

6 March 2024

Arrowsmith North Updated BFS

Highlights:

- ✓ Updated BFS demonstrates robust financial metrics for a World-class silica sand project
- ✓ Ungearing NPV₁₀ of \$167m based on 25 years mining of a +100 year Resource
- ✓ Proved and Probable Ore Reserve of 221Mt @ 99.5% SiO₂
- ✓ Four products for international foundry and glassmaking industries
- ✓ Environmental approvals process nearing completion and VDT trials to commence

VRX Silica Limited (**VRX** or **Company**) (ASX: VRX) is pleased to announce details of its updated Bankable Feasibility Study (**Updated BFS**) at its Arrowsmith North Silica Sand Project (**Arrowsmith North**) located 270km north of Perth, WA, leading the development of the Company's five silica sand projects.

The initial BFS prepared in August 2019¹ (**2019 BFS**) has been updated following detailed engineering with all capital and operating components recently re-tendered.

VRX Managing Director Bruce Maluish said:

"The updated BFS confirms that the Arrowsmith North project maintains robust economic metrics that will potentially supply up to four silica sand products for a growing Asian market."

"The capex update incorporates final engineered equipment and supporting infrastructure as well as the purchase of offset land required to finalise the approvals process. The opex update is based on budgeted estimates by noted contractors and incorporates our unique VDT rehabilitation methodology."

"With a Proved and Probable Ore Reserve of 221Mt @ 99.6% SiO₂, and a potential mine life in excess of 100 years, Arrowsmith North remains a World-class silica sand project."

ASX: VRX

Capital Structure

Shares on Issue:
583 million

Unlisted Options:
58.7 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.

¹ ASX Announcement of 28 August 2019, Arrowsmith North BFS and Maiden Ore Reserve

Key Outcomes from Updated BFS

Post Tax, ungeared NPV ₁₀	\$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 ₂	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 1 and 2 show renders of the proposed operating plant and surrounding area.

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 1: An aerial view render of the proposed Arrowsmith North processing plant and facilities



Figure 2: Close up render of proposed processing plant at Arrowsmith North

The Updated BFS also incorporates production from upgraded Reserves following a new Mineral Resource Estimate completed in November 2022². 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 1.

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

Classification	Foundry Product	Glass Product	Process Rejects	Mt	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	TiO ₂ %	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					
Proved Ore Reserve				9.2	Million Tonnes				
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					
Probable Ore Reserve				212	Million Tonnes				
Arrowsmith North Ore Reserve				221	Million Tonnes				

Table 1: 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://vrxsilica.com.au/resources/reports/>.

Environmental Approvals Process

On 31 October 2023, VRX provided an update on its application for environmental approval at Arrowsmith North (**Proposal**). The update noted that VRX had submitted its 'Response to Submissions' document for review by the State Environmental Protection Authority (**EPA**).³

The EPA has collated comments from all relevant State Government departments and 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 'Response to Submissions' document in response to all formal comments once they are provided by the EPA.

Subject to review and acceptance of the updated 'Response to Submissions' 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.

² ASX Announcement of 11 November 2022, *Arrowsmith North Mineral Resource and Ore Reserve Update*.

³ ASX Announcement of 31 October 2023, *Update on Arrowsmith North Environmental Approvals Process*.

VDT Trials

VRX has applied to undertake trials of its vegetation direct transfer (VDT) mining method. This has been approved by the Department of Energy, Mines, Industry Regulation and Safety and Commonwealth and State environmental authorities for Arrowsmith North and Muchea.

To this end the Company commissioned fabrication of a modified front-end loader bucket that can be hitched to a Cat 980 loader. This was recently completed – see Figure 3.

The trial will allow VRX to test alternative approaches to height of mulching prior to VDT and different depths of excavation by VDT. It will also validate the design of the bucket to enable the best possible rehabilitation outcome.



Figure 3: Modified front-end loader bucket for VDT mining method

Updated BFS Summary

The Updated BFS details the project and financial attributes supporting the development of Arrowsmith North (see Figure 4).

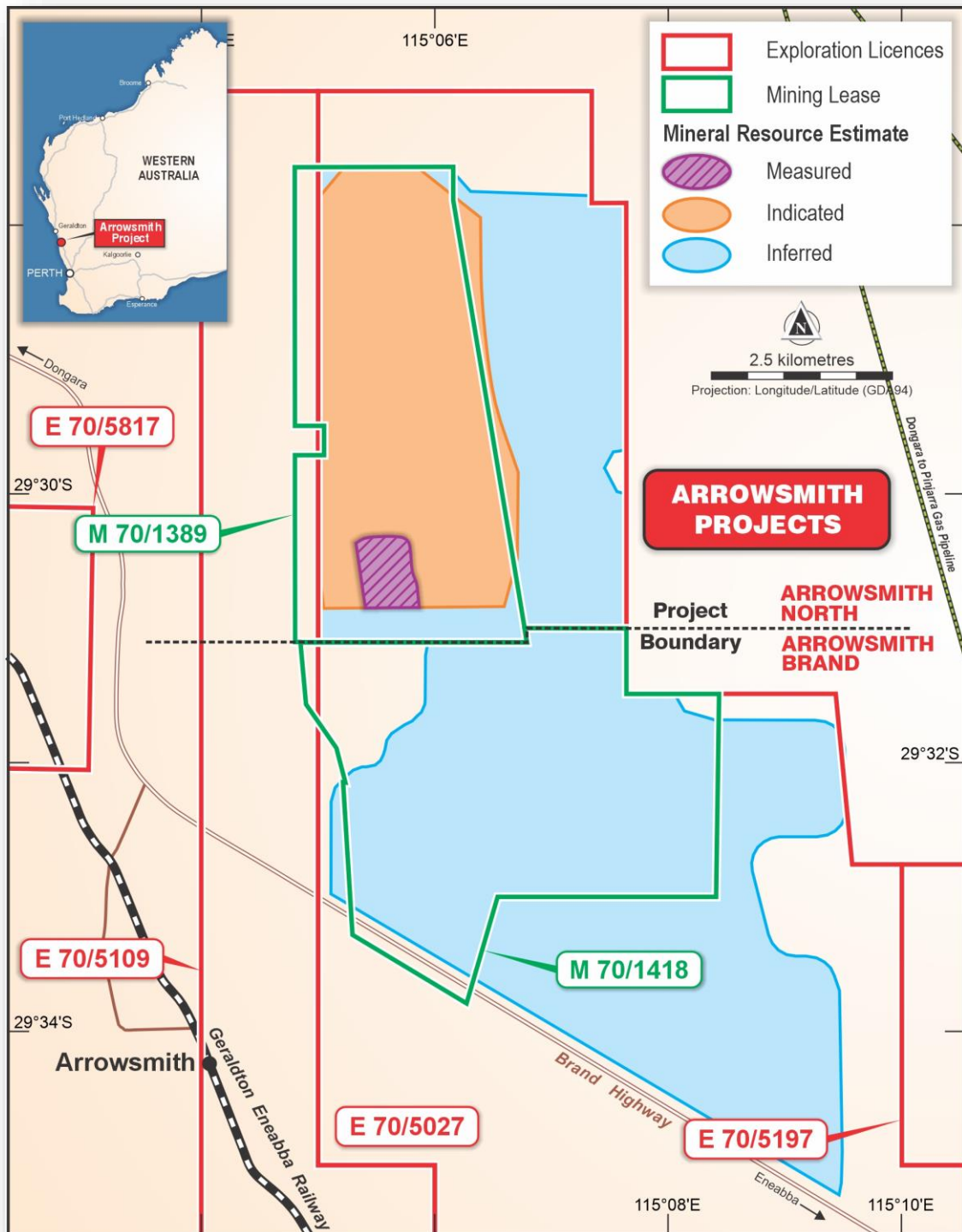


Figure 4: Arrowsmith North Project Area

Silica sand markets

Globally, silica sand remains in a growth phase, with both volume and value having increased worldwide. Increasing use of flat glass in photovoltaic modules, solar panels and e-glass, owing to rising need for clean energy, is expected to be a key factor driving market growth. Technological developments in terms of energy harnessing coupled with superior properties including recyclability and sustainability will positively affect market growth.

Construction spending and manufacturing output worldwide are expected to drive growth in important silica sand-consuming industries, including the glass, foundry and building products sectors.

The Asia-Pacific region is expected to remain the largest regional consumer of industrial sand. The container glass industry will drive further silica sand sales, supported by rising production of glass bottles, particularly in the alcoholic beverage sector including wine and beer.

Products

High-grade silica sand is a key raw material in the industrial development of the world, especially in the glass, metal casting, and ceramics industries. High-grade silica sand contains a high portion of silica (over 99% SiO₂) and is used for applications other than construction aggregates. Unlike construction sands, which are used for their physical properties alone, high-grade silica sands are valued for a combination of chemical and physical properties.

Glassmaking

Silica sand is the primary component of all types of standard and specialty glass. It provides the essential SiO₂ component of glass formulation; its chemical purity is the primary determinant of colour, clarity and strength in glass. Industrial sand is used to produce flat glass for building and automotive use, container glass for foods and beverages, and tableware. In its pulverised form, ground silica is required in the production of fibreglass insulation and for reinforcing glass fibres. Specialty glass applications include test tubes and other scientific tools, incandescent and fluorescent lamps.

Foundry Sand

Silica sand is an essential part of both the ferrous and non-ferrous foundry industries. Metal parts ranging from engine blocks, heads and manifolds to sink faucets are cast in a sand-and-clay mould to produce their external shape, often using a resin coat to create the desired internal shape. Silica's high fusion point (1,760°C) and low rate of thermal expansion produce stable cores and moulds compatible with all pouring temperatures. Its chemical purity also helps prevent interaction with catalysts or affecting the curing rate of chemical binders, for that reason, customers are looking for high quality silica sand that meets their specifications for size and shape. Silica sand is an essential part of both the ferrous and non-ferrous foundry industries. Metal parts ranging from engine blocks to sink faucets are cast in a sand-and-clay mould to produce their external shape, often using a resin coat to create the desired internal shape. Silica's high fusion point (1,760°C) and low rate of thermal expansion produce stable cores and moulds compatible with all pouring temperatures. Its chemical purity also helps prevent interaction with catalysts or affecting the curing rate of chemical binders, for that reason, customers are looking for high quality silica sand that meets their specifications for size and shape.

Paint Fillers

Paint formulators select micron-sized silica sand to improve the appearance and durability of architectural and silica paint and coatings. High purity silica produces critical performance properties such as brightness and reflectance and colour consistency. In architectural or exposed paints (Ship and Container especially), silica fillers improve tint retention, durability, and resistance to dirt, mildew, cracking and weathering. Low oil absorption allows increased pigment loading for improved finish colour. In marine and maintenance coatings, the durability of silica imparts excellent abrasion and corrosion resistance.

Filtration and Water Production

Silica sand is used to filter water to become drinkable. It is also necessary in the processing of wastewater and the production of clean water from wells. Uniform grain shapes and grain size distributions produce efficient filtration bed operations for the removal of contaminants from wastewater to provide potable water. As silica is chemically inert, it will not degrade or react when it encounters acids, contaminants, volatile organics or solvents. Silica is used as packing material in deep-water wells to increase yield from the aquifer by expanding the permeable zone around the well screen and by preventing the infiltration of fine particles from the formation.

Glass Manufacturing Basics

Manufactured glass is the single largest use of silica sand after construction/concrete sands. The key to well manufactured glass is to have the correct particle size (below 600µm).

Size segregation of silica sand represents a major processing function. Each glass maker may have slightly different requirements for their gradation, but generally they want raw materials to range from 0.106 to 0.60mm. After processing to remove impurities, and classifying the product into its proper size range, the next step is drying the product. Glass producers generally prefer the raw materials to contain less than 5% moisture.

The physical specifications deal exclusively with particle size. The grain size of batch materials strongly affects the amount of energy required for melting. Glass makers prefer a near uniform size within the batch ingredients to ensure efficient melting. However, in reinforcing fiberglass, more than 99.5% of the raw material grains are smaller than 0.045 mm (45µm). There is consideration to tighten these limits from 0.5% larger than 45µm, especially for coarse particles that are the most difficult component to melt. Grain shape of the sand also affects melting. If the majority of the batch is coarser than the specified range, incomplete melting often occurs, which results in a poor-quality product.

Glassmaking is a major sector which needs consistent quality, correctly sized, and low iron content silica sand. Silica sand is the major raw material used in glassmaking, comprising some 65 to 75% by volume of raw material, but far less percentage than that by value. Glass manufacturers usually classify silica sand into separate groups on the basis of chemical and physical properties.

Key points and assumptions

The Updated BFS is based on only 25 years production from a considerable +100 year mine life.

The project remains a potentially new long-term industry for Western Australia with substantial economic benefits, including long-term employment and royalties with a significant economic contribution to the local and Mid West region.

The Company has met with the local Shires, Mid West Development Commission, Mid West Chamber of Commerce & Industry and various Members of State and Federal Parliament with substantial support for the project.

VRX has developed a mining and rehabilitation methodology (vegetation direct transfer or **VDT**) specific to the environment at Arrowsmith North which will enable a superior restoration of mined areas: <https://vrxsilica.com.au/miningandrehabilitationmethodology/>

A key challenge for industrial minerals projects is meeting market specifications. The silica sand market has specifications for parameters such as purity (e.g. SiO₂ content) in addition to tight specifications for trace elements such as Fe, Ti, Al and Cr in the glass industry.

The Company is confident that it can meet these specifications from Arrowsmith North and will maintain the integrity of the quality with a comprehensive continuous QA/QC regime.

Key economic assumptions for the BFS are as follows:

Currency	Australian dollars <i>Sales contracts in Asia for silica sand are invariably based on \$US and a A\$0.66 exchange rate has been applied</i>
Project life	25 years Total probable Ore Reserve is well in-excess of this time period, however the model is conservatively restricted to 25 years
Depreciation	15% rate on capital
Corporate tax rate	27% on taxable profit
Production	Steady state of production from Proven Ore Reserves for 6 years and Probable Ore Reserves over the remaining life of mine. The production rate for the first 2 years at 1 million tonnes per year and thereafter at 2 million tonnes per year <i>The Company has currently non-binding Terms and Conditions for offtake of 200,000 tonnes per year of Arrowsmith North products and expects further interest once the environmental approvals have been finalised.</i>
Shares on Issue	583,319,725
NPV estimation discount rates	Standard financial modelling conducted at a 10% discount rate.
Capital cost	Based on estimates ±10% from engineering companies with extensive experience in sand separation
Operating costs	A\$31.56 C1 costs, including royalties <i>Based on first principles and current rates for equipment</i>

Sales revenue	US\$38-43 per dry metric tonne dependent on product type, product quality, contract terms and quantity <i>Revenue is constant, based on current prices and ignores any projected growth in prices</i>	
Maximum debt	A\$55 million	
Borrowing rates	12%	
Accounts receivable	30 days	
Accounts payable	30 days	
Plant maintenance	2% of capital cost per year	
Environmental bond	Substituted by the WA Department of Mines, Industry Regulation and Safety's "Mining Rehabilitation Fund"	
Capex contingency	20%	
Yield	AFS 20 Foundry sand	11%
	AFS 35 Foundry sand	48%
	AFS 55 Foundry sand	24%
	<i>(AFS35 and AFS55 can be combined and sold as glass sand)</i>	
	<i>Yields are based on multiple bulk testwork programs ±3%</i>	

Ore Reserves and Mineral Resources

The BFS Update is based the Company's Ore Reserves (Table 2) and Mineral Resources (Table 3) as follows:

Arrowsmith North Ore Reserves as at 11/11/22

Classification	Total	AFS20	AFS35	AFS55	Local
	Mt	Mt	Mt	Mt	Mt
Proved	9.2	0.8	3.9	2.7	1.8
Probable	211.8	24.2	102.5	51.1	34.1
Total	221.0	25.0	106.4	53.8	35.9

Table 2: Arrowsmith North Open Pit Ore Reserve Estimate 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.

Arrowsmith North Mineral Resource as at 09/05/23

Classification	Mt	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	TiO ₂ %	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
Total	513	98.0	0.9	0.3	0.2	0.4

Table 3: Arrowsmith North Mineral Resource Estimate as at 9 May 2023

* The estimation and reporting of the Mineral Resources for Arrowsmith North is extracted from releases to ASX on 28 August 2019, 11 November 2022 and 9 May 2023. 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.

Mining Parameters and Scheduling

The development of the life of mine schedule and ore reserves for the project does not follow a conventional open pit approach which would normally consist of open pit optimisations and detailed pit designs prior to the scheduling. This is due to the fact that the entire resource is planned to be mined and processed into four distinct product categories.

The production schedule was completed in quarterly increments for the first 7 years, followed by annual increments for the following 38 years after which the schedule was aggregated and reported in 5 year increments to the end of the mine's 111 year life.

Total material movements planned are shown for the first seven years in quarterly increments in Figure 5 and annually for years 8 to 45 in Figure 6.

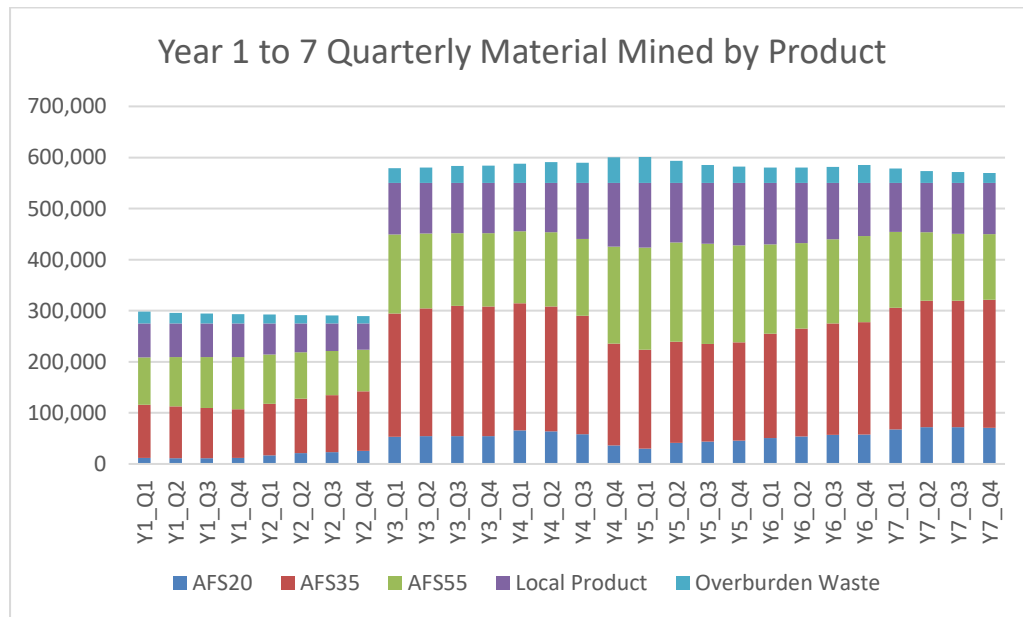


Figure 5: First 7 Years Production Profile

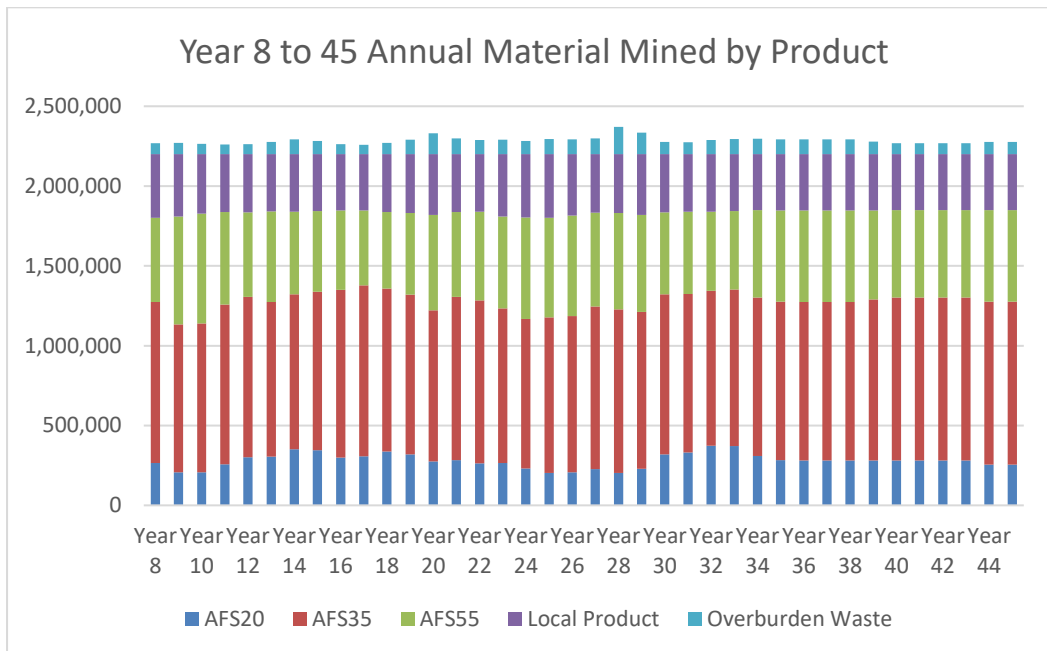


Figure 6: Years 8 to 45 Production Profile

The schedule targets total product tonnes of 2.2 Mt per annum over the full mine life with the exception of the first 2 years which are scheduled at half of the full production target as part of a conservative ramp up plan. The total material mined averages just over the target of product tonnes, which is due to the very low volumes of overburden waste to be moved to expose the target product material. Total material movements planned are shown for the first seven years, in quarters in Figure 5 and annually for years eight to 45 in Figure 6.

At the conclusion of this study, it was demonstrated that the project is economically viable considering all relevant factors, test work and design criteria, culminating in a financial analysis with favourable economic metrics.

The work completed supports the reporting of the Ore Reserve estimate for this project in accordance with the guidelines in the JORC Code. Proved and Probable Ore Reserves have been derived from the Measured and Indicated Mineral Resources respectively, contained within the mining lease area M70/1389.

Material Modifying Factors – Mining Factors

The mining method chosen for Arrowsmith North is a rubber wheeled front-end loader, feeding into a 2 mm trommel screen to remove oversize particles and organics. The undersize sand is slurried and pumped to a sand processing plant which is located in the south west corner of the Mining Development Envelope within M70/1389. After processing, the silica sand is loaded into trucks for bulk export from Geraldton Port.

Mining of the sand dune will extract to the base of the Proven/Probable Ore Reserve and will leave a slightly undulating surface. On the eastern side of the mining area the sand will slope upward as a 10% gradient to the top of the adjacent dunes.

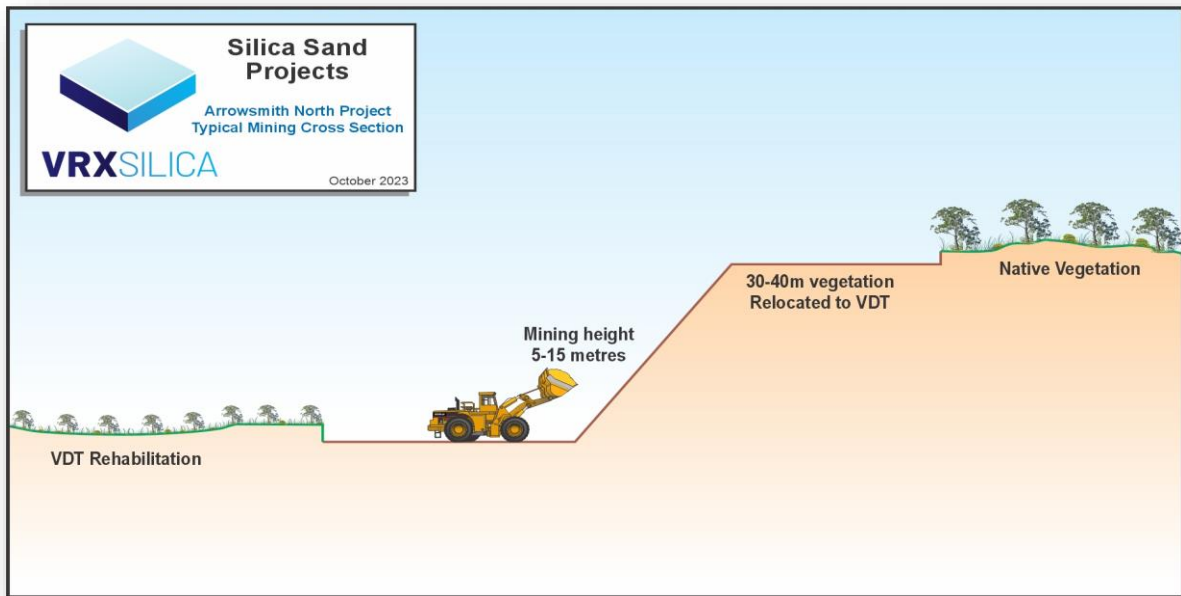


Figure 7: Mining method

Material Modifying Factors – Environmental Studies

Development location:

- South of the Yardongo Nature Reserve
- Approximately 10 km inland of the coast
- North of the Arrowsmith River (*Registered Aboriginal Heritage Site*)
- Outside of World Heritage Areas, National Heritage Places, Ramsar Wetlands, Conservation Reserves or Commonwealth Marine Reserves

The Proven/Probable Ore Reserve is located within an area of deep loose, pale yellow sands, leached of nutrients. The vegetation is coastal low scrub heath (known as Kwongan Heath). There are relict dune structures which are represented as low rolling hills.

Assessment Process:

- Referral submission to the Federal Department of the Environment and Energy (**DotEE**) since renamed Commonwealth Department of Climate Change, Energy, the Environment and Water (**DCCEEW**);
- Submission of Section 38 referral to State Environmental Protection Authority (**EPA**);
- Confirmed an Accredited *Environment Protection and Biodiversity Conservation Act 1999* (Cth) Assessment under the State *Environmental Protection Act 1986* (WA) via an Environmental Review Document (**ERD**) with a 30 day public environmental review (**PER**) period ;
- ERD lodged in April 2022 with updates submitted in June 2022 and February 2023;

- PER period ended July 2023 and Summary of Submissions from PER provided by EPA to VRX in September 2023;
- VRX lodged its 'Response to Submissions' (**RtS**) October 2023 for further assessment by EPA and other authorities;
- VRX awaiting formal notice of comments on RtS from State Government Departments and DCCEEW, being collated by EPA

Mining proposal and Works Approval lodged for assessment in parallel with the ERD

Mitigation Strategies

- Proposed Action lies within a large Development Envelope, allowing for the flexibility to target areas of lower significance to matters of national environmental significance;
- Disturbance will be kept to a minimum, up to 25 ha per year and 14 ha cleared for the duration of the project;
- Progressive rehabilitation using topsoil re-location via the VDT mining method to ensure topsoil and plants are translocated intact to previously mined areas;
- Conduct further surveys required under approval commitments.

There are no mine tailings storage requirements.

There are no waste dumps.

Processing requires no toxic chemicals.

Material Modifying Factors – Infrastructure

The project is located on Unallocated Crown Land which is east of freehold land and bounded to the north by a Nature Reserve and by the 100% held VRX Mining Lease M70/1418. The east boundary of the project area is the limit of tenure of Mining Lease M70/1389. The Brand Highway is proximal to the area and access is via either the Mount Adams Road from the north or a proposed southern access road to Brand Highway to the south. The Eneabba/Geraldton railway line lies to the south west of the project and will be considered for future use to transport the processed silica sand to Geraldton Port for bulk export.

The project will require its own installed power and water infrastructure.

Labour will be sourced from the nearest towns Dongara and Eneabba (approximately 30km from the mine site) and there will be no accommodation installed at the mine site.

Costs

Operating costs

Operating costs have been determined from first principles and are estimated to include all costs to mine, process, transport and load product on to ships. They are estimated on one million tonnes per year throughput, with expected unit cost savings if throughput is increased as anticipated to potentially 2 million tonnes per year.

Royalties

The prevailing rate of royalty due to the State is used in the Company's economic assessments. The State Royalty rate is A\$1.17 per dry metric tonne and reviewed every 5 years (next due in 2025). There are no other royalties payable (including private).

Revenue

Product Quality

Multiple products will be differentiated during processing subject to required particle size distribution by screening. Recovery of products has been independently assessed by BHM Metallurgical Consultants.

Commodity Prices

Maintaining its conservative approach to pricing for silica sand products, the Company has based pricing at the same level as in the 2019 BFS.

The industry standard is that sales contracts are in US dollars. The exchange rate to convert to Australian dollars will be the prevailing rate at the time of payment.

Subject to final quality produced, the prices for the commodity will range from US\$38 to US\$43 per dry metric tonne Incoterms Free on Board (**FOB**) international contracts of sale. There are no shipping cost estimates with all contracts to be based on FOB rates.

Revenue will be based on a negotiated per shipment basis per dry metric tonne FOB with payment by demand on an accredited bank letter of credit.

There will be no other treatment, smelting or refining charges.

Market Assessment

The global value and volume of the silica sand market indicated growing demand for supply of silica sand as shown in Figure 8. The future tightening of supply of suitable quality silica sand, particularly for glassmaking, is commensurate with future increases in price.



Figure 8: Global Washed Silica Sand Market by Value and Volume (2018 to 2031). Report by Report Ocean Pvt Ltd, 2023.

Economic Factors

The Company's economic analysis has calculated a 10% discounted ungeared post tax net present value (**NPV**).

The assessment has not considered any escalated future product prices nor any inflation to operating costs. The analysis has used a US\$/A\$ exchange rate of US\$0.66/A\$1.00.

The analysis is based on a 25-year production profile despite the Probable Ore Reserve far exceeding that project life.

Capital requirements are based on independent estimates following detailed engineering and re-tendered prices late 2023 and early 2024.

The analysis is most sensitive to the exchange rate and sales prices.

The analysis indicates the financials of the project are robust and there is a high confidence that a viable long-term mining operation can be justified.

Social Factors

The Company was granted a mining lease (M70/1389) in November 2020.

The Mining Lease area lies within the former Southern Yamatji Native Title claim boundaries (WC2017/002), which claim has been superseded by the State and Yamatji Nation - Indigenous Land Use Agreement that was executed in February 2020. The Company enjoys a strong relationship with, and continues to engage with, Traditional Owners and their representatives.

The project is wholly on Unallocated Crown Land. There is little negative impact on local communities.

Project Funding

The financial model summarised in the BFS sets out the project metrics and provides a basis for the development of the project. Total capital expenditure at Arrowsmith North (for a 2 million tonnes per annum processing plant) is estimated at approximately A\$66 million (the Updated BFS details capital cost estimates).

The Company anticipates that the source of funding the capital investment at Arrowsmith North will be any one, or a combination of, equity, debt and pre-paid offtake from the project. Whilst no final decision has been made in that regard, the financial model assumes a maximum A\$55 million in debt.

The Company has received a number of enquiries and expressions of interest from debt financiers for the project. As noted above, the financial model provides for debt capacity and is designed to meet the expectations of any providers of potential debt funding for their due diligence and other internal requirements.

In addition, VRX has also received enquiries and expressions of interest from organisations across Asia for silica sand products from the project and holds signed letters of intent for substantial tonnages. A number of these organisations have expressed interest in becoming a funding partner of the Company for development of a mine by way of pre-paid offtake arrangements. The Company has executed non-binding term sheets with two South Korean companies setting out terms and conditions for aggregate offtake of 200,000 tonnes of foundry sand.

Given the number of inbound inquiries and test work on products capable of production from Arrowsmith North, the Company has a reasonable basis to believe binding offtake agreements will be entered into in the future. However there can be no certainty that one or more binding agreements will be reached or that any conditions precedent to any such binding agreements will be satisfied.

The balance of the Company's capital requirements will be funded from equity capital.

Whilst the envisaged project development requires a low capital intensity relative to a greenfields hard rock mining project, and any one of, or a combination of equity, debt and pre-paid offtake is planned, VRX has not as yet secured the required capital. The positive financial metrics of the Updated BFS and feedback from potential funding partners provides encouragement as to the likelihood of meeting optimum project and corporate capital requirements.

Financial model

Based on the capital and operating cost estimates a financial model was developed for the purpose of evaluating the economics of the Project.

Key economic assumptions for the model are set out above and in detail in the Updated BFS.

Key outcomes from the Updated BFS and summary financial model outputs are set out on the second page of this announcement. The Updated BFS contains further details, including a life of mine production profile and sensitivity analysis for the model.

This announcement has been authorised for release to ASX by the Board of Directors.

Further information:

Bruce Maluish
Managing Director
brucem@vrxsilica.com.au
0418 940 417

Peter Klinger
Cannings Purple
pklinger@canningspurple.com.au
0411 251 540

Competent Persons' Statement

The information in this announcement that relates to Arrowsmith Exploration Results are based on data collected and compiled under the supervision of Mr David Reid, in his capacity as Exploration Manager. Mr Reid, BSc (Geology), is a registered member of the Australian Institute of Geoscientists and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and the activity being undertaken to qualify as a Competent Person under the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Reid consents to the inclusion of the data in the form and context in which it appears.

The information in this report that relates to Mineral Resources is based on, and fairly reflects, information compiled by Mr David Williams, a Competent Person, who is an employee of CSA Global and a Member of the Australian Institute of Geoscientists. Mr Williams has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). Mr Williams consents to the disclosure of information in this report in the form and context in which it appears.

The information in this report that relates to Industrial Minerals considerations with respect to Clause 49 of the JORC Code is based on, and fairly reflects, information compiled by Dr Andrew Scogings, a Competent Person, who is an employee of CSA Global, a Member of the Australian Institute of Geoscientists and is a Registered Professional Geoscientist (RP Geo. Industrial Minerals). Dr Scogings has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). Dr Scogings consents to the disclosure of information in this report in the form and context in which it appears.

The information in this report that relates to metallurgical test work is based on information compiled by Mr Steven Hoban who is the Principal Metallurgist and a Director of BHM Process Consultants. Mr. Hoban is a Member of the Australasian Institute of Mining and Metallurgy. Mr Hoban has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). Mr Hoban consents to the disclosure of information in this report in the form and context in which it appears.

The information in this announcement that relates to Ore Reserves is based on information compiled by Mr Quinton de Klerk, who is employed by Cube Consulting. Mr de Klerk is a fellow of the Australasian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the activity he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Mr de Klerk consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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% SiO₂)* 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% SiO₂)* 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.