

29 January 2021

# **Quarterly Activities Report**

The following is a summary of the activities conducted by VRX Silica Ltd (**VRX** or **Company**) (ASX: VRX) during the quarter ending 31 December 2020.

# **Arrowsmith Silica Sand Projects**

# **Native Title Clearance**

VRX holds the Arrowsmith North and Arrowsmith Central Silica Sand Projects (**Arrowsmith Projects**), which are located 270km north of Perth, in its wholly owned subsidiary Ventnor Mining Pty Ltd.

In October 2020, conclusive registration of the Yamatji Nation Indigenous Land Use Agreement (**ILUA**) occurred, which cleared the pathway for grant of the Company's Mining Lease and Miscellaneous Licence applications for its Arrowsmith Projects.

The ILUA is an alternative settlement by the Western Australian Government of native title claims covering a significant portion of land in the Mid West, including the Southern Yamatji People's claim covering the Arrowsmith Projects.

This Government-led ILUA settled all native title claims over the Arrowsmith Projects area and superseded the negotiations that had been progressing in good faith between VRX and the Southern Yamatji People native title claimants over the Arrowsmith Projects. The strong and supportive relationships established with the Southern Yamatji People will continue to benefit all parties as the Arrowsmith Projects are developed, and the Company intends to continue to consult with the Southern Yamatji People.

# **Aboriginal Heritage Survey**

In November 2020, VRX announced the results of an Aboriginal heritage survey at its Arrowsmith Projects.

The comprehensive archaeological and ethnographic survey was conducted during October with Amangu representatives of the Yamatji Nation and Yamatji Marlpa Aboriginal Corporation (**YMAC**) personnel over proposed initial mining and critical infrastructure areas.

The survey found no isolated artifacts and no onerous heritage recommendations were made. Preliminary advice received by the Company from YMAC confirmed that the Arrowsmith North Access Road, Services Corridor and Production Area have been cleared for the stated works to proceed for 10 years of production. The Arrowsmith Central Production Area and Arrowsmith Central Infrastructure Areas are cleared for 5 years of production. See Figure 1.

VRX Silica Limited



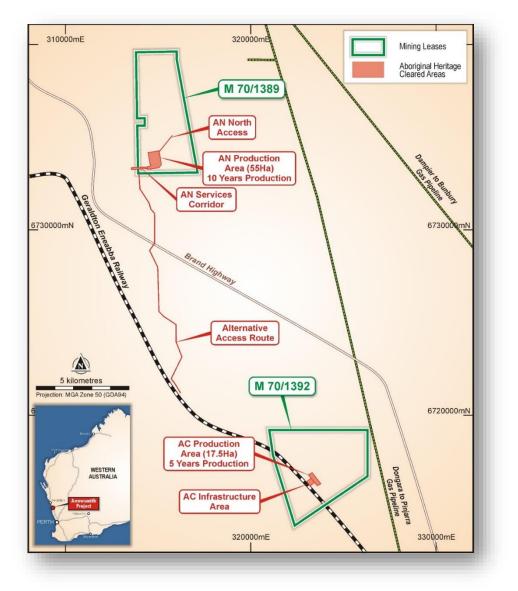


Figure 1: Critical infrastructure and mining areas surveyed at Arrowsmith North and Arrowsmith Central.



# **Grant of Mining Leases**

On 17 November 2020, VRX announced the grant of Mining Leases for its Arrowsmith Projects (see Figure 2). This, together with the Aboriginal heritage clearance for the proposed works on both projects, is an important step forward for their development. The combined Mining Lease areas cover over 3,600ha, sufficient for over 100 years of production.

The grant of these Mining Leases was another significant milestone for the Company and came shortly after the grant of the Mining Lease for VRX's Muchea Silica Sand Project (see commentary below). It enables the Company to step up negotiations to finalise sales contracts for the high-quality silica sand products and secure the necessary funding for their development.

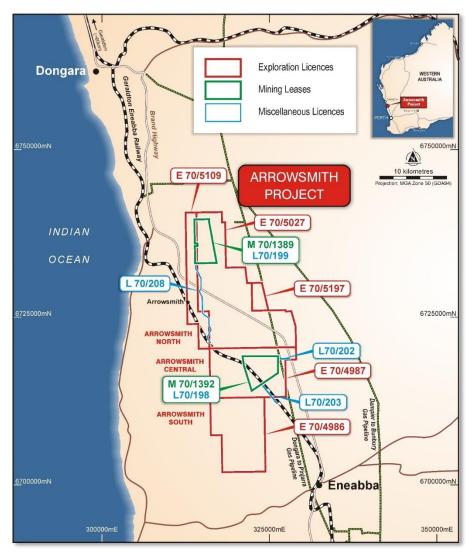


Figure 2: Arrowsmith Silica Sand Project Location

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# **Muchea Silica Sand Project**

# **Grant of Mining Lease**

On 29 October 2020, VRX announced the grant of a Mining Lease for its Muchea Silica Sand Project (**Muchea Project**), located 50km north of Perth, Western Australia. The Mining Lease (M70/1390) covers approximately 1,008ha including the development area, sufficient for at least 25 years of production (see Figure 3).

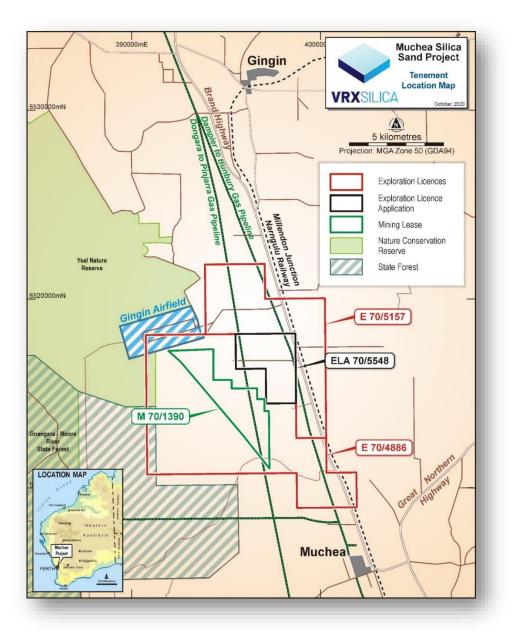


Figure 3: Muchea Silica Sand Project Location

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The grant of the Mining Lease was a significant milestone for VRX and a major step forward in the journey to becoming a global, long-life supplier of high-quality silica sand.

Demand from potential customers for long-term supply of silica sand from the Muchea Project is strong. As for the Company's Arrowsmith Projects, the grant of the Mining Lease enables the Company to step up negotiations to finalise sales contracts for the high-quality silica sand products and secure the necessary funding for the project's development.

The Muchea Silica Sand Project is a world-class, high-grade and low environmental impact silica sand project with outstanding economics and located in a Tier 1 jurisdiction. Its development will support a substantial export industry in Western Australia and provide significant financial and employment benefits in the north-eastern corridor of Perth.

# **Project Economics**

The Company's three projects have outstanding economic prospects and will support a substantial export industry in Western Australia providing significant financial and employment benefits to the State.

With all three Mining Leases granted and development of the projects on-track, VRX is truly a global player in high-quality silica sand supplies.

# ARROWSMITH NORTH

#### **Project Location**

Arrowsmith North is located approximately 270km north of Perth between the regional Western Australian towns of Eneabba and Dongara (see Figure 1 and Figure 2). The project sits proximate to Brand Highway and is connected to the Geraldton Port via the Eneabba-Geraldton Railway.

#### Mineral Resource and Ore Reserve

The Mineral Resource Estimate (MRE) for Arrowsmith North comprises an Indicated Mineral Resource of 248 Mt @ 97.7% SiO<sub>2</sub> in addition to an Inferred Mineral Resource of 523 Mt @ 98.2% SiO<sub>2</sub> for a Total MRE of 771 Mt @ 98.0% SiO<sub>2</sub><sup>1</sup> reported in accordance with the JORC Code<sup>2</sup> (Table 1).

<sup>&</sup>lt;sup>1</sup> ASX announcement of 9 July 2019, "Arrowsmith North Mineral Resource Estimate Upgrade"

<sup>&</sup>lt;sup>2</sup> Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 Edition (**JORC Code**).



Classification	Domain	Million Tonnes	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%
Indicated	White Sand	33	98.7	0.50	0.20	0.20	0.20
	Yellow Sand	215	97.5	1.10	0.40	0.20	0.50
	All Sand	248	97.7	1.00	0.40	0.20	0.50
Inferred	White Sand	280	98.7	0.50	0.10	0.20	0.20
	Yellow Sand	243	97.7	1.00	0.40	0.20	0.50
	All Sand	523	98.2	0.80	0.30	0.20	0.40
Indicated +	White Sand	313	98.7	0.54	0.15	0.18	0.24
Inferred	Yellow Sand	458	97.6	1.08	0.40	0.17	0.52
	All Sand	771	98.0	0.86	0.30	0.17	0.41

\*Note: Interpreted silica sand mineralisation is domained above a basal surface wireframe defined based on drill logging data. The upper (Topsoil) layer within 0.5 m of surface is depleted from the modelled silica sand unit, being reserved for rehabilitation purposes. All classified silica sand blocks in the model are reported. Differences may occur due to rounding.

#### Table 1: Arrowsmith North Mineral Resource Estimate

The Company completed the necessary work to convert the Indicated Mineral Resource to Probable Ore Reserve<sup>3</sup>. Table 2 details the Probable Ore Reserve reported in accordance with the JORC Code that will be produced from mining of the Indicated Mineral Resource and processing in a purpose-built, wet-sand processing plant.

Chemical Com	Chemical Composition								
Classification	Product	Recovery	Million Tonnes	Million Tonnes	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 %
	Arrowsmith-N20	24%	60	54	99.7	0.2	0.05	0.035	0.1
Probable	Arrowsmith-N40/ NF500	60%	149	136	99.7	0.2	0.05	0.035	0.1
	Local Market	6%	15	14					
	Τ	otal Reserve	223	204					

## Table 2: Arrowsmith North Probable Ore Reserve

#### **Production Target**

The Company has set out in the Arrowsmith North bankable feasibility study (**BFS**) a production target of **47.7Mt** from the first 25 years of mine life at Arrowsmith North, reported in accordance with the JORC Code, sourced from the Probable Ore Reserve of **204Mt** @ **99.7% SiO**<sub>2</sub> within the Mining Lease (M70/1389) area.

Full details are set out in the Arrowsmith North BFS<sup>4</sup>.

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<sup>&</sup>lt;sup>3</sup> ASX Announcement of 28 August 2019, "Arrowsmith North BFS and Maiden Ore Reserve"

<sup>&</sup>lt;sup>4</sup> ASX Announcement of 28 August 2019, "Arrowsmith North BFS and Maiden Ore Reserve"



## **Silica Sand Products**

Based on metallurgical test work completed to-date, the silica sand at Arrowsmith North is readily amenable to upgrading by conventional washing and screening methods to produce a high-purity silica sand product with high mass recoveries. The high-purity silica sand product specifications are expected to be suitable for industries such as glass making and foundry sand. The plant will produce four saleable products for different markets. Table 3 shows the particle-size distribution of the products.

Particle Size	Sieve Opening (Mesh/µm Retained)										
Product	10 / 2mm	20 / 850	30 / 600	40 / 425	50 / 300	70 / 212	100 / 150	140 / 106	200 / 75	AFS No	
Arrowsmith-N20	0.10%	3%	87%	8%	1%	0.10%	-	-	-	21	
Arrowsmith-N40	-	0%	21%	36%	24%	13%	5%	1%	0%	36	
Arrowsmith-NF500	-	-	0.50%	40%	42%	17%	1%	0%	-	38	
Local Market	-	-	-	-	-	-	64%	22%	14%	-	

Table 3: Arrowsmith North saleable products, particle size distribution

#### Permitting

During the quarter VRX submitted a formal referral to the Federal Department of Agriculture, Water and Environment (**DAWE**). Subsequent to the end of the quarter the Company will follow with a formal referral to the State Department of Water and Environmental Regulation (**DWER**) to secure environmental approvals for the development of Arrowsmith North. Prereferral meetings with representatives from DAWE and the DWER have provided valuable feedback as to requirements for these referrals.

The Company will also expedite approval for its mine plan and the issue of a mining permit from the Department of Mines, Industry Regulation and Safety (**DMIRS**).



# **ARROWSMITH CENTRAL**

#### **Project Location**

Arrowsmith Central is located approximately 270km north of Perth between the regional Western Australian towns of Eneabba and Dongara (see Figure 1 and Figure 2). The project sits proximate to Brand Highway and is connected to the Geraldton Port via the Eneabba-Geraldton Railway.

#### **Mineral Resource and Ore Reserve**

The Mineral Resource Estimate (MRE) for Arrowsmith Central comprises an Indicated Mineral Resource of 28.2 Mt @ 96.6% SiO<sub>2</sub> in addition to an Inferred Mineral Resource of 48.3 Mt @ 96.9% SiO<sub>2</sub>, for a Total MRE of 76.5 Mt @ 96.8% SiO<sub>2</sub><sup>5</sup> reported in accordance with the JORC Code (Table 4).

Classification	Million Tonnes	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%				
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				
Indicated + Inferred	76.5	96.8	1.5	0.4	0.2	0.7				
* Note: Interpreted silica sand mineralisation is domained above a basal surface wireframe defined based on drill sampling										

depths. A depletion zone, consisting of the upper 0.5 m, is reserved for rehabilitation purposes and is not estimated or reported. Differences may occur due to rounding.

#### Table 4: Arrowsmith Central Silica Sand Mineral Resource Estimate

The Company completed the necessary work to convert the Indicated Mineral Resource to Probable Ore Reserve. Table 5 below details the Probable Ore Reserve that will be produced from the mining of the Indicated Mineral Resource and processing in a purpose built, wet sand processing plant.

Chemical Com	position		Global	Within M70/1392					
Classification	Product	Recovery	Million Tonnes	Million Tonnes	SiO₂ %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	TiO <sub>2</sub> %	LOI %
	Arrowsmith-CF400	17%	4.2	4.1					
Probable	Arrowsmith-C20	34%	8.4	8.2	99.6 0.25	0.04	0.03	0.1	
	Arrowsmith-C50	17%	4.2	4.1					
	TiO <sub>2</sub> Concentrate	9%	2.2	2.2			<1%	+2%	
	Т	otal Reserve	18.9	18.7					

Table 5: Arrowsmith Central Probable Ore Reserve
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<sup>&</sup>lt;sup>5</sup>ASX announcement of 15 August 2019, "Arrowsmith Central Mineral Resource Estimate Upgrade".



# **Production Target**

The Company has set out in the Arrowsmith Central BFS a production target of 18.9 Mt @ 99.6% SiO<sub>2</sub> as reported in accordance with the JORC Code with 18.7 Mt @ 99.6% SiO<sub>2</sub> contained within the area of the Company's Mining Lease (M70/1392).

Full details are set out in the Arrowsmith Central BFS<sup>6</sup>.

## Silica Sand Products

Based on metallurgical test work completed to-date, the silica sand at Arrowsmith Central is readily amenable to upgrading by conventional washing and screening methods to produce a high-purity silica sand product with high mass recoveries. The high-purity silica sand product specifications are expected to be suitable for industries such as glass making and foundry sand.

The plant will produce three saleable silica sand products for different markets. Table 6 shows the particle-size distribution of the products.

Particle Size Sieve Opening (Mesh / µm Retained)										
Product	10 / 2mm	20 / 850	30 / 600	40 / 425	50 / 300	70 / 212	100 / 150	140 / 106	200 / 75	AFS No
Arrowsmith-CF400	-	0%	0.5%	44%	38.9%	16.1%	0.5%	-	-	37
Arrowsmith-C20	6.2%	22.2%	30.4%	37.9%	2.9%	0.3%	0.1%	-	-	22
Arrowsmith-C50	-	-	0.3%	31.9%	27.5%	17.3%	13.7%	8.2%	1.1%	49

 Table 6: Arrowsmith Central Silica Sand Probable Ore Reserve

In addition to these products, the plant will produce a by-product that contains a concentration of titanium minerals such as rutile and ilmenite which can be sold at a nominal value to a company with specialist equipment for separating mineral concentrate (see Table 5 for summary of  $TiO_2$  concentrate).

#### Permitting

VRX will submit formal referrals to the Federal DAWE and the State DWER to secure environmental approvals for the development of Arrowsmith Central. Pre-referral meetings with representatives from DAWE and the DWER have provided valuable feedback as to requirements for these referrals.

The Company will also seek to expedite approval for its mine plan and the issue of a mining permit from DMIRS.

<sup>&</sup>lt;sup>6</sup> ASX Announcement of 17 September 2019, "Arrowsmith Central BFS and Maiden Ore Reserve"

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# **MUCHEA**

# **Project Location**

The Muchea Project is located 50km north of Perth between the regional West Australian towns of Muchea and Gingin (see Figure 3) and sits adjacent to Brand Highway and the Moora–Kwinana Railway, with a rail connection direct to the multi-user Kwinana Bulk Terminal.

#### **Mineral Resource and Ore Reserve**

The Mineral Resource Estimate (**MRE**) for the Muchea Project comprises **208Mt** @ **99.6% SiO**<sub>2</sub><sup>7</sup> reported in accordance with the JORC Code<sup>8</sup> (Table 7).

The MRE is based on the results obtained from 44 hand auger drill holes for 260.7m and 103 air core (**AC**) drill holes for 1,401m used to define the modelled silica sand layer.

Classification	Million Tonnes	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	LOI%	TiO₂%							
Indicated 29 99.6 0.09 0.03 0.22													
Inferred 179 99.6 0.05 0.02 0.23 0.1													
Indicated + Inferred 208 99.6 0.06 0.02 0.23 0.1													
layer within 0.5 m of surface	is depleted from the mo	odelled silica s	and unit, beil	Indicated + Interred       208       99.6       0.06       0.02       0.23       0.1         *Note: Interpreted silica sand mineralisation is domained above a basal surface wireframe. The upper (overburden)         layer within 0.5 m of surface is depleted from the modelled silica sand unit, being reserved for rehabilitation purposes.         All classified silica sand blocks in the model are reported. Differences may occur due to rounding.									

#### Table 7: Muchea Mineral Resource Estimate

The Company has completed the necessary work to convert the Indicated Mineral Resource to Probable Ore Reserve<sup>9</sup>. Table 8 details the Probable Ore Reserve reported in accordance with the JORC Code that will be produced from mining of the Indicated Mineral Resource and processing in a purpose-built, wet-sand processing plant.

Ore Reserve	Global	Within M70/1390							
Classification	Product	Recovery	Million Tonnes	Million Tonnes	SiO₂ %	Al <sub>2</sub> O <sub>3</sub> %	Fe₂O₃ %	TiO₂ %	LOI %
	Muchea-F80	48%	10.2	8.0	+99.9	0.02	0.008	0.030	0.1
Probable	Muchea-F80C	20%	4.25	3.3	+99.9	0.02	0.008	0.030	0.1
	Muchea-F150	20%	4.25	3.3	99.8	0.07	0.015	0.035	0.1
Total Reserve			18.7	14.6					

Table 8: Muchea Silica Sand Probable Ore Reserve

<sup>&</sup>lt;sup>7</sup> ASX announcement of 17 June 2019, "Muchea Mineral Resource Estimate Upgrade".

<sup>&</sup>lt;sup>8</sup> Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 Edition (**JORC Code**).

<sup>&</sup>lt;sup>9</sup> ASX Announcement of 18 October 2019, "Muchea BFS and Maiden Ore Reserve"



## **Initial Production Target**

The Company has set out in the BFS an initial production target of **48.3Mt** from the Muchea Project reported in accordance with the JORC Code, sourced from the Probable Ore Reserve of **14.6Mt** @ **99.9%** SiO<sub>2</sub> and a portion of the Inferred Mineral Resource of **61.4Mt** @ **99.6%** SiO<sub>2</sub> within the Mining Lease area.

The maiden Probable Ore Reserve is estimated from the Indicated Mineral Resource only and constitutes approximately 30% of the estimated total production target (in terms of processed tonnes of silica sand) over a 25-year mine life. The Company intends to mine solely from the Probable Ore Reserve during the first nine to 10 years of mining operations.

The ore that forms the Inferred Mineral Resource is contiguous with the Indicated Mineral Resource and has been categorised as lower confidence because of wider-spaced drilling. There is negligible difference between the modelled sand in each category and it is believed an additional 1,500m of drilling would be required to upgrade the inferred resource category.

Notwithstanding this, there is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised.

Full details are set out in the BFS.<sup>10</sup>

### **Silica Sand Products**

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Based on metallurgical test work completed to-date, the silica sand at Muchea is readily amenable to upgrading by conventional washing and screening methods to produce a highpurity silica sand product with high mass recoveries. The high-purity silica sand product specifications are expected to be suitable for industries such as glass making and foundry sand.

The plant will produce three saleable products for different markets with a **Probable Ore Reserve** of **14.6Mt @ 99.9% SiO<sub>2</sub>** reported in accordance with the JORC Code contained within the area of the Mining Lease.

Particle Size	Sieve Opening (µm Retained)									
Product	850	600	425	300	212	150	106	75		
Muchea-F80		0.5%	49%	50%	0.5%					
Muchea-F80C	9.0%	90.0%	1.0%							
Muchea-F150				0.5%	88%	11%	0.5%			

Table 9 shows the particle-size distribution of the products.

Table 9: Muchea saleable products, particle size distribution

<sup>&</sup>lt;sup>10</sup> ASX Announcement of 18 October 2019, "Muchea BFS and Maiden Ore Reserve"

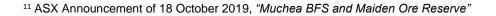


The Muchea Project has outstanding economic prospects. Key outcomes from the BFS<sup>11</sup> and summary financial model outputs are set out below.

	Muchea (including Inferred)	Muchea (Reserve only)
Post Tax, ungeared NPV <sub>10</sub>	\$337,900,000	\$180,500,000
Post Tax, ungeared NPV <sub>20</sub>	\$146,400,000	\$104,600,000
Post Tax, ungeared IRR	96%	96%
Payback period (yrs) (post tax) (ramp up rate)	2.3	2.3
Exchange Rate US\$/A\$	\$0.70	\$0.70
Life of Mine (yrs) (Scope of BFS Study)	25	15
Total Sales (initial 25 years) no escalation	\$3,345,000,000	\$1,011,000,000
EBIT	\$1,540,000,000	\$447,000,000
Cashflow after finance and tax	\$1,123,000,000	\$321,000,000
Shares on Issue	404,318,617	404,318,617
EPS after tax (per year)	\$0.11	\$0.09
Capex (2 mtpa)	\$32,820,000	\$32,820,000
Capex contingency (inc)	20%	20%
Life of Mine C1 costs, FOB Kwinana (inc royalties)	\$32.74	\$33.84
Tonnes Processed (initial 25 years) (Mt)	54	16
Production Target (Mt) (BFS Study)	(25 years) 48.3	(9-10 years) 14.6
Probable Ore Reserves @ 99.9% SiO <sub>2</sub> (Mt)	18.7	18.7
Ore Reserve life (yrs)	9-10	9-10
JORC Resources (million tonnes)	208	208

#### Notes:

- 2. There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised.
- 3. The Probable Ore Reserve and the Inferred Mineral Resource underpinning the above production targets have been prepared by a Competent Person in accordance with the requirements of the JORC Code.
- 4. Full summaries of economic assumptions are set out in the BFS. All such material assumptions continue to apply and have not materially changed from the date of release of the BFS.
- 5. All figures are presented in Australian dollars, unadjusted for inflation.



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<sup>1.</sup> The first column shows outputs when aggregated with the Inferred Mineral Resource and the second column shows outputs from the Probable Ore Reserve only.



# Permitting

VRX is in the process of finalising further studies and compilation of necessary data to support formal referrals to the Federal Department of Agriculture, Water and Environment (DAWE) and the State Department of Water and Environmental Regulation (DWER) to secure environmental approvals for the development of the Muchea Project. The Company and its environmental consultants have held pre-referral meetings with representatives from DAWE and DWER and received valuable feedback as to requirements for these referrals.

The Company will also seek to expedite approval for its mine plan and the issue of a mining permit from the Department of Mines, Industry Regulation and Safety.

#### Potential for Extension of Life of Mine

Mining Lease M70/1390 is a conversion of part of Exploration Licence E70/4886, which covers a portion of file notation area 12671 (FNA). The FNA ground within the Exploration Licence sits adjacent to the Mining Lease and outside of the current proposed development area and does not affect the BFS-modelled 25-year production life.

VRX intends to seek access to this ground to extend the Muchea Project's mine life to well beyond 25 years. To that end, the Company will continue to assess available options to do so while addressing concerns relating to the FNA.



# **Aggregate Project Metrics**

Key outcomes and summary financial model outputs for each individual project, and in aggregate, from the BFSs for each project<sup>12</sup> are set out below. The combined post-tax NPV<sub>10</sub> of \$727.8 million

	Arrowsmith North	Arrowsmith Central	Muchea	Total
Post Tax, ungeared NPV <sub>10</sub>	\$242.3m	\$147.6m	\$337.9m	\$727.8m
Post Tax, ungeared NPV20	\$99.8m	\$56.1m	\$146.4m	\$302.3m
Post Tax, ungeared IRR	79%	60%	96%	83%
Payback period (yrs) (post tax) (ramp up rate)	2.4	2.8	2.3	2.4
Exchange Rate US\$/A\$	\$0.70	\$0.70	\$0.70	\$0.70
Life of Mine (yrs) (Scope of BFS Study)	25	25	25	25
Total Sales (initial 25 years) no escalation	\$2,773m	\$2,167m	\$3,345m	\$8,285m
EBIT	\$1,144m	\$737m	\$1,540m	\$3,421m
Cashflow after finance and tax	\$835m	\$539m	\$1,123m	\$2,497m
Capex (2 mtpa)	\$28.3m	\$25.9m	\$32.8m	\$87m
Capex contingency (inc)	20%	20%	20%	20%
Life of Mine C1 costs, FOB Kwinana (inc royalties)	\$30.18	\$27.67	\$32.74	\$30.24
Tonnes Processed (initial 25 years) (Mt)	53	51	54	158
Production Target (Mt) (BFS Study) (initial 25 Years)	47.7	39.6	48.3	136
Probable Ore Reserves (Mt)	204	18.9	18.7	242
Ore Reserve life (yrs)	102	10	9-10	
JORC Resources (million tonnes)	771	77	208	1,056

Notes:

- 1. A proportion of the production target for each of Arrowsmith Central and Muchea is based on Inferred Mineral Resource. There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised.
- 2. The Ore Reserves and, in the case of Arrowsmith Central and Muchea, the Inferred Mineral Resource underpinning the above production targets have been prepared by a Competent Person in accordance with the requirements of the JORC Code.
- 3. Full summaries of economic assumptions are set out in the BFS for each project. All such material assumptions continue to apply and have not materially changed from the dates of release of the BFSs.
- 4. All figures are presented in Australian dollars, unadjusted for inflation

<sup>&</sup>lt;sup>12</sup> ASX announcements of 28 August 2019, "Arrowsmith North BFS and Maiden Ore Reserve", 17 September 2019, "Arrowsmith Central BFS and Maiden Ore Reserve" and

<sup>18</sup> October 2019, "Muchea BFS and Maiden Ore Reserve".



# Biranup

On 1 July 2020, the Company announced it had entered into a conditional agreement with New Energy Metals Limited (to be renamed Nickel X Limited) for the sale of its Biranup Project and an IPO and listing of that company on the ASX.

Originally expected to complete by the end of 2020, increasing activity for new ASX listings generally has delayed progress on the IPO. The Company has agreed a new completion sunset date of 30 June 2021, subject to minimum exploration expenditure obligations being satisfied by the purchaser in Q1 2021. The IPO is scheduled for completion in early 2021.

# Corporate

On 20 November 2020 VRX Silica Limited announced that it has received binding commitments for a capital raising via a share placement to institutional, professional and sophisticated investors to raise \$7 million before costs.

VRX received strong support for the capital raising from a wide range of investors, with bids received well in excess of the amount raised.

This placement positioned VRX to rapidly advance the development of its silica sand projects, in particular at Arrowsmith North for grade control drilling for the first 10 years of production, confirmatory test work, drilling and equipping water bores, port access design, construction of access roads and final engineering.

The placement was conducted at 18 cents per share, which represented a 23.4% discount to the last closing price of VRX shares on ASX of 23.5 cents prior to announcing the placement and a 13.6% discount to the 10-day VWAP of 20.8 cents as at the same date. A total of 38.9 million new shares were issued within the Company's current placement capacity under Listing Rule 7.1.

Funds raised under the placement are being allocated to pre-production preparatory work at VRX's Arrowsmith North Silica Sand Project, additional drilling at VRX's Muchea and Boyatup Silica Sand Projects, and general working capital.

Euroz Hartleys Limited (AFSL No 230052) acted as lead manager to the placement.

VRX Silica Limited



# Specific disclosure required under GN23

# Details of mining exploration activities

Details of exploration activities are set out above.

The exploration and evaluation expenditure expensed during the quarter included a refund of tenement rent of \$36,000 received upon the granting of Muchea mining lease M70/1390. The \$137,000 amount of exploration and evaluation expenditure capitalised is comprised of heritage surveys (\$35,000), metallurgical test work (\$37,000), legal fees relating to mining lease applications (\$26,000), topographical surveys (\$17,000), environmental approvals advice (\$17,000) with the balance being sample assays and storage.

# Details of mining production and development activities

No production and development activities were undertaken during the quarter.

## **Details of tenement activities**

The tenement schedule on the following page shows all holdings and any change for the Company and its subsidiaries.

During the quarter, the following tenements were granted:

Arrowsmith North Silica Sand Project Mining Lease M70/1389 Miscellaneous Licence L70/208

Arrowsmith Silica Sand Central Project Mining Lease M70/1392 Miscellaneous Licence L70/202 Miscellaneous Licence L70/203

Muchea Silica Sand Project Mining Lease M70/1390

Exploration Licence E70/5651 (Muchea Project) was applied for during the quarter.

#### Details of related party payments

The aggregate amount of payments to related parties and their associates of \$94,000 represents directors' fees and salaries paid during the quarter.



This report 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 Andrew Rowell Cannings Purple arowell@canningspurple.com.au 0400 466 226

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#### **Material Assumptions**

Full details of the bankable feasibility studies for the Arrowsmith North, Arrowsmith Central and Muchea Silica Sand Projects, including material assumptions, are contained in VRX's ASX announcements of 28 August 2019, 17 September 2019 and 18 October 2019, respectively. All such material assumptions continue to apply and have not materially changed from the date of release of the BFSs. Whilst VRX considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will be correct or that the range of outcomes indicated within the studies will be achieved.

# **Competent Persons' Statements**

The information in this document that relates to Arrowsmith North, Arrowsmith Central and Muchea Exploration Results and Muchea Aircore Drilling Area Mineral Resources are based on data collected and compiled under the supervision of Mr David Reid, who is a full-time employee of VRX Silica. 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 (JORC Code). Mr Reid consents to the inclusion of the data in the form and context in which it appears.

The information in this document that relates to Arrowsmith North, Arrowsmith Central and Muchea Auger area Mineral Resources is based on information compiled by Mr Grant Louw who was a full-time employee of CSA Global, under the direction and supervision of Dr Andrew Scogings, who is an Associate of CSA Global. Dr Scogings is a Member of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. He is a Registered Professional Geologist in 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 document that relates to Arrowsmith North, Arrowsmith Central and Muchea Probable Ore Reserves is based on data collected and compiled under the supervision of Mr David Reid, who is a full-time employee of VRX Silica. 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 (JORC Code). Mr Reid consents to the inclusion of the data in the form and context in which it appears.



# Interests in Mining Tenements (Western Australia)

# Arrowsmith Project – Silica

Tenement	Status	Interest at beginning of quarter	Interests relinquished, reduced or lapsed	Interests acquired or increased	Interest at end of quarter
E70/4986	Granted	100%	-	-	100%
E70/4987	Granted	100%	-	-	100%
E70/5027	Granted	100%	-	-	100%
E70/5109	Granted	100%	-	-	100%
E70/5197	Granted	100%	-	-	100%
M/1389	Granted	-	-	100%	100%
M/1392	Granted	-	-	100%	100%
L70/198	Granted	100%	-	-	100%
L70/199	Granted	100%	-	-	100%
L70/202	Granted	-	-	100%	100%
L70/203	Granted	-	-	100%	100%
L70/208	Granted	-	-	100%	100%

#### Muchea Project - Silica

Tenement	Status	Interest at beginning of quarter	Interests relinquished, reduced or lapsed	Interests acquired or increased	Interest at end of quarter
E70/4886	Granted	100%	-	-	100%
E70/5157	Granted	100%	-	-	100%
E70/5548	Application	-	-	-	-
E70/5651	Application	-	-	-	-
M/1390	Granted	-	-	100%	100%
L70/200	Granted	100%	-	-	100%
L70/204	Application	-	-	-	-
L70/205	Application	-	-	-	-
L70/206	Application	-	-	-	-

#### Boyatup Project – Silica

Tenement	Status	Interest at beginning of quarter	Interests relinquished, reduced or lapsed	Interests acquired or increased	Interest at end of quarter
E69/3560	Granted	100%	-	-	100%
E69/3668	Granted	100%	-	-	100%

#### Biranup Project – Base Metals/Gold

Tenement	Status	Interest at beginning of quarter	Interests relinquished, reduced or lapsed	Interests acquired or increased	Interest at end of quarter
E39/1828	Granted	100%	-	-	100%
E38/3191	Granted	100%	-	-	100%
E39/2000	Granted	100%	-	-	100%
E39/2001	Granted	100%	-	-	100%
E39/2003	Granted	100%	-	-	100%
E38/3294	Granted	100%	-	-	100%
E38/3533	Application	-	-	-	-

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