

**VRX SILICA LIMITED**  
ABN 59 142 014 873

**INTERIM FINANCIAL REPORT**  
**FOR HALF-YEAR ENDED**  
**31 DECEMBER 2023**

## CORPORATE DIRECTORY

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### **DIRECTORS**

Paul Boyatzis (Non-Executive Chairman)  
Bruce Maluish (Managing Director)  
Peter Pawlowitsch (Non-Executive Director)  
David Welch (Non-Executive Director)

### **SECRETARY**

Ian Hobson

### **REGISTERED AND PRINCIPAL OFFICE**

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### **SHARE REGISTRY**

Computershare Investor Services Pty Ltd  
Level 17, 221 St George's Terrace  
Perth WA 6000

Telephone: (08) 9323 2000  
Facsimile: (08) 9323 2033

### **AUDITORS**

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Level 32, Exchange Tower  
2 The Esplanade  
Perth WA 6000

### **AUSTRALIAN SECURITIES EXCHANGE**

VRX Silica Limited shares (VRX) are listed on the  
Australian Securities Exchange

## DIRECTORS' REPORT

Your directors submit the financial report of the consolidated entity for the half-year ended 31 December 2023. In order to comply with the provisions of the *Corporations Act 2001*, the directors report as follows:

### DIRECTORS

The names of the Directors who held office during or since the end of the half-year and until the date of this report are noted below. Directors were in office for this entire period unless otherwise stated:

Paul Boyatzis (Non-Executive Chairman)  
Bruce Maluish (Managing Director)  
Peter Pawlowitsch (Non-Executive Director)  
David Welch (Non-Executive Director)

### PRINCIPAL ACTIVITIES

The principal continuing activities during the half-year of entities within the consolidated entity was mineral exploration.

### REVIEW OF OPERATIONS

The net loss for the half-year attributable to members of VRX Silica Limited (**VRX** or **Company**) was \$2,157,302 (2022: loss of \$2,621,638).

The following is a summary of the activities conducted by VRX during the half year to 31 December 2023 at its silica sand projects at Arrowsmith North, Central and Brand (located 270 km north of Perth), Muchea (located 50 km from Perth) and Boyatup (located 100 km east of Esperance), all situated in Western Australia.

### VRX Silica Sand Resources

VRX is a Western Australian based pure-play silica sand exploration and development company with five high-value, advanced, very long-term silica sand projects in Western Australia, a Tier 1 mining region.

The Company has multi-decade scale contiguous sand deposits on granted Mining Leases with secure tenure and a combined 1.4Bn tonne Mineral Resource<sup>1</sup> of 99.6% to 99.9% SiO<sub>2</sub> grade silica sand<sup>2</sup>.

The Company and its management team is based in Western Australia, as are its five large scale, high-grade and low impurity silica sand projects. Each project can be run independently and supply high-grade silica sand to many diverse markets.



Figure 1: VRX Projects Locations

<sup>1</sup> See table on page 21

<sup>2</sup> See ASX releases on 28 August 2019, 11 November 2022, and 18 October 2019

### Applications of Silica Sand

Silica sand is the most-used commodity on the planet after air and water. It is the main ingredient in all types of **glassmaking**, including specialty solar panel and high-tech glass. The glass manufacturing industry demand is increasing at a rate of 5-6% per year, or about 8-10 million tonnes pa. Around 47% of the world's glass is manufactured in Asia.

Silica sand is an essential component of the **foundry** and casting industries. The largest foundry industry is in Korea where it dominates the industry particularly for large marine components. Arrowsmith North can produce three grades of sought after foundry sand. Bulk samples have been sent to Korean and Japanese foundry companies and foundry sand suppliers who have confirmed that the product meet their rigorous requirements.

Silica sand is also the main ingredient in concrete and is the largest user of available supplies and a primary reason for depleted resources in Asia including silica sand reserves that may be benefited to glassmaking and foundry quality.

Silica sand is a finite resource that is rapidly being exhausted and the Asia-Pacific region is currently experiencing **increasing demand** at a time of a **global supply shortfall**.

### Arrowsmith North

#### Update on Arrowsmith North Environmental Approvals Process

On 31 October 2023 VRX provided an update on its application for environmental approval (**Proposal**) at Arrowsmith North.

The Company announced to ASX on 9 June 2023 that the Environmental Review Document (**ERD**) for the Proposal had been accepted by the Department of Water and Environmental Regulation (**DWER**) for publication and a four-week Public Environmental Review (**PER**). The PER period closed on 16 July 2023.

On 7 September 2023 DWER provided the Company with a summary of the public submissions received during that period. The Company lodged on 31 October 2023 its draft Response to Submissions (**RtS**) for consideration by the Environmental Protection Authority of Western Australia (**EPA**).

The EPA has collated comments from all relevant State Government departments on the RtS and is awaiting comments from the Commonwealth Department of Climate Change, Energy, the Environment and Water. In the interim, the EPA has provided preliminary comments, and the Company has lodged a response to address these comments. As is standard procedure, the Company will be required to update its RtS document in response to all formal comments once they are provided by the EPA.

Subject to review and acceptance of the updated RtS document by the EPA, the EPA will prepare an assessment report recommending whether the Proposal should be approved by the Western Australian Environment Minister and provide recommended conditions. Environmental approval for Arrowsmith North is crucial and linked to VRX's ability to secure other necessary approvals for mining.

VRX appreciates the interest the public has shown in the proposal and is pleased that it has now progressed to the next stage of the environmental approvals process for Arrowsmith North. The submissions received during the public review period were reflective of that interest.

The Proposal has the potential to underpin a project lasting many decades and underscores the enormous economic contribution that could flow to the Irwin Shire in particular and Western Australia more broadly.

### Background to the Proposal and Environmental Approvals Process

The Proposal includes the sequential block mining of silica sand, development of a mine feed plant, moveable surface conveyor, pipeline, processing plant, stockpiles, freshwater supply bore, access corridor, laydown, administration, water storage and associated infrastructure including a gas fired power station, communications equipment, offices, a workshop and additional laydown areas. Access to the site will be via an access road connecting the mine to Brand Highway. A freshwater supply bore, water pipeline and access road will be located within the Access Development Envelope (**ADE**). All other infrastructure will be located within the Mine Development Envelope (**MDE**).

The Proposal will result in clearing and rehabilitation of up to 353.8 ha of native vegetation, 14.5 ha of which will remain cleared for the life of the Proposal, and up to 339.3 ha of native vegetation that will be progressively rehabilitated via Vegetation Direct Transfer (**VDT**). The VDT methodology can be viewed at

<https://vrxsilica.com.au/miningandrehabilitationmethodology/>.

This process includes salvaging and translocating intact sods comprised of soil, sub soil and vegetation (mulched to a height) to already mined areas for planting. This approach results in minimal disturbance to plant roots and rapid recovery of native flora.

VRX has previously received confirmation from the Commonwealth Department of Climate Change, Energy, the Environment and Water for an accredited assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (**EPBC Act**). Accredited assessment means the Commonwealth can rely on environmental assessments undertaken by the EPA for the purpose of its approval decisions under the EPBC Act on proposals that may have a significant impact on a matter of national environmental significance.

VRX has conducted extensive environmental studies on its silica sand projects over a number of seasons since 2017 in anticipation of requirements of the State and Commonwealth environmental regulation authorities to undertake approvals assessments. These surveys commenced shortly after the tenements were acquired and the number and extent of these surveys have expanded following further consultation with these authorities. The Company has initially concentrated on gaining approval for development of Arrowsmith North.

The Proposal was referred to DWER for assessment by the EPA under Part IV, Section 38 of the *Environmental Protection Act 1986* (WA) (**EP Act**) in March 2021. The referral was reviewed and in May 2021 the EPA determined that the Proposal would be assessed and set the level of assessment for the Proposal at PER with a requirement for a proponent-prepared Environmental Scoping Document (**ESD**) and a four-week public review period for the ERD.

The Company submitted its ESD to the EPA for assessment in September 2021. The ESD was approved in March 2022.

In May 2022 VRX lodged with the EPA the first-draft ERD for the Proposal. The ERD was prepared according to the EPA's Administrative Procedures Manual and other guidance documents and amendments. The ERD is a comprehensive summary of the Proposal's environmental setting, the physical elements of the proposed mine and infrastructure, operational elements, the extent of impacts on the environment and the proposed rehabilitation and closure plan. VRX received a request from DWER for further information in early July 2022 and submitted its response later that month.

In November 2022, DWER requested additional information. The Company lodged a revised ERD and response table in December 2022. VRX then received a request for further information in April 2023 and provided a final ERD to DWER in May 2023, which was accepted by DWER on 8 June 2023 for publication and the PER.

The final ERD, which comprises a 341-page summary and 32 appendices detailing a comprehensive environmental impact assessment of the Proposal, was published by the EPA for a four-week PER period, commencing on 19 June 2023.

# DIRECTORS' REPORT

## Arrowsmith Brand Mineral Resource Estimate

In May 2023, VRX announced an extension of its known JORC 2012 compliant Resources at Arrowsmith with a new Resource at its new Arrowsmith Brand Silica Sand Project, located 270km north of Perth.

On 19 July 2023 VRX announced the grant of a Mining Lease (M70/1418) at Arrowsmith Brand. The new Resource is contiguous and south of Arrowsmith North and bounded to the south by the Brand Highway road reserve.

The Mining Lease has an area of 1,994 Ha and predominately within Exploration Licence E70/5027, partially within E70/5109 and is contiguous with the granted Arrowsmith North Mining Lease M70/1389. See Figure 2 below.

The combined Resources at Arrowsmith now provide a future pipeline of additional production utilising some of the infrastructure to be developed at Arrowsmith North.

Whilst development of Arrowsmith Brand is not a current priority, extended timelines are now commonplace for mining approvals and this project has the potential to expand production to meet ever increasing demand for silica sand products.

The silica sand at Arrowsmith Brand is similar to Arrowsmith North, with testwork to-date from samples within this Resource indicating similar products can be produced.

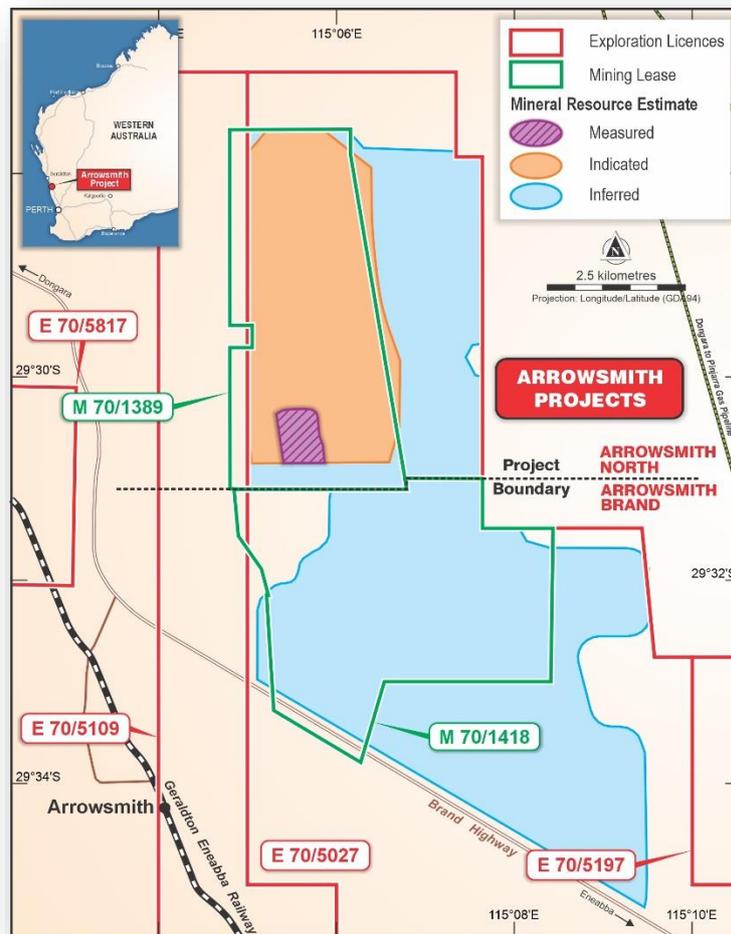


Figure 2: Arrowsmith Brand Silica Sand Project Location

## DIRECTORS' REPORT

### *Detailed Information*

Arrowsmith Brand generates an additional silica sand project focused on an area of the Arrowsmith North mineral resource area that is not in the near-term development pipeline and prior work indicated the potential for nearby additional Resources. By splitting Arrowsmith North at the southern boundary of the granted mining lease M70/1389 and extending the Resource by drilling to the south, Arrowsmith Brand was established.

Arrowsmith Brand contains a subset of the previously reported Arrowsmith North mineral resource estimate (**MRE**)<sup>3</sup>, also Figure .

Table 1 below shows the prior Arrowsmith North MRE split between the new Arrowsmith Brand and the Arrowsmith North Silica Sand Projects.

### Arrowsmith North - Mineral Resource

#### 11 November 2022 Estimate

Classification	Mt	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	TiO <sub>2</sub> %	LOI %
Measured	10	95.9	1.9	0.7	0.3	0.7
Indicated	237	97.7	1.00	0.40	0.20	0.50
Inferred	521	98.2	0.80	0.30	0.20	0.40
<b>Total</b>	<b>768</b>	<b>98.0</b>	<b>0.90</b>	<b>0.30</b>	<b>0.20</b>	<b>0.40</b>

### Arrowsmith North Mineral Resource

#### in Arrowsmith Brand Project

Classification	Mt	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	TiO <sub>2</sub> %	LOI %
Inferred	255	98.0	0.91	0.31	0.17	0.44
<b>Total</b>	<b>255</b>	<b>98.0</b>	<b>0.91</b>	<b>0.31</b>	<b>0.17</b>	<b>0.44</b>

### Arrowsmith North Mineral Resource

#### Ex Arrowsmith Brand Project

Classification	Mt	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	TiO <sub>2</sub> %	LOI %
Measured	10	95.9	1.9	0.7	0.3	0.7
Indicated	237	97.7	1.0	0.4	0.2	0.5
Inferred	266	98.4	0.7	0.3	0.2	0.4
<b>Total</b>	<b>513</b>	<b>98.0</b>	<b>0.9</b>	<b>0.3</b>	<b>0.2</b>	<b>0.4</b>

Table 1: Prior Arrowsmith North MRE apportioned to Brand Mineral Resource

<sup>3</sup> ASX announcement 11 November 2022, "Arrowsmith North Mineral Resource and Ore Reserve Update".

## DIRECTORS' REPORT

VRX has completed a vacuum drilling program at Arrowsmith North extending into Arrowsmith Brand. A total of 68 holes for 786m were drilled on M70/1389 to gain material for future metallurgical testwork within the proposed Arrowsmith North mining area. These holes infill the existing 50m spaced grade control drilling which was used to estimate the measured resource and proven reserve. These samples will not materially change these estimates and have not been assayed.

An additional 49 holes for 656m were drilled on existing tracks to the south in what is now known as the Arrowsmith Brand Project. These holes infill and extend the prior reported MRE for Arrowsmith North. Drilling intersected high quality silica sand which has been assayed and modelled and has resulted in a MRE for Arrowsmith Brand.

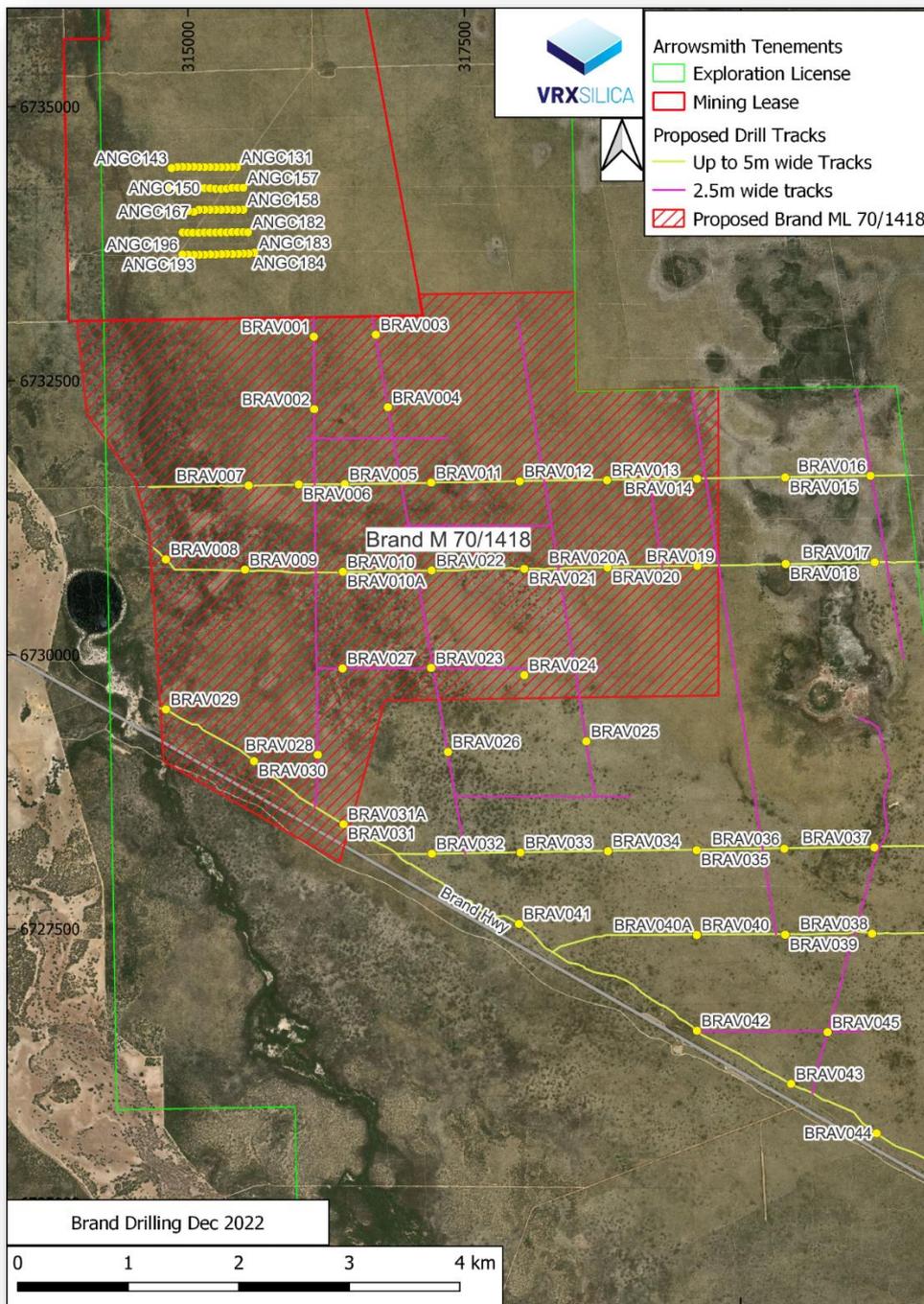


Figure 3: December 2022 Drill hole locations.

## DIRECTORS' REPORT

The Arrowsmith Brand MRE is reported in accordance with the JORC Code 2012 Edition. Drilling was completed generally on an 800m x 800m drill hole grid and defines a band of homogeneous yellow sand overlying white sand. Drilling encountered zones of clay rich fine sand which were excluded from the MRE. The potential silica sand products from Arrowsmith Brand are expected to be suitable for industries such as flat, automobile and container glass manufacturing and foundry casting.

The Arrowsmith Brand MRE is shown in the table below.

### Arrowsmith Brand Mineral Resource Estimate (see ASX release dated 9 May 2023)

Classification	Zone	Mt	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	TiO <sub>2</sub> %	LOI %
Inferred	White	144	98.4	0.8	0.2	0.2	0.4
	Yellow	379	96.9	1.6	0.5	0.2	0.7
	Total	523	97.3	1.4	0.4	0.2	0.6
Increase over Prior Estimate		268	Million Tonnes				

Table 2: Arrowsmith Brand Mineral Resource

*\*Note: Interpreted mineralisation is above a basal layer of clay and/or limestone. Depletion zones include the upper 0.3 m excluded for rehabilitation purposes. Only areas with a minimum sand depth of 1m were included. Differences may occur due to rounding. **Prior estimate is summarised in Table 1.***

Details of the Mining Lease for Arrowsmith Brand are set out in Table 3. See also Figure . VRX expects to advance the project using the well-known process that has been followed at its other silica sand projects currently being developed.

These activities include:

- environmental surveys;
- further metallurgical testwork;
- marketing studies; and
- mine planning studies, which will inform scoping and pre-feasibility studies.

Tenement	Holder	Application date	Grant Date	Area (Ha)
M 70/1418	Ventnor Mining Pty Ltd	01/08/2022	18/07/2023	1,994

Table 3: Arrowsmith Brand tenement details

### Muchea

#### Drilling

In April 2023, a Program of Works (**PoW**) to drill on existing tracks, south of the granted mining lease M70/1390, was approved by the Department of Energy, Mines, Industry Regulation and Safety (or DMIRS, as it was then known). This program was planned to infill a previous hand auger program that was completed as part of the due diligence process prior to the acquisition of the project<sup>4</sup>. Vacuum drilling over 5 days in November 2023 completed 69 holes for 953.5 metres. Drilling was spaced typically 200m along the tracks infilling the original drilling.



*Figure 4: Vacuum drilling at Muchea*

As expected, the drilling intercepted high quality white sand, with holes being drilled to the full depth allowable. Assays are pending. A second stage of drilling has been approved and following completion of drilling the Mineral Resource Estimate will be updated.

The Company referred a proposal to undertake further exploration drilling and trials of the Vegetation Direct Transfer rehabilitation methodology (VDT Trials) within M70/1390 to support the future development of Muchea to the Federal Department of Climate Change, Energy, the Environment and Water (**DCCEEW**) for an assessment under the EPBC Act. The Department determined that the proposal is not a controlled action and that the works may be carried out under certain conditions.

The Company plans to undertake the drilling and VDT trials in the second quarter of 2024.

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<sup>4</sup> VRX: ASX announcement of 5 April 2018, "Muchea Silica Sand Project Drill Results"

### Design and Engineering

VRX has largely completed all material engineering work for construction of a 2 million tonne per year silica sand processing plant at Arrowsmith North, including detailed design.

The engineering has been based on a comprehensive metallurgical testwork program and peer reviewed process circuit design and testing. The design incorporates some innovative processing techniques which allows flexibility for the Company to produce multiple products to meet market requirements for foundry and glassmaking silica sand.

This design work by the engineering team at ProjX, will allow a very long production future at Arrowsmith North with low emissions and carbon footprint.

During the quarter the Company has progressed with further detailed engineering by Original Equipment Manufacturers (OEM) both in Australia and overseas, including:

- Metso OKTOP - Conditioner tank detail engineering
- Metso Outotec - Thickener detail engineering
- CAVEX Hydrocyclones - Cyclone cluster engineering drawings
- Integrated Switchgear and Systems – Switchroom & 415V MCC's design drawings

VRX has also commissioned the manufacture of a Modified Cat 980 Bucket and Quick Hitch for VDT trials to be conducted at Muchea.

### \$2 million Investment Attraction Fund Grant

On 18 July 2023 VRX announced it had received confirmation from the Western Australian State Government that the Company's grant application for \$2 million in matched funding under the Investment Attraction Fund (IAF) has been approved with a Financial Assistance Agreement (FAA) for the grant executed that day.

The IAF is part of the State Government's Diversify WA initiative, a collaboration between government, industry and the community supporting the WA Government's focus on creating secure, quality jobs, growing and diversifying the economy and attracting new investment.

The grant under the IAF is being awarded on a matched funding, dollar for dollar basis, whereby the IAF will provide a financial contribution to VRX up to \$2m.

The project proposed by VRX will investigate the potential to develop a high purity quartz (or HPQ) flour manufacturing process and pilot plant in Western Australia, which if successful will lead to the development of a larger commercial plant for large scale processing.

VRX intends to develop a High Purity Quartz flour manufacturing process to meet a standard of 99.999% SiO<sub>2</sub> (5N) purity. This involves the establishment of a new lower purity quartz resource to be beneficiated in quality, allowing a new manufacturing process tailored to beneficiating the purity of Western Australia quartz and finally the establishment of the high purity quartz flour manufacturing plant and the associated supply chains.

The key objective of this project is to commercialise the manufacturing process of High Purity Quartz flour within Western Australia. This will involve sourcing and beneficiating the purity of lower quality quartz through primarily mechanical and possibly chemical processes. The establishment of a process and purity standard has the potential to lead to a manufacturing facility, commercial partners and a supply chain for the critical minerals.

The three main objectives for the project are:

- To determine the key elements that would lead to the successful commercialisation of a manufacturing process to beneficiate the quality of the lower purity quartz (99.9% SiO<sub>2</sub>) to a higher silica grade.
- To complete a pre-feasibility study that would determine the grade of quartz and processing method that could feasibly be manufactured from its existing feedstocks with a target of reaching 99.999% SiO<sub>2</sub> purity quartz flour.
- To establish a full-scale manufacturing plant to process the resource into high purity quartz flour utilising the work from the previous objectives, testwork and marketing carried out as a backbone to support the future work to be carried out.

## DIRECTORS' REPORT

The HPQ market is one of growing demand but with a relatively small supplier base.

Initially, VRX will investigate the potential for the coarse material that will be produced from Muchea. Recent pilot plant work completed on a 2.2 tonne bulk sample of Muchea sand indicated that a portion of project ore may meet the specification required.

Whilst the goal is to achieve the high-quality required, by raising its high-grade silica sand resource from Muchea to at least “4 nines” (ie. 99.99% SiO<sub>2</sub> purity) it would still allow a wide range of high demand large-value products to be made. This includes use as a feed material for several industries and downstream products including paint fillers, fibre glass, water purity media, and silica flour for the production of LCDs and silica gels.

During the half year under review the Company received its first payment under the grant and collected a bulk sample which has been prepared and shipped to a specialist company in Germany for testwork.

### Sample Shipped for High Grade Silica Flour Testwork

On 15 November 2023 VRX announced it had despatched a 1,000kg sample of selected sand from its Muchea Silica Sand Project to a specialist laboratory in Germany.

The testwork will determine the potential yield, quality and power requirements to produce a suitable silica flour to be used for manufacturing of LCD glass.

As the market for LCDs is steadily increasing, so is the requirement for suitable high quality silica flour used in their manufacturing.

Muchea silica sand has the potential to produce the grade and quality of sand that will provide the raw material for the production of such silica flour.

This is specialised testwork that will determine the parameters required to produce the quality required and the economic inputs to assess the viability of the process.

The initial phase of this project is comminution testing of VRX's selected Muchea sand to determine the yield and quality of silica flour that can be produced from the raw material. Silica flour is a high value low iron silica product that has a specific size specification and is primarily used in the production of LCD glass for display screens.

The demand for HPQ flour has steadily increased as has the price. Figure shows the export price of silica flour from Taiwan<sup>5</sup>, over the last 3 years.

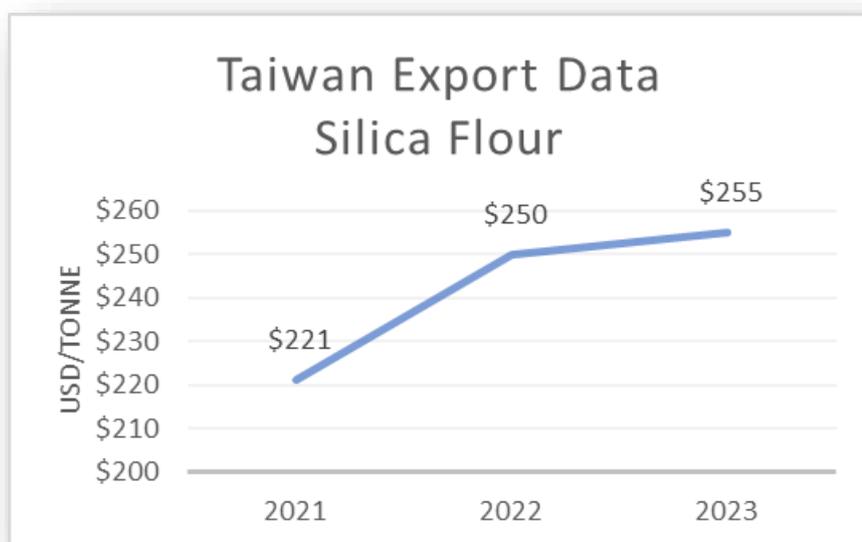


Figure 5: Taiwan Export Price – Silica Flour

<sup>5</sup> Source: International Trade Administration Republic of China (Taiwan)

## DIRECTORS' REPORT

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The production of HPQ flour requires only grinding and classification of the silica sand raw material and no chemical processing. Closed circuit grinding undertaken with air classification provides the on-spec size fractions. The process can result in a portion of fines, termed “by-product”. This by-product is a lower value, but saleable product, that can be used in fiberglass applications, or if sufficiently high quality, it can be sold into higher value ceramic and paint filler markets. The key to a high margin silica flour processing operation is starting with the right raw material. The Company believes that the coarse material at Muchea is suitable and will produce a high yield of suitable silica flour.

Silica flour for LCD glass is one potential commercial outcome from the IAF funded grant program.

Further chemical processing of the silica flour may lead to suitable HPQ which is used in the production of silicon wafers used in photovoltaic cells for solar panels. Also, the production of silica gels requires high quality silica powders, these can be used in thermal protection for lithium ion batteries and many other applications. Thermal processing of silica flour and powders can produce other high value products such as Cristobalite and fumed silica.

These research and development activities, which start with the production of silica flour, will ultimately result in high value downstream processing opportunities that will maximise the value of VRX's world-class high-quality Muchea Silica Sand Project.

### Dandaragan Geothermal Project

#### Farm-in and JV Agreement

On 3 November 2023 VRX announced it had entered into a Farm-In and Joint Venture Agreement (Agreement) with Hydro X Gen Pty Ltd (HXG) for the Company's granted Geothermal Exploration Permit (GEP) at Dandaragan, 145km north of Perth, Western Australia.

HXG is planning to conduct an initial public offering and list on the ASX as Steam Resources Limited ([www.steamresources.com.au](http://www.steamresources.com.au)) in 2024 (Steam).

Geothermal technology has the potential to produce long term dispatchable renewable energy for the Mid-West region, including VRX's Arrowsmith silica sand projects.

The grant of GEP 44 to VRX was announced to ASX on 28 July 2023. The permit was subsequently transferred and the Agreement novated to a VRX 100% owned subsidiary, VRX Geothermal Pty Ltd.

It consists of 8 contiguous blocks and the area includes the Walyering gas field currently under development by the EP447 Joint Venture between Strike Energy (55%) and Talon Energy (45%). The project provides an opportunity to work with these gas companies and use extensive historical and current data to explore potential geothermal power options.

Under the terms of the Agreement, Steam can earn up to a 90% interest in GEP 44. Steam is required to complete an agreed exploration program and drilling campaign by 31 July 2026 to earn an initial 40% interest in the project and an additional 30% interest by completing a feasibility study assessing the economic viability of the production of energy from geothermal sources within the project area by that date. Steam may earn an additional 20% interest upon the production of energy from geothermal sources within the project area by 31 July 2029. VRX is not required to contribute funding for development of the geothermal project.

Steam has the requisite experience and expertise to explore and develop the project. Steam Resources is of the view that Permit 44 represents a unique development opportunity for geothermal energy production in Western Australia that will complement their other project areas in the Northern Territory and South Australia.

This geothermal exploration initiative was undertaken by VRX to support its silica sand projects and long-term ambitions for the production of glass in Western Australia. Geothermal energy is a reliable, long-term renewable energy source and an opportunity for a new renewable energy industry in the Mid West.

The board and management of VRX are impressed by the credentials of Steam's management team and look forward to working with them to realise the full potential of the Dandaragan geothermal project. VRX will retain the rights to any minerals that may be encountered in the development of the geothermal project.

# DIRECTORS' REPORT

## GEP 44

In December 2021 VRX lodged an Acreage Release nomination with the Department of Energy, Mines, Industry Regulation and Safety (**DEMIRS**) for specified areas in the Mid-West to be included in a geothermal acreage release. In January 2022 DEMIRS released 21 areas in Western Australia for applications for GEPs with a closing date for applications of 21 April 2022. GEPs are administered by DEMIRS under the Petroleum and Geothermal Energy Resources Act 1967 (**PGERA**) with areas released as a Discrete Area Release. Successful applications are determined through a competitive bidding system. VRX has made application for three GEPs, granted GEP 44, and has been notified the other two permits are progressing through a section 69A PGERA consultation phase. There is no timeline for this process. The GEP 44 has been denoted as the Dandaragan Geothermal Project.

GEP	Holders	Grant Date	Term	5' Blocks
44	VRX Silica Ltd	27 July 2023	6 years	8

Table 4: VRX Geothermal Exploration Permits

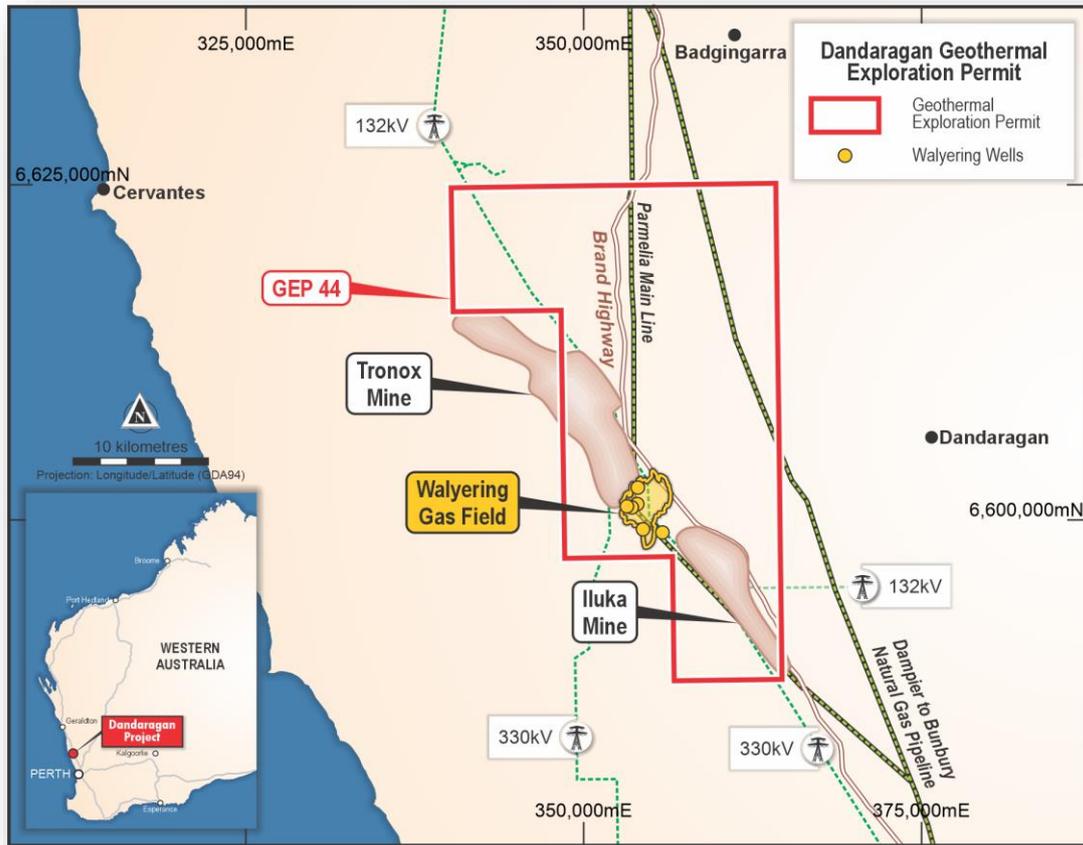


Figure 6: Dandaragan Geothermal Exploration Permit Location

### What is Geothermal Energy?

Geothermal energy is a clean, virtually emissions-free, renewable energy resource produced from underground reservoirs of water naturally heated by Earth's internal heat. Steam and brine produced from these underground reservoirs can be used to turn turbines to produce electricity either directly or using "organic rankine cycle binary plants", see Figure 7.

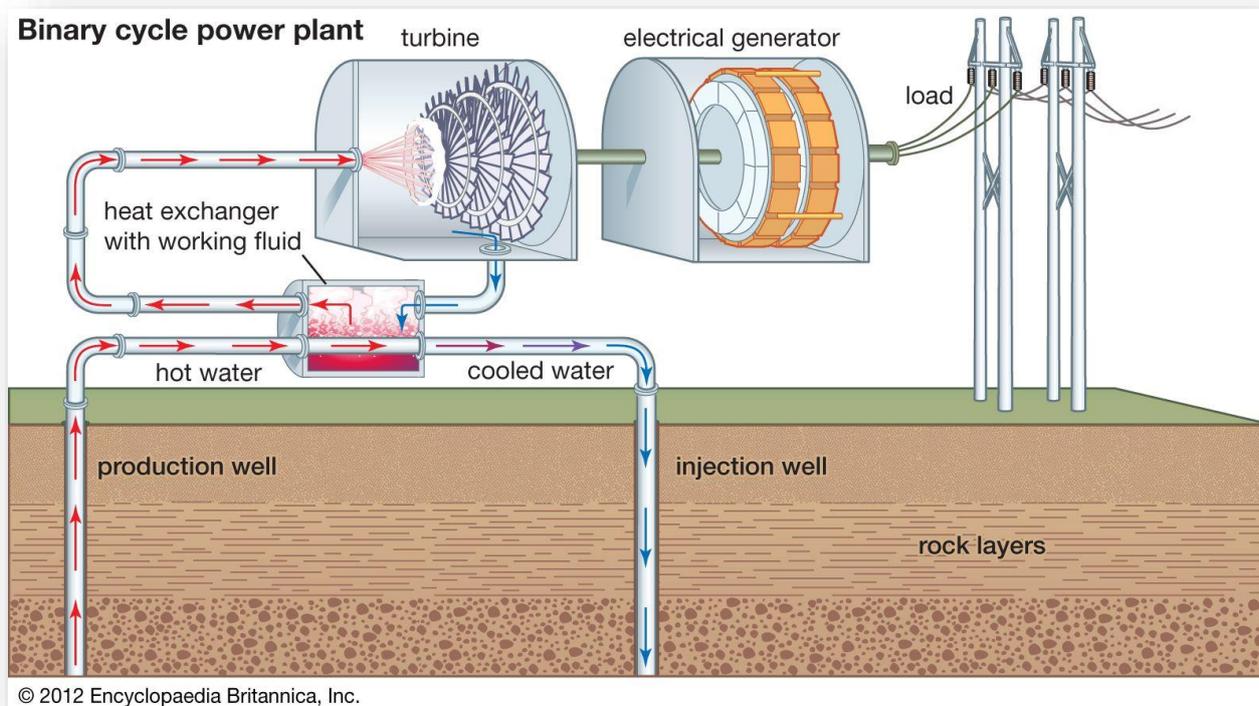


Figure 7: Typical Binary cycle geothermal power plant

### Why Geothermal?

The Australian Renewable Energy Agency (**ARENA**) report<sup>6</sup> produced in 2014 to assess the barriers and opportunities for geothermal energy development in Australia. The report found that Australia does have a large geothermal potential to generate direct heat or electricity. It identified the strength of geothermal power generation to be a source of dispatchable power with a low environmental footprint. The report also states "Geothermal-sourced electricity is among the cheapest in the United States ... and plays an important role in the dispatch of power to meet renewable portfolio standards. This is primarily because of its ability to provide base-load renewable generation to backstop variable renewable sources, such as wind and solar."

A subsequent ARENA report in 2018<sup>7</sup> looked at comparing the cost of dispatchable renewable electricity options. This report identified, on a levelised basis, geothermal electricity generation as a cost effective solution for base load, 24 hour dispatchable power which easily competes with, or beats, all other renewable alternatives which are non-dispatchable, such as wind and solar PV.

The prospect to produce a renewable energy source in the Mid West is an opportunity to add to the growing reputation that the Mid West will become the central hub for renewable energy and downstream use in Western Australia.

There is a long term prospect to use renewable energy to produce hydrogen to use in "green" glass manufacturing. Technically it has been well established that hydrogen can be used as the energy source for heating required to produce glass.

<sup>6</sup> ARENA 2014 Report – "Looking Forward: Barriers, Risks and Rewards of the Australian Geothermal Sector 2020 and 2030"

<sup>7</sup> ARENA 2018 Report – "Comparison of Dispatchable Renewable Electricity Options – Technologies for an orderly transition"

*Environmental Impact*

Geothermal power plants can be designed to “blend-in” to their surroundings, more so than many other types of electricity-producing facilities. Geothermal power has a very small footprint compared to other renewable energy sources and does not require significant alterations to the landscape. Figure 8, below, shows the land area required to generate 1GWh of energy<sup>8</sup>.

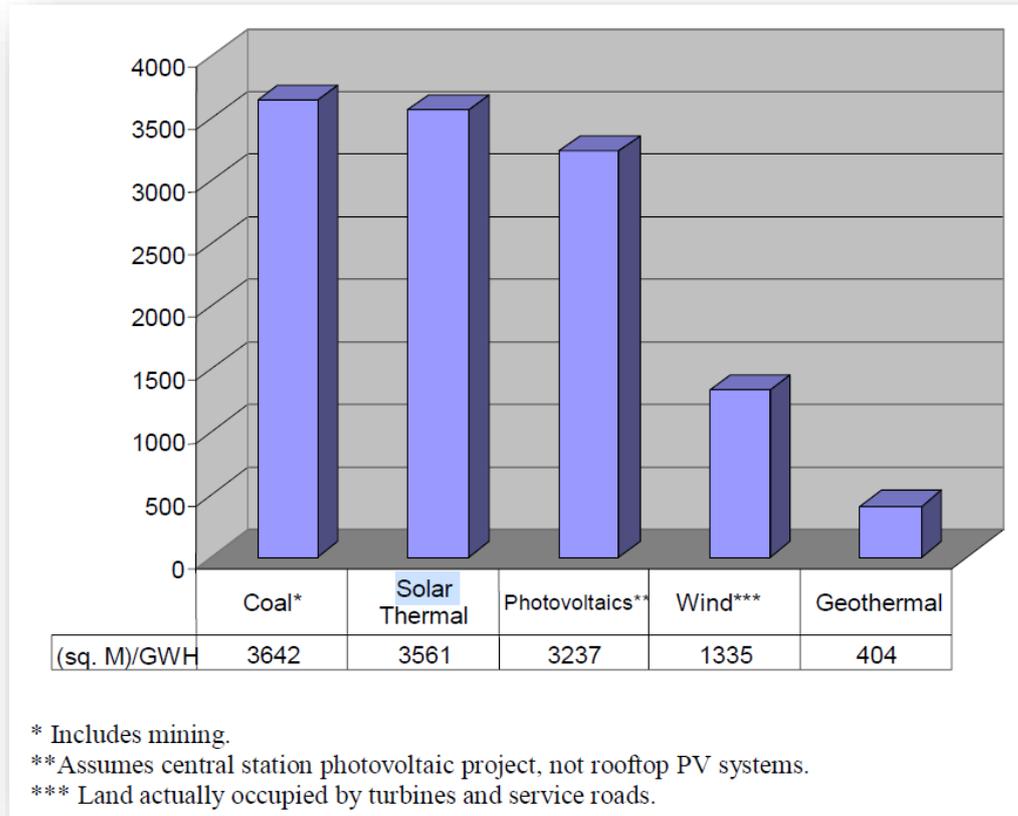


Figure 8: Land area required to generate 1GWh of energy.

Geothermal development poses only minimal impact to wildlife and vegetation in the surrounding area. Unlike solar PV, there is no ground shading, and geothermal avoids the risk to bird life posed by large scale wind farms.

<sup>8</sup> A Guide to Geothermal Energy and the Environment - Alyssa Kagel, Diana Bates, & Karl Gawell, Geothermal Energy Association, April 2007.

### *Uses for Renewable Geothermal Energy*

#### Baseload grid power

As shown on Figure 6, GEP 44 is traversed by 330KV and 132KV transmission lines that are connected to the South West Interconnected System (**SWIS**) and an associated substation. The presence of this infrastructure could allow for any excess electricity generated to be fed into the SWIS as base load grid power. In addition to this the immediate area has 2 long life mineral sands mines, Iluka Resources Cataby Mine and Tronox Inc. Cooljarloo Mine, both of which consume significant power.

#### Hydrogen injection in Gas Pipelines

The WA Government as part of its decarbonizing strategy has successfully completed studies confirming the technical feasibility of transmitting hydrogen via the existing gas pipelines by either blending<sup>9</sup> with natural gas or 100% hydrogen<sup>10</sup>. GEP44 has both the Parmelia and Dampier to Bunbury pipelines running through, or proximal to them, Figure 6.

#### Green Hydrogen

A potential use of the energy that could be generated from a Geothermal Plant is the production of green hydrogen. In March 2022 VRX announced<sup>11</sup> an MOU with Xodus Group for potential supply to a glass manufacturing facility powered by hydrogen producing ultra-clear glass for solar panels from the high-grade silica sand produced from VRX's Muchea silica sand project. The MOU covered a possible future offtake of 9,000 tonnes to 11,000 tonnes of hydrogen per annum. If a geothermal resource is delineated leading to development of a commercial scale power generator, all or some of the power generated could be used to produce green hydrogen by the electrolysis of water. Recently Hysata, in Wollongong NSW, achieved a record-breaking reduction in the energy required to produce hydrogen by 20% to 41.4kWh/kg<sup>12</sup>. To put this potential in scale, a 100MW installed geothermal generator could potentially produce 20,000t of hydrogen per annum. Any green hydrogen produced could potentially be injected into the Gas Pipeline that runs through the Permit or potentially supplied to hydrogen vehicles travelling along the Brand Highway.

### Corporate

In August 2023 the Company announced a \$3 million capital raising, comprising a share placement of \$1.5 million (**Placement**) and a share purchase plan of up to \$1.5 million (**SPP**). Participants in the Placement and the SPP were entitled to subscribe for one free-attaching option for every two new shares issued, each at an exercise price of 18 cents and expiring on 31 August 2025.

The Placement to new and existing sophisticated investors comprised the issue of 12,500,000 new fully paid ordinary shares in the Company at a price of 12 cents per share, to raise \$1,500,000 (before costs). The shares were allotted and issued on 1 September 2023.

Under the SPP offer, eligible shareholders could apply for up to \$30,000 worth of new shares at a price of 12 cents per share. By close of the offer, the Company received applications for 10,416,696 shares and 5,208,384 free-attaching options for an aggregate of \$1.25 million. The shares and options under the SPP and the options under the Placement were allotted and issued on 29 September 2023.

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<sup>9</sup> <https://www.qtlaw.com.au/knowledge/only-pipe-dream-report-hydrogen-gas-blending-dbngp>

<sup>10</sup> <https://www.wa.gov.au/government/media-statements/McGowan-Labor-Government/Study-proves-feasibility-of-gas-to-hydrogen-pipeline-conversion-20230519>

<sup>11</sup> ASX announcement of 9 March 2023, "Hydrogen Supply MOU with Xodus Group"

<sup>12</sup> <https://hysata.com/news/hysata-delivers-the-step-change-needed-in-electrolysis/>

### Events Subsequent to the End of the Half Year

#### High Grade Silica Flour Testwork Results

Subsequent to the end of the quarter, on 8 January 2024, VRX announced<sup>13</sup> preliminary results of its specific high-grade silica flour comminution testwork on its Muchea Silica Sand Project products conducted at a specialist laboratory in Germany.

The testwork was to determine the potential yield, quality and power requirements to produce silica flour suitable for the manufacture of LCD glass.

The results of the testwork, were largely in line with the Company's expectations and determined that Muchea silica sand is suitable for producing high grade silica flour for the rapidly expanding LCD glass market.

This testwork on Muchea silica sand has also determined the parameters required for an economic assessment into the viability of the potential for a new industry in WA which will follow the testwork program.

The testwork program has also provided a suitable quantity of samples to be forwarded to potential buyers which allows VRX to commence its marketing program for potential end users.

#### *Detailed Information*

The testwork program followed a typical flow sheet of ball mill grinding followed by air classification and sizing to produce the specific particle size required by LCD glass manufacturers. The target specification, provided by VRX, conforms to the requirements of major producers of LCD screens in Asia.

The testing resulted in determining two critical outcomes; the bond work index (BWI) required to reduce the particle size of the Muchea sand feed to that required for the product specification, and the preferred product yield.

The BWI has been determined at 23.7kW/t, with a product yield of 44.1%. These figures are consistent with VRX expectations for this level of study. The BWI now allows VRX to determine a pilot plant scaled list of equipment. It is anticipated that OEM will provide equipment and basic layouts, and VRX will employ a local engineering company to design and construct the pilot plant. Once operational, the pilot plant will be fine-tuned to provide the required specification and an expectation of an increase in product yield.

All testing material and products are being returned to VRX for elemental testing to determine they conform to product specification for key elements, in particular iron. It is not expected that the precursor sand has been significantly changed as all media used in testing was ceramic. Samples of the final products will be sent to the major silica flour customers in Asia to confirm they conform to their specifications. The overground fines, or "by-product", will also be marketed in Asia and in local industries such as fibreglass, paint and epoxy filler applications.

Once the products are received, VRX will consider other downstream processing options. These research and development activities, which start with the production of silica flour, will ultimately result in high value downstream processing opportunities that will maximise the value of VRX's world-class high-quality Muchea Silica Sand Project.

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<sup>13</sup> ASX Announcement 8 January 2024 "High Grade Silica Flour Testwork Results."

## DIRECTORS' REPORT

### Updated Arrowsmith North Bankable Feasibility Study

On 6 March 2024 the Company announced results of an updated Arrowsmith North Bankable Feasibility Study (**BFS**).

The initial BFS prepared in August 2019<sup>14</sup> (**2019 BFS**) has been updated following detailed engineering with all capital and operating components recently re-tendered.

### Key Outcomes from Updated BFS

Post Tax, ungeared NPV <sub>10</sub>	\$166,700,000
Post Tax, ungeared IRR	35%
Payback period (yrs) (post tax) (ramp up rate)	4.4
Exchange Rate US\$/A\$	\$0.66
Life of Mine (yrs) (BFS Study)	25
EBIT	\$965,000,000
Total Sales (25 years) no escalation	\$2,691,000,000
Life of Mine C1 costs, FOB Geraldton (inc Royalties)	\$31.43
Cashflow after finance and tax	\$650,000,000
Capex (2 mtpa)	\$66,787,100
Capex contingency (inc)	20%
Life of Mine C1 costs, FOB Geraldton (inc Royalties)	\$31.43
Tonnes Processed (million tonnes) (BFS Study)	52
Probable Reserves (million tonnes) @ 99.7% SiO <sub>2</sub>	221
Reserve life (yrs)	111
JORC Resources (million tonnes)	512

Capital expenditure has increased materially since the 2019 BFS, however this remains modest with an approx. 4.4 year payback. The increase is largely driven by:

- a significant change to the process circuit from gravity spirals to attritioning and Hydrofloat™ that will produce superior products but has a higher initial capital cost component;
- a significant rise in steel, concrete and construction labour costs for the processing plant, with prices for fabricated steel having doubled since 2019;
- additional costs associated with power reticulation, flotation reagent storage and additional supporting infrastructure for administration and laboratory services;
- additional costs for the construction of the road and designed and approved Brand Highway intersection, and
- purchase of Offset land to conform with State Offsets Policy guidelines.

Figures 9 and 10 show renders of the proposed operating plant and surrounding area.

<sup>14</sup> ASX Announcement of 28 August 2019, *Arrowsmith North BFS and Maiden Ore Reserve*

## DIRECTORS' REPORT

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Capex also includes a 20% contingency, notwithstanding the recent re-tendering of supplied capital components. This reflects the Company's conservative approach to pricing when modelling the financial metrics for the project. In efforts to reduce the capex, the Company continues to seek out second-hand equipment for refurbishment and to-date has sourced a feed trommel and final screen, with significant cost-savings as compared to new equipment.

Operating expenditure has increased marginally from the 2019 BFS.

Sale prices for silica sand products have been left unchanged towards the lower end of the range of estimates provided for in the 2019 BFS, despite the growing market for silica sand products in Asia and upward pricing pressures. Again, this reflects the Company's conservative approach to pricing when modelling the financial metrics for the project as well as providing an additional contingency.



*Figure 9: An aerial view render of the proposed Arrowsmith North processing plant and facilities*



*Figure 10: Close up render of proposed processing plant at Arrowsmith North*

## DIRECTORS' REPORT

The Updated BFS also incorporates production from upgraded Reserves following a new Mineral Resource Estimate completed in November 2022<sup>15</sup>. This followed a program of close spaced grade control drill holes to increase the confidence in the early mining stages with approximately 6 years of initial production from Proved Reserves.

A summary of Arrowsmith North Proved and Probable Reserves is set out in Table 5.

### Arrowsmith North Ore Reserves - as at 11/11/2022\*

Classification	Foundry Product	Glass Product	Process Rejects	Mt	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	TiO <sub>2</sub> %	LOI %
Proved	AFS20			0.8	99.5	0.25	0.07	0.05	0.1
	AFS35	NF500		3.9	99.5	0.5	0.06	0.05	0.1
	AFS55			2.7	99.2	0.5	0.1	0.05	0.1
			Local	1.8					
<b>Proved Ore Reserve</b>				<b>9.2</b>	<b>Million Tonnes</b>				
Probable	AFS20			24.2	99.5	0.25	0.07	0.05	0.1
	AFS35	NF500		102.5	99.5	0.5	0.06	0.05	0.1
	AFS55			51.1	99.2	0.5	0.1	0.05	0.1
			Local	34.1					
<b>Probable Ore Reserve</b>				<b>212</b>	<b>Million Tonnes</b>				
<b>Arrowsmith North Ore Reserve</b>				<b>221</b>	<b>Million Tonnes</b>				

Table 5: Arrowsmith North Ore Reserves as at 11 November 2022

\* The estimation and reporting of the Ore Reserves for Arrowsmith North is extracted from releases to ASX on 28 August 2019 and 11 November 2022. The Company is not aware of any new information or data that materially affects the above information and all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

The Updated BFS can be viewed on the Company's website at:

<https://vrxlsilica.com.au/resources/reports/>.

<sup>15</sup> ASX Announcement of 11 November 2022, *Arrowsmith North Mineral Resource and Ore Reserve Update*.

## DIRECTORS' REPORT

### Combined 1.4Bn tonne Mineral Resource

#### Mineral Resources - as at 09/05/2023

Project	Classification	Mt	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	TiO <sub>2</sub> %	LOI %
Muchea	Indicated	29	99.6	0.1	0.0	0.1	0.2
	Inferred	179	99.6	0.1	0.0	0.1	0.2
	<b>Total</b>	<b>208</b>	<b>99.6</b>	<b>0.1</b>	<b>0.0</b>	<b>0.1</b>	<b>0.2</b>
Arrowsmith North	Measured	10	95.9	1.9	0.7	0.3	0.7
	Indicated	237	97.7	1.0	0.4	0.2	0.5
	Inferred	266	98.4	0.7	0.3	0.2	0.4
	<b>Total</b>	<b>513</b>	<b>98.0</b>	<b>0.9</b>	<b>0.3</b>	<b>0.2</b>	<b>0.4</b>
Arrowsmith Brand	Inferred	523	97.3	1.4	0.4	0.2	0.6
	<b>Total</b>	<b>523</b>	<b>97.3</b>	<b>1.4</b>	<b>0.4</b>	<b>0.2</b>	<b>0.6</b>
Arrowsmith Central	Indicated	28.2	96.6	1.7	0.4	0.2	0.7
	Inferred	48.3	96.9	1.5	0.4	0.2	0.7
	<b>Total</b>	<b>76.5</b>	<b>96.8</b>	<b>1.5</b>	<b>0.4</b>	<b>0.2</b>	<b>0.7</b>
Boyatup	Inferred	60	67.8	0.8	0.2	0.1	0.9
	<b>Total</b>	<b>60</b>	<b>67.8</b>	<b>0.8</b>	<b>0.2</b>	<b>0.1</b>	<b>0.9</b>

**Total Mineral Resource 1,381 Million Tonnes**

#### Ore Reserves - as at 09/05/2023

Project	Classification	Product	Mt	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	TiO <sub>2</sub> %	LOI %	
Muchea	Probable	F80	10.2	99.9	0.02	0.008	0.03	0.1	
		F80C	4.25						
		F150	4.25						
<b>Muchea Ore Reserve</b>			<b>18.7</b>	<b>Million Tonnes</b>					
Arrowsmith North	Proved	AFS20	0.8	99.5	0.25	0.07	0.05	0.1	
		AFS35	3.9	99.5	0.5	0.06	0.05	0.1	
		AFS55	2.7	99.2	0.5	0.1	0.05	0.1	
		Local	1.8						
	<b>Proved Ore Reserve</b>			<b>9.2</b>	<b>Million Tonnes</b>				
	Probable	AFS20	24.2	99.5	0.25	0.07	0.05	0.1	
		AFS35	102.5	99.5	0.5	0.06	0.05	0.1	
		AFS55	51.1	99.2	0.5	0.1	0.05	0.1	
Local		34.1							
<b>Probable Ore Reserve</b>			<b>212</b>	<b>Million Tonnes</b>					
<b>Arrowsmith North Ore Reserve</b>			<b>221</b>	<b>Million Tonnes</b>					
Arrowsmith Central	Probable	CF400	4.2	99.6	0.25	0.04	0.03	0.1	
		C20	8.4						
		C40	4.2						
		High TiO <sub>2</sub>	2.2						
<b>Arrowsmith Central Ore Reserve</b>			<b>18.9</b>	<b>Million Tonnes</b>					
<b>Total Ore Reserve</b>			<b>259</b>	<b>Million Tonnes</b>					

## DIRECTORS' REPORT

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### Compliance Statement

The information in this document that relates to the estimation and reporting of the Mineral Resource and Ore Reserves for the Company's silica sands projects is extracted from releases to ASX on 28 August 2019 and 11 November 2022 (Arrowsmith North), 17 September 2019 (Arrowsmith Central), 9 May 2023 (Arrowsmith Brand), 18 October 2019 (Muchea) and Boyatup (18 August 2022). The Company confirms that it is not aware of any new information or data that materially affects the information included in this document and all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

The information that relates to prior exploration results have been extracted from ASX announcements referenced herein. The Company confirms that it is not aware of any new information or data that materially affects previously reported exploration results referred to in this announcement.

### CHANGES IN STATE OF AFFAIRS

During the half-year ended 31 December 2023 there was no significant change in the consolidated entity's state of affairs other than that referred to in the half-year financial statements or notes thereto.

### AUDITOR'S DECLARATION OF INDEPENDENCE

A copy of the auditor's independence declaration as required under section 307C of the Corporations Act 2001 in relation to the review for the half-year ended 31 December 2023 is included within this financial report.

This report is made in accordance with a resolution of directors, pursuant to section 306(3)(a) of the Corporations Act 2001.

On behalf of the directors



Bruce Maluish  
Director

Perth, 13 March 2024

# STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

For the Half-year ended 31 December 2023

	Consolidated	
	31 December 2023	31 December 2022
	\$	\$
<b>Continuing operations</b>		
Revenue	20,567	80,993
Exploration and evaluation costs	(548,875)	(508,011)
Depreciation	(58,236)	(50,414)
Directors' fees and benefits expense	(279,150)	(279,150)
Finance costs	(13,357)	(7,814)
Loss on revaluation of equity instruments	(193,750)	(259,375)
Share-based payments	(15,569)	(677,301)
Superannuation	(46,365)	(22,069)
Other expenses	(1,022,567)	(898,497)
<b>Loss before income tax expense</b>	<b>(2,157,302)</b>	<b>(2,621,638)</b>
Income tax expense	-	-
<b>Net loss for the period</b>	<b>(2,157,302)</b>	<b>(2,621,638)</b>
<b>Other comprehensive income</b>	<b>-</b>	<b>-</b>
Other comprehensive income for the period, net of tax	-	-
<b>Total comprehensive loss attributable to members of VRX Silica Limited</b>	<b>(2,157,302)</b>	<b>(2,621,638)</b>
Basic and diluted loss per share (cents per share)	(0.38)	(0.47)

The accompanying notes form part of these financial statements

## STATEMENT OF FINANCIAL POSITION

As at 31 December 2023

		Consolidated	
		31 December 2023	30 June 2023
		\$	\$
	Note		
<b>ASSETS</b>			
<b>Current Assets</b>			
Cash and cash equivalents		2,168,174	1,581,811
Trade and other receivables		189,827	162,590
<b>Total Current Assets</b>		<b>2,358,001</b>	<b>1,744,401</b>
<b>Non-Current Assets</b>			
Trade and other receivables		93,156	93,156
Financial assets at fair value through profit or loss	2	250,000	443,750
Plant and equipment		2,350,581	2,271,229
Right-of-use assets		358,699	405,486
Deferred exploration expenditure	3	13,656,940	13,599,089
<b>Total Non-Current Assets</b>		<b>16,709,376</b>	<b>16,812,710</b>
<b>Total Assets</b>		<b>19,067,377</b>	<b>18,557,111</b>
<b>LIABILITIES</b>			
<b>Current Liabilities</b>			
Trade and other payables		444,981	381,685
Provisions		238,448	220,548
Lease liabilities		85,262	80,934
<b>Total Current Liabilities</b>		<b>768,691</b>	<b>683,167</b>
<b>Non-Current Liabilities</b>			
Lease liabilities		293,620	337,222
<b>Total Non-Current Liabilities</b>		<b>293,620</b>	<b>337,222</b>
<b>Total Liabilities</b>		<b>1,062,311</b>	<b>1,020,389</b>
<b>Net Assets</b>		<b>18,005,066</b>	<b>17,536,722</b>
<b>EQUITY</b>			
Issued capital	4	52,456,721	49,906,519
Reserves	5	7,805,425	7,729,981
Accumulated losses		(42,257,080)	(40,099,778)
<b>Total Equity</b>		<b>18,005,066</b>	<b>17,536,722</b>

The accompanying notes form part of these financial statements.

**STATEMENT OF CHANGES IN EQUITY**  
For the Half-year ended 31 December 2023

Consolidated	Issued Capital \$	Reserves \$	Accumulated Losses \$	Total Equity \$
<b>Balance at 1 July 2023</b>	<b>49,906,519</b>	<b>7,729,981</b>	<b>(40,099,778)</b>	<b>17,536,722</b>
Loss for period	-	-	<b>(2,157,302)</b>	<b>(2,157,302)</b>
Total comprehensive loss for period	-	-	<b>(2,157,302)</b>	<b>(2,157,302)</b>
Securities issued during the period	<b>2,750,000</b>	-	-	<b>2,750,000</b>
Capital raising costs	<b>(199,798)</b>	-	-	<b>(199,798)</b>
Cost of share-based payments	-	<b>75,444</b>	-	<b>75,444</b>
<b>Balance at 31 December 2023</b>	<b>52,456,721</b>	<b>7,805,425</b>	<b>(42,257,080)</b>	<b>18,005,066</b>
<b>Balance at 1 July 2022</b>	49,906,519	6,522,408	(35,039,343)	21,389,584
Loss for period	-	-	<b>(2,621,638)</b>	<b>(2,621,638)</b>
Total comprehensive loss for period	-	-	<b>(2,621,638)</b>	<b>(2,621,638)</b>
Cost of share-based payments	-	677,301	-	677,301
<b>Balance at 31 December 2022</b>	49,906,519	7,199,709	(37,660,981)	19,445,247

The accompanying notes form part of these financial statements.

**STATEMENT OF CASH FLOWS**  
For the Half-year ended 31 December 2023

	Consolidated	
	31 December 2023	31 December 2022
	\$	\$
<b>Cash flows from operating activities</b>		
Payments to suppliers and employees	(2,007,967)	(1,796,431)
Interest received	18,549	34,708
Other income	-	23,980
Interest and other finance costs paid	(13,357)	(7,814)
Net cash outflows from operating activities	(2,002,775)	(1,745,557)
<b>Cash flows from investing activities</b>		
Payments for investments	-	(20,000)
Payments for plant and equipment	(90,801)	(351,656)
Payments on deferred exploration	(621,943)	(2,152,342)
Government grants received on exploration interests	731,079	197,674
Payments for security deposits	-	(89,004)
Net cash inflow/(outflow) from investing activities	18,335	(2,415,328)
<b>Cash flows from financing activities</b>		
Proceeds from issue of shares	2,750,000	-
Payment of capital raising costs	(139,923)	-
Repayment of lease liabilities	(39,274)	(35,504)
Net cash inflow/(outflow) from financing activities	2,570,803	(35,504)
Net increase/(decrease) in cash held	586,363	(4,196,389)
Cash at beginning of the half-year	1,581,811	9,305,877
<b>Cash at end of the half-year</b>	2,168,174	5,109,488

The accompanying notes form part of these financial statements.

## NOTES TO THE FINANCIAL STATEMENTS

### For the Half-year ended 31 December 2023

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#### 1. MATERIAL ACCOUNTING POLICIES

##### Basis of Preparation

These general purpose interim financial statements for the half-year reporting period ended 31 December 2023 have been prepared in accordance with Australian Accounting Standard AASB 134: *Interim Financial Reporting* and the *Corporations Act 2001*. The consolidated entity is a for-profit entity for financial reporting purposes under Australian Accounting Standards. Compliance with AASB 134 ensures compliance with International Financial Reporting Standard IAS 34 'Interim Financial Reporting'.

This interim financial report does not include full disclosures of the type normally included in an annual report. It is recommended that this financial report to be read in conjunction with the annual financial report for the year ended 30 June 2023 and any public announcements made by VRX Silica Limited during the half-year reporting period in accordance with the continuous disclosure requirements of the *Corporations Act 2001*.

The principal accounting policies adopted are consistent with those of the previous financial year and corresponding interim reporting period, unless otherwise stated.

##### New or amended Accounting Standards and Interpretations adopted

The consolidated entity has adopted all of the new or amended Accounting Standards and Interpretations issued by the Australian Accounting Standards Board ('AASB') that are mandatory for the current reporting period.

Any new or amended Accounting Standards or Interpretations that are not yet mandatory have not been early adopted.

#### 2. FINANCIAL ASSETS AT FAIR VALUE THROUGH PROFIT OR LOSS

	31 December 2023 \$	30 June 2023 \$
<b>Listed ordinary shares and options – designated at fair value through profit or loss</b>	<b>250,000</b>	<b>443,750</b>
<b>Reconciliation</b>		
Fair value at beginning of half-year	443,750	
Revaluation decrement	<u>(193,750)</u>	
Fair value at end of half-year	<u><b>250,000</b></u>	

Refer to Note 11 for further information on fair value measurement.

**NOTES TO THE FINANCIAL STATEMENTS**  
For the Half-year ended 31 December 2023

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**3. DEFERRED EXPLORATION EXPENDITURE**

Costs carried forward in respect of areas of interest in the following phases:

	31 December 2023 \$	30 June 2023 \$
<b>Exploration and evaluation phase – at cost</b>	<b>13,656,940</b>	13,599,089
<b>Movement</b>		
Balance at beginning of half-year	13,599,089	
Expenditure incurred	788,930	
R&D tax incentive received	(681,079)	
State Government grants received	(50,000)	
Total deferred exploration expenditure	<b>13,656,940</b>	

Ultimate recoupment of exploration and evaluation expenditure carried forward is dependent on successful development and commercial exploitation or, alternatively, sale of the relevant areas of interest, at amounts at least equal to book value.

**4. ISSUED CAPITAL**

	31 December 2023 \$	30 June 2023 \$
<b>Issued Capital</b>		
Ordinary shares – fully paid	<b>52,456,721</b>	49,906,519
<b>Movement in ordinary shares on issue</b>	<b>Number</b>	<b>\$</b>
<i>Ordinary shares – fully paid</i>		
Balance at beginning of half-year	560,403,029	49,906,519
Issued for cash pursuant to placement to investors	12,500,000	1,500,000
Issued for cash pursuant to share purchase plan	10,416,696	1,250,000
Expense of issues		(199,798)
Issued on exercise of options – using cashless exercise facility	58,823	-
Balance at end of half-year	<b>583,378,548</b>	<b>52,456,721</b>

**NOTES TO THE FINANCIAL STATEMENTS**  
For the Half-year ended 31 December 2023

**5. RESERVES**

	31 December 2023 \$	30 June 2023 \$
<b>Option issue reserve</b>	<u>7,805,425</u>	<u>7,729,981</u>
<b>Movements in reserve</b>		
Balance at beginning of half-year	7,729,981	
Options issued and vesting in lieu of fees payable	59,875	
Options vesting in lieu of fees payable	<u>15,569</u>	
Balance at end of half-year	<u><u>7,805,425</u></u>	

**6. SHARE-BASED PAYMENTS**

During the half-year period, the following share-based payments were incurred:

	<u>Value per Option</u>	<u>Number</u>	<u>Value \$</u>
Expensed:			
<i>Amortisation of options granted in prior periods:</i>			
Value of options previously issued as part of financial advisory fees to Argonaut Capital Limited, as disclosed in the 30 June 2020 annual report, expensed during the half-year period.			<u>15,569</u>
Recognised in the statement of profit or loss and other comprehensive income			<u>15,569</u>
Share based payments in capital raising costs:			
<i>Options granted during the period:</i>			
Unlisted options exercisable at \$0.18 each on or before 31 August 2025, issued for legal fees, vesting on issue	\$0.0479	1,250,000	<u>59,875</u>
Recognised in the statement of changes in equity			<u>59,875</u>
Total share-based payments			<u><u>75,444</u></u>

The 1,250,000 unlisted option granted in lieu of legal fees in relation to the share placement and share purchase plan were issued in August 2023 for nil consideration. The options were valued using the Hoadley ESO2 binomial valuation model using an underlying share price of \$0.12, volatility of 100%, interest rate of 3.82% and an early exercise multiple of 2.5x.

## NOTES TO THE FINANCIAL STATEMENTS

### For the Half-year ended 31 December 2023

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#### 7. SEGMENT INFORMATION

The Group has identified its operating segments based on the internal reports that are used by the Board (the chief operating decision makers) in assessing performance and in determining the allocation of resources.

The operating segments are identified by the Board based on the phase of operation within the mining industry. For management purposes, the Group has organised its operations into two reportable segments on the basis of stage of development as follows:

- Development assets; and
- Exploration and evaluation assets, which includes assets that are associated with the determination and assessment of the existence of commercial economic reserves.

The Board as a whole will regularly review the identified segments in order to allocate resources to the segment and to assess its performance.

During the half-year ended 31 December 2023, the Group had no development assets. The Board considers that it has only operated in one segment, being mineral exploration within Australia.

Where applicable, corporate costs, finance costs, interest revenue and foreign currency gains and losses are not allocated to segments as they are not considered part of the core operations of the segments and are managed on a Group basis.

The consolidated entity is domiciled in Australia. All revenue from external customers is generated from Australia only. Segment revenues are allocated based on the country in which the customer is located.

Revenues of approximately Nil (2022: Nil) are derived from a single external customer.

#### 8. DIVIDENDS

There have been no dividends declared or recommended and no distributions made to shareholders or other persons during the period. (2022: Nil)

#### 9. COMMITMENTS

##### Exploration Commitments

The Group has certain obligations to perform minimum exploration work and to expend minimum amounts of money on such work on mining tenements. These obligations may be varied from time to time subject to approval and are expected to be fulfilled in the normal course of the operations of the Group. These commitments have not been provided for in the accounts. Due to the nature of the Group's operations in exploring and evaluating areas of interest, it is difficult to accurately forecast the nature and amount of future expenditure beyond the next year. Expenditure may be reduced by seeking exemption from individual commitments, by relinquishment of tenure or any new joint venture arrangements. Expenditure may be increased when new tenements are granted or joint venture agreements amended. The minimum expenditure commitment on the tenements is:

	<b>31 December 2023</b>	<b>30 June 2023</b>
	\$	\$
Not later than one year	<u>1,207,534</u>	<u>941,800</u>

## NOTES TO THE FINANCIAL STATEMENTS

### For the Half-year ended 31 December 2023

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#### 10. CONTINGENT LIABILITIES AND ASSETS

There have been no material changes in contingent liabilities and assets since the last annual reporting date.

#### 11. FAIR VALUE MEASUREMENT

##### *Fair value hierarchy*

The following tables detail the consolidated entity's assets and liabilities, measured or disclosed at fair value, using a three level hierarchy, based on the lowest level of input that is significant to the entire fair value measurement, being:

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date

Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly

Level 3: Unobservable inputs for the asset or liability

	Level 1 \$	Level 2 \$	Level 3 \$	Total \$
<b>31 December 2023</b>				
<i>Assets</i>				
Ordinary shares and options at fair value through profit or loss	<b>250,000</b>	-	-	<b>250,000</b>
Total assets	<b>250,000</b>	-	-	<b>250,000</b>

##### **30 June 2023**

##### *Assets*

Ordinary shares and options at fair value through profit or loss	443,750	-	-	443,750
Total assets	443,750	-	-	443,750

Assets and liabilities held for sale are measured at fair value on a non-recurring basis.

There were no transfers between levels during the financial half-year.

The carrying amounts of trade and other receivables and trade and other payables are assumed to approximate their fair values due to their short-term nature.

#### 12. EVENTS SUBSEQUENT TO REPORTING DATE

There are no matters or circumstances which have arisen since the end of the half-year which significantly affected or may significantly affect the operations of the consolidated entity, the results of those operations, or the state of affairs of the consolidated entity in subsequent financial periods.

## DIRECTORS' DECLARATION

---

In the opinion of the directors of VRX Silica Limited:

1. The financial statements and notes thereto of the consolidated entity, as set out within this financial report, are in accordance with the *Corporations Act 2001* including:
  - a. Complying with Accounting Standard AASB 134: Interim Financial Reporting, the Corporations Regulations 2001 and other mandatory professional reporting requirements; and
  - b. Giving a true and fair view of the consolidated entity's financial position as at 31 December 2023 and of its performance for the half-year then ended.
2. There are reasonable grounds to believe that the company will be able to pay its debts as and when they become due and payable.

Signed in accordance with a resolution of directors made pursuant to section 303(5)(a) of the Corporations Act 2001.

On behalf of the directors



Bruce Maluish  
Director

Perth, 13 March 2024

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**INDEPENDENT AUDITOR'S REVIEW REPORT  
TO THE MEMBERS OF VRX SILICA LIMITED**

**Report on the Half-Year Financial Report**

*Conclusion*

We have reviewed the accompanying half-year financial report of VRX Silica Limited which comprises the statement of financial position as at 31 December 2023, the statement of profit or loss and other comprehensive income, statement of changes in equity and statement of cash flows for the half-year ended on that date, notes comprising a summary of significant accounting policies and other explanatory information, and the directors' declaration of the consolidated entity comprising the company and the entities it controlled at the half-year end or from time to time during the half-year.

Based on our review, which is not an audit, we have not become aware of any matter that makes us believe that the half-year financial report of VRX Silica Limited is not in accordance with the *Corporations Act 2001*, including:

- (a) giving a true and fair view of the consolidated entity's financial position as at 31 December 2023 and of its performance for the half-year ended on that date; and
- (b) complying with Accounting Standard AASB 134 *Interim Financial Reporting* and the *Corporations Regulations 2001*.

*Basis for Conclusion*

We conducted our review in accordance with ASRE 2410 *Review of a Financial Report Performed by the Independent Auditor of the Entity*. Our responsibilities are further described in the Auditor's Responsibilities for the Review of the Financial Report section of our report. We are independent of VRX Silica Limited in accordance with the auditor independence requirements of the *Corporations Act 2001* and the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 Code of Ethics for Professional Accountants (including Independence Standards) (the Code) that are relevant to our audit of the annual financial report in Australia. We have also fulfilled our other ethical responsibilities in accordance with the Code.

We confirm that the independence declaration required by the *Corporations Act 2001*, which has been given to the directors of VRX Silica Limited, would be in the same terms if given to the directors as at the time of this auditor's review report.

**THE POWER OF BEING UNDERSTOOD**  
**AUDIT | TAX | CONSULTING**

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*Directors' Responsibility for the Half-Year Financial Report*

The directors of VRX Silica Limited are responsible for the preparation of the half-year financial report that gives a true and fair view in accordance with Australian Accounting Standards and the *Corporations Act 2001* and for such internal control as the directors determine is necessary to enable the preparation of the half-year financial report that is free from material misstatement, whether due to fraud or error.

*Auditor's Responsibility for the Review of the Financial Report*

Our responsibility is to express a conclusion on the half-year financial report based on our review. We conducted our review in accordance with Auditing Standard on Review Engagements ASRE 2410 *Review of a Financial Report Performed by the Independent Auditor of the Entity*, in order to state whether, on the basis of the procedures described, we have become aware of any matter that makes us believe that the half-year financial report is not in accordance with the *Corporations Act 2001* including: giving a true and fair view of the consolidated entity's financial position as at 31 December 2023 and its performance for the half-year ended on that date; and complying with Accounting Standard AASB 134 *Interim Financial Reporting* and the *Corporations Regulations 2001*. As the auditor of VRX Silica Limited, ASRE 2410 requires that we comply with the ethical requirements relevant to the audit of the annual financial report.

A review of a half-year financial report consists of making enquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Australian Auditing Standards and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

RSM

RSM AUSTRALIA PARTNERS

ALASDAIR WHYTE  
Partner

Perth, WA  
Dated: 13 March 2024



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**AUDITOR'S INDEPENDENCE DECLARATION**

As lead auditor for the review of the financial report of VRX Silica Limited for the half-year ended 31 December 2023, I declare that, to the best of my knowledge and belief, there have been no contraventions of:

- (i) the auditor independence requirements of the *Corporations Act 2001* in relation to the review; and
- (ii) any applicable code of professional conduct in relation to the review.

RSM

RSM AUSTRALIA PARTNERS

ALASDAIR WHYTE  
Partner

Perth, WA  
Dated: 13 March 2024

**THE POWER OF BEING UNDERSTOOD**  
AUDIT | TAX | CONSULTING

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