised for release by the directors of Vanadium Resources Limited.

For further information, please visit https://vr8.global or contact:

Jurie H. Wessels
Executive Chairman
VANADIUM RESOURCES LIMITED
E: contact@vr8.global

John Ciganek
Managing Director and Chief Executive Officer
VANADIUM RESOURCES LIMITED
E: contact@vr8.global

Erik Bergseng, CFA®
Investor Relations
P: (612) 8350 0882
E: ebergseng@nrinvestor.com.au

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Vanadium Resources recognises that the term "World-Class" is subjective, but is used generally to describe resources projects that are large, long life, and low cost. Vanadium Resources believes it has a reasonable basis to describe the Steelpoortdrift project as being a "World-Class" vanadium project based off the findings in 4 October 2022 ASX release titled "DFS Delivers A$1.9BN NPV Confirming World Class Steelpoortdrift Vanadium Project".

Competent Person's Statement and Compliance Statements

The information in the referenced announcements 1 and 2 footnoted above 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. 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.

1) ASX: VR8 4 October 2022, DFS delivers A$1.9Bn NPV confirming World Class Project
2) ASX: VR8 4 October 2022, VR8 Updates Mineral Resource and Ore Reserve for the Steelpoortdrift Vanadium Project

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.

APPENDIX 1 – MINERAL RESOURCE ESTIMATE

The Resource statement as reported on the 4 October 2022[2] was updated and is as follows:

Mineral Resource Estimate (as at 30 April 2022)

CLASSIFICATION	VOLUME (M m^3)	QUANTITY (Mt)	QUALITY % V_2O_5 (In-situ)	CONTAINED V_2O_5 (Mt)	QUALITY % Fe_2O (In-Situ)	CONTAINED Fe_2O (Mt)
Measured	43.77	145.46	0.72	1.05	22.47	32.68
Indicated	98.75	327.29	0.70	2.29	22.80	74.62
Inferred	63.41	207.38	0.68	1.40	22.90	47.49
Total Mineral Resource	**205.93**	**680.13**	**0.70**	**4.74**	**22.76**	**154.80**

Source: Sound Mining, 2022

Notes:

- Stated at a cut-off grade of 0.45% V_2O_5;
- The Mineral Resources are stated on a 100% attributable basis for VanRes, of which VR8 owns 86.49%;
- The Mineral Resources are inclusive of Ore Reserves; and

Reported in-situ with any apparent computational errors due to rounding not considered significant.

APPENDIX 2 – ORE RESERVE

The updated Ore Reserve statement as at 30 September 2022 .

Ore Reserves as at 30 September 2022

CLASSIFICATION	QUANTITY (Mt)	QUALITY (% V_2O_5 RoM)	CONTAINED V_2O_5 (Mt)
Proved Ore Reserves	30.23	0.70%	0.21
Probable Ore Reserves	46.62	0.72%	0.34
Total Ore Reserves	**76.86**	**0.72%**	**0.55**

Source: Sound Mining, 2022

Notes:

- The Ore Reserves are stated at a price of USD9.50/lb;
- The Ore Reserves are stated on a 100% attributable basis for VanRes, of which VR8 owns 86.49%;
- The LoM was restricted to a production forecast of 25 years whereafter the mining licence will need to be renewed.
- The Ore Reserves are reported at the point of delivery for processing;
- The Quantity is reported in metric tonnes and the Grade reported as a percentage of contained V_2O_5;
- Any apparent computational errors due to rounding are not considered significant;
- The Ore Reserves may be subject to legal, political, environmental or other risks;
- Losses that could occur as a result of transportation of content or Flake are considered to be negligible; and
- 39% of the Ore Reserves are in the Proved category and no Inferred Mineral Resources included in the Ore Reserve estimate.

[2] Refer to ASX Announcement 4 October 2022 *"VR8 Updates Mineral Resource and Ore Reserve for the Steelpoortdrift Vanadium Project"*