27 March 2019

ASX ANNOUNCEMENT

Silica Sand Processing Plant Design and Costs

Highlights:

- ***Process circuit design and engineering completed***
- ***Plant designed for optimum utilisation***
- ***Processing plant cost estimated at $18m per plant***
- ***Total capex (including plant feeder and water supply per plant) estimated at $25m per plant***
- ***BFS for Arrowsmith and Muchea Projects expected in September 2019 Quarter***

VRX Silica Limited (**VRX** or **Company**) (ASX: VRX) has received an independent process design, engineering and cost estimate for a processing plant for its Arrowsmith Silica Sand Projects (**Arrowsmith**), located 270km north of Perth, and its Muchea Silica Sand Project (**Muchea**), located 50km north of Perth.

The independent processing testwork, process circuit design and engineering has been undertaken by CDE Global, a global leader in the construction of sand mining wet processing plants.

Plant Design and Costs

The plant design (see Figure 1) incorporates features to ensure high utilisation and performance with duplicated critical pumps and variable speed drives on all pumps.

Three iterations of testwork have been carried out on the Arrowsmith and Muchea projects. Significantly, the attritioning cycle has been demonstrated to be particularly effective in removing impurities from the quartz grains.

Attritioning is an agitated high density slurry which allows for a high energy interaction of grains rubbing on grains which liberates attached fine particles and reduces particle size by breakage on corners and grain boundaries. The process is repeated twice in VRX's process circuit design.

Testwork completed by VRX has confirmed that the plant design for the production of a high purity silica sand product suitable for the glass-making industry is the same for each of VRX's three projects (Arrowsmith North and Arrowsmith Central and Muchea). The process flow sheet for each plant is described below.

ASX: VRX

Capital Structure

Shares on Issue:
366 million

Unlisted Options:
63 million

Corporate Directory

Paul Boyatzis
Non-Executive Chairman

Bruce Maluish
Managing Director

Peter Pawlowitsch
Non-Executive Director

John Geary
Company Secretary

Company Projects

Arrowsmith Silica Sand Project, 270km north of Perth, WA.

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

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

Warrawanda HPQ Project south of Newman, WA.

Biranup base metals and gold Project adjacent to the Tropicana Gold Mine.

The Company is actively assessing other silica sand projects in Australia.

CDE Global has provided VRX with a cost estimate for a 2 million tonne per annum (Mtpa) processing plant which, due to its modular nature, is a detailed proposal and accurate to ±15% in pricing. Table 1 sets out a summary of this cost estimate.

Processing Plant Costs ± 15%

	CDE Quote GBP	$AUD
Mechanical Equipment, lighting, wiring, pipework	£6,800,000	$12,716,000
WHIM Module (optional)	£700,000	$1,309,000
Installation & commissioning Labour	£1,100,000	$2,057,000
Crane Hire and EWP's	£400,000	$748,000
Freight (C.I.F Fremantle) (65 containers)	£420,000	$785,400
Contingency (5% of mech.)	£340,000	$635,800
Total	£9,760,000	$18,251,200

Table 1: Summary of quote details for processing plant (exchange rate of 1GBP = 1.87AUD)

VRX estimates costs for plant feeder, water supply and contingency will increase the total capital cost for a 2 Mtpa processing plant to approximately A$25 million.

Further testwork is underway to finalise the requirements for the magnetic separation component (WHIMS). This is not anticipated to materially affect the costs.

Process

The processing plant will wash, screen and attrition sand and remove heavy minerals to create a final product for delivery to customers.

No chemicals are required for the process.

The process includes a thickener which will allow for 95% of process water to be re-cycled.

The process flow for the plant will be as follows:

1. An upstream process will provide a slurry feed product with solids of a maximum 2mm size, the product is classified by a series of screens that will create a coarse product (<2mm - +0.6mm) and a fine product (-0.6mm).
2. The coarse product is washed dewatered and stockpiled.
3. The finer product moves to an attrition scrubbing and washing process.
4. Finer product then moves on to a spiral bank separating the feed into heavies and lights.
5. The light product passes through a magnetic separation process.
6. Non-magnetic product moves to a counter flow classification unit (CFCU) which produces two products:
   (a) a glass sand product (<0.6mm + 0.212mm); and
   (b) a fines product (<0.212mm + 0.06mm) that will be sent to the coarse sand stockpile.
7. Slimes less than 75um produced by the plant will be treated through an AquaCycle thickener for process water recovery.

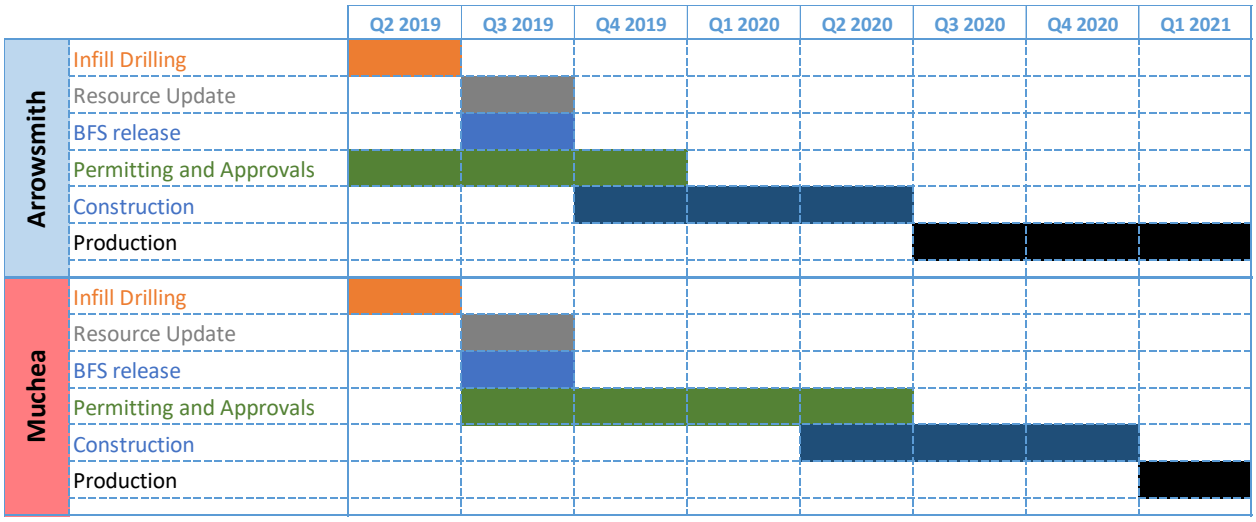
Figure 1: Computer-generated graphic of 300 tonne per hour plant

BFS and Project Timelines

In addition to confirming the processing plant design, the Company continues to assess various options for associated production and shipping requirements at its Arrowsmith North, Arrowsmith Central and the Muchea silica sand projects with a view to maximising efficiency and minimising costs.

Consequently the Company intends to finalise bankable feasibility studies for all three projects in the September 2019 Quarter.

Project timelines are set out below.



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About VRX Silica

VRX Silica Ltd (**VRX Silica**) (**ASX: VRX**) has significant silica sand projects in Western Australia.

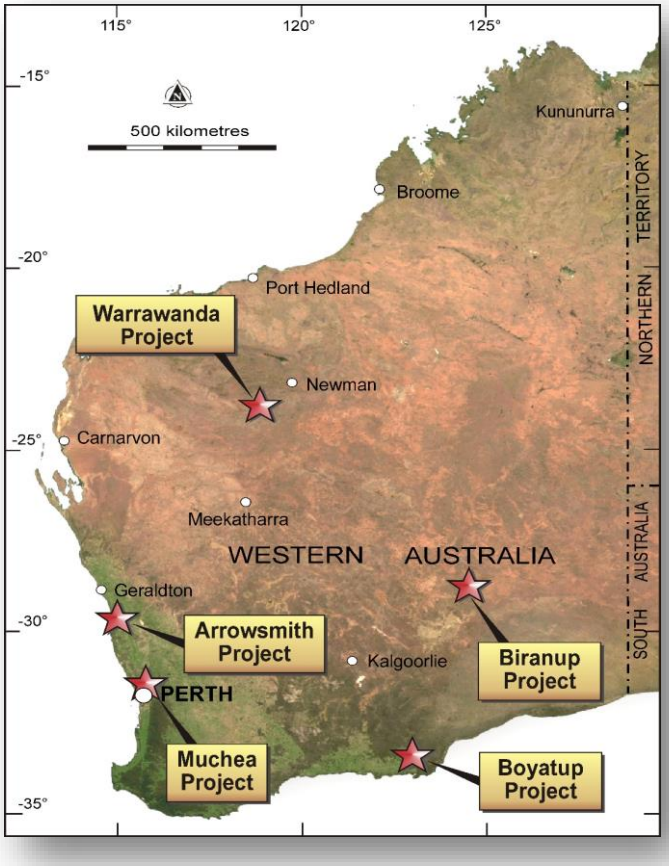
The Arrowsmith Silica Sand Project, located 270km north of Perth, comprises four granted exploration licences with one exploration licence and two mining lease applications pending. The Muchea Silica Sand Project, located 50km north of Perth, comprises one granted exploration licence, with one exploration licence and one mining lease applications pending. Testwork has confirmed a range of silica sand products which are capable of production at both projects. Further work is underway to enable feasibility studies to be completed.

The recently purchased Boyatup Silica Sand Project, located 100kms east of Esperance, comprises one granted exploration licence and since acquisition the Company has applied for an additional Exploration License to extend the holding. Initial indications are that this project will complement both Arrowsmith and Muchea while adding to the silica products VRX Silica will look to produce.

Also, in Western Australia, 40km south of Newman, is VRX Silica's Warrawanda HPQ Project, which is prospective for high purity quartz and nickel sulphides.

VRX Silica also has granted tenements at its Biranup Project, adjacent to the Tropicana Gold Mine in Western Australia's Goldfields that are prospective for gold and base metals.

Proven Management

The VRX Silica Board and management team have extensive experience in mineral exploration and mine development into production and in the management of publicly listed mining and exploration companies.

Project Locations