







15 November 2023

## Sample Shipped for High Grade Silica Flour Testwork

### Highlights:

-  **1,000 kg sample airfreighted to Germany for specialist comminution testwork**
-  **50% of costs covered by WA Government Grant**
-  **Results will inform equipment selection for purchase of High Grade Silica Flour pilot plant**
-  **Silica Flour prices up to US\$255t**

VRX Silica Limited (**VRX** or **Company**) (ASX: VRX) is pleased to announce it has 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.

### VRX Managing Director Bruce Maluish said:

*"The market for LCDs is steadily increasing as 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 specialised testwork will determine the parameters required to produce the quality required and also the economic inputs to assess the viability of the process.*

*"The State Government is contributing to the testwork program and potentially the pilot plant required through the previously announced Investment Attraction Fund grant.*

*"This is a significant step towards determining the potential for further downstream processing from VRX's high grade Muchea Silica Sand Project and a new industry for Western Australia with commensurate additional jobs and royalties."*

### ASX: VRX

#### Capital Structure

Shares on Issue:  
583 million

Unlisted Options:  
57 million

#### Corporate Directory

**Paul Boyatzis**  
Non-Executive Chairman

**Bruce Maluish**  
Managing Director

**Peter Pawlowitsch**  
Non-Executive Director

**David Welch**  
Non-Executive Director

**Ian Hobson**  
Company Secretary

#### Silica Sand Projects

**Arrowsmith** Silica Sand Projects, 270km north of Perth, WA.

**Muchea** Silica Sand Project, 50km north of Perth, WA.

**Boyatup** Silica Sand Project, 100km east of Esperance, WA.

**Geothermal Energy**  
**Dandaragan** Geothermal Energy Permit, 145km north of Perth, WA

*The Company is actively assessing other silica sand and downstream processing projects in Australia.*

## Detailed Information

On 18 July 2023, VRX announced<sup>1</sup> it had secured \$2 million in matched funding for the construction of a pilot plant for High Purity Quartz (**HPQ**) flour, under the Investment Attraction Fund (**IAF**), 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 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 1 shows the export price of silica flour from Taiwan<sup>2</sup>, over the last 3 years.

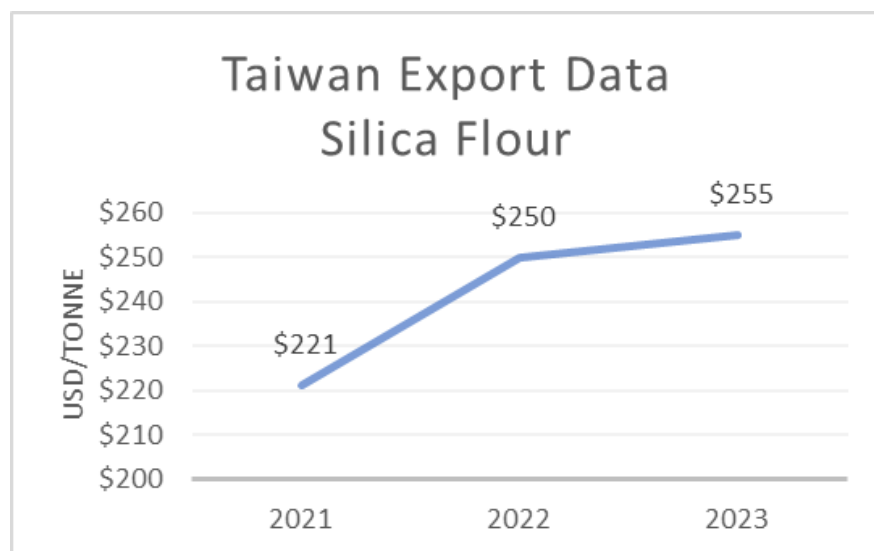


Figure 1: Taiwan Export Price – Silica Flour

Comminution and grinding tests will be completed by a specialist test facility in Germany. The test results will inform VRX with the equipment list and process design for a silica flour pilot plant. This plan is in line with the IAF Grant application.

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.

<sup>1</sup> ASX announcement 18 July 2023, "\$2m Grant to Produce High Grade Silica Sand."

<sup>2</sup> Source: International Trade Administration Republic of China (Taiwan)

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.

This announcement has been authorised for release to ASX by the Managing Director, Bruce Maluish.

**Further information:**

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## About VRX Silica Limited

**VRX Silica Limited (ASX: VRX)** is the most advanced pureplay silica sand company listed on the ASX, developing its 100% owned silica sand projects at Arrowsmith (North, Brand and Central), Muchea and Boyatup in Western Australia.

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, and foundry casting. It is a finite resource that is running out, with the Asia-Pacific region experiencing an ever-growing supply shortfall that is driving up prices.

Arrowsmith is located 270km north of Perth. Arrowsmith North boasts a minimum 25-year mine life capable of producing more than 2Mt tonnes per year of high-grade (99.7% SiO<sub>2</sub>)\* silica sand for export to the foundry, container glass and flat glass markets in Asia, with permitting well advanced, and will lead production.

Muchea, located 50km north of Perth, is an ultra-high-grade (99.9% SiO<sub>2</sub>)\* silica sand project capable of producing sand required for ultra-clear glass for solar panels and other high-tech glass applications.

Boyatup, located 100km east of Esperance, is under development and capable of producing sand for the glass market.



\*Information relating to grades are extracted from releases to ASX on 28 August 2019 and 11 November 2022 (Arrowsmith North) and 18 October 2019 (Muchea). The company is not aware of any new information or data that materially affects this information.

### VRX Silica Limited

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