

## SPIRAL AND CLASSIFIER TESTWORK RESULTS FOR THE M70/326 SILICA SAND PRODUCTS

- Spiral and Up Current Classifier trials have been completed to confirm the final configuration of the upgraded Urban Resources/ASQ washing plant, determine the expected sand product characteristics and generate a bulk sample to provide to potential end users.
- The results of this work indicate potential for a sand product from the upgraded plant of 99.94 % SiO<sub>2</sub> + Loss on Ignition and 60 ppm Iron.

*Figure 1: Spiral trials on Urban Resources / ASQ silica sand*



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**ASX Code: ASQ**  
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**GROUP LTD**

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In January 2019 Australian Silica Quartz Group Limited (“**The Company**”) executed a binding terms sheet (“**Term Sheet**”) through its wholly owned subsidiary Australian Silica Quartz Pty Ltd (“**ASQ**”) with Urban Resources Pty Ltd (“**Urban**”) to jointly exploit Urban’s Silica Sand deposit located in Bullsbrook, Western Australia (refer to the Company’s ASX release dated 21 January 2019: *Updated Silica Sand Term Sheet*).

A JORC 2012 Inferred Mineral Resource of 10.7 million tonnes @ 99.8% SiO<sub>2</sub> was completed in early 2019 on the raw sand at the Bullsbrook tenement M70/326 (refer to the Company’s ASX release dated 23 April 2019: Marella Road Silica Sand Deposit Maiden Resource).

## **SPIRAL AND UP CURRENT CLASSIFIER TRIALS**

The Company has now completed Spiral and Up Current Classifier trials on washed sand from M70/326 with the purpose of confirming the likely specifications achieved by the plant upgrade proposed by the BRL/Urban operating venture and to generate a bulk sample of processed sand for distribution to potential customers. The test work was carried out by Allied Mineral Laboratories in Perth. Approximately 1,000kg of washed sand was run through a MG6.3 spiral. The spiral produced 7 cuts with cuts 4-7 combined into the product for the classifier. Two sighter runs were completed through the classifier at 15% and 3% overflow (waste) followed by a bulk run of 310 kg with 6% to overflow.

The spiral and classifier circuit was shown to be effective in removing the traces of heavy mineral grains present, residual clay particles along with organic material still present in the sand after preliminary washing.

Chemical analysis of the washed sand product (ASQ-WW1) and the spiral and classified sand bulk sample (ASQ-GWSC1) was completed at Intertek Genalysis Laboratories in Perth.

The Specification Sheet for ASQ-GWW1 has been updated in line with the results from samples collected over 9 consecutive washing plant operating days as determined by Intertek Genalysis with the geochemistry presented below:

**Table 1: ASQ-GWW1 – Updated chemistry specification**

<b>Al</b>	<b>Ti</b>	<b>Fe</b>	<b>SiO<sub>2</sub> + LOI (%)</b>
112 ppm	343 ppm	138 (ppm)	99.9 %
0.0212 % (Al <sub>2</sub> O <sub>3</sub> )	0.0572 % (TiO <sub>2</sub> )	0.0197 % Fe <sub>2</sub> O <sub>3</sub>	99.9 %

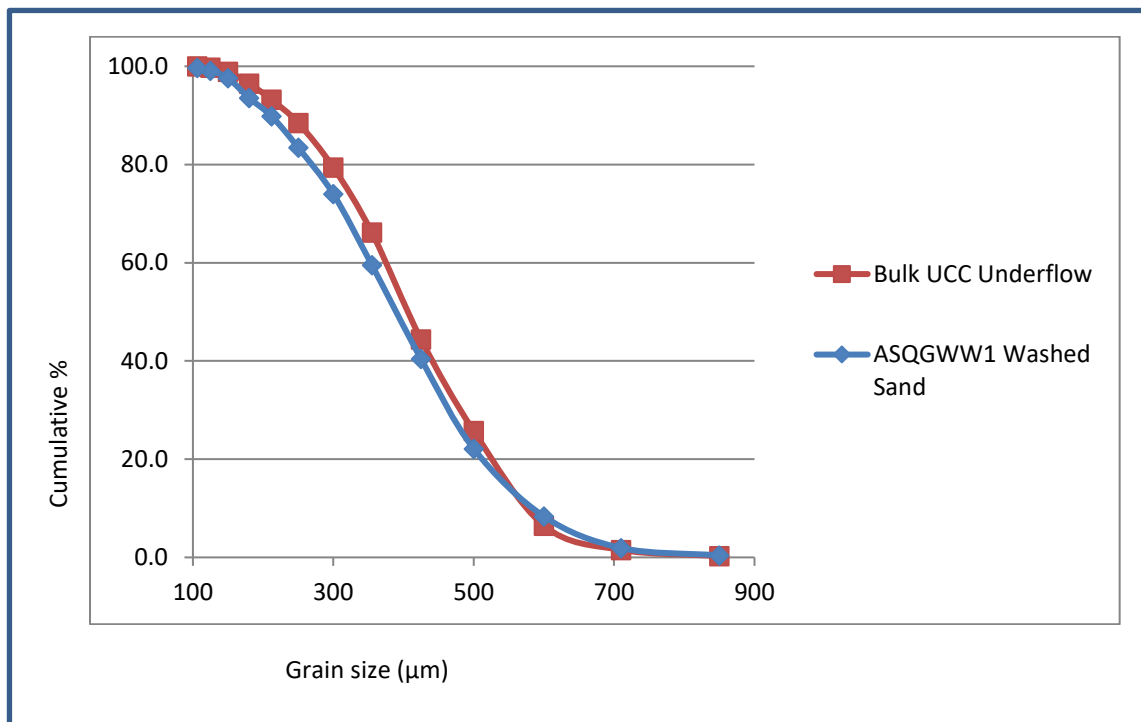
The theoretical upgraded plant product specification sheet (ASQ-GWSC1) has been updated to reflect the chemistry specification determined by Intertek Genalysis from the Spiralled and Classified sand as presented below:

**Table 2: ASQ-GWSC1 – Updated chemistry specification**

<b>Al</b>	<b>Al<sub>2</sub>O<sub>3</sub></b>	<b>Ti</b>	<b>TiO<sub>2</sub></b>	<b>Fe</b>	<b>Fe<sub>2</sub>O<sub>3</sub></b>	<b>LOI<sub>1000</sub><sup>o</sup>c</b>	<b>SiO<sub>2</sub> + LOI</b>
98 ppm	0.0186 %	166 ppm	0.0277 %	60 ppm	0.009 %	0.08 %	99.94 %

Spiral and classifier treatment of the sand has also tightened the grain size distribution with a reduction in the very fine and very coarse fractions as shown in the graph below:

**Figure 2: ASQ-GWW1 vs ASQ-GWSC1 – Particle Size Distributions**



Based on the results, it is not anticipated that the sand will require attritioning or magnetic separation to achieve a saleable product however these techniques may be considered at a later date to further upgrade the product line.

**Further Information:**

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**Competent persons statement**

The information in this document that relates to exploration results is based on data collected under the supervision of Mr Nick Algie, in his capacity as Exploration Manager for Australian Silica Quartz Group Limited. Mr Algie is a registered member of the Australian Institute of Mining and Metallurgy (AusIMM) and has sufficient experience that is relevant to the type of deposit and style of mineralisation under consideration to qualify as a competent person under the 2012 edition of the “Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. Mr Algie consents to the inclusion of the data in the form and context in which it appears.

**Forward Looking Statements**

This report may include forward looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as “may”, “will”, “expect”, “intend”, “plan”, “estimate”, “anticipate”, “continue”, or other similar words and may include, without limitation, statements regarding plans, strategies, and objectives of management. Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the company’s actual results, performance and achievements to differ materially from anticipated results, performance or achievements. Forward looking statements are based on the Company and its management’s good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the company’s business and operations in the future. The Company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the Company’s business or operations will not be affected in any material

manner by these or other factors not foreseen or foreseeable by the Company or management or beyond the Company's control. Accordingly, readers are cautioned not to place undue reliance on forward looking statements.

## APPENDIX 1 - JORC 2012 Table 1

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li>• Samples used to determine the average chemistry of the washed sand were grab samples collected by Urban Resources staff from the discharge conveyor of the Urban Resources wash plant</li> <li>• The bulk sample used for the spiral and UCC test work was excavated from several locations on the washed sand stockpile using front end loader supervised by ASQ geological staff</li> <li>• The Urban Resources washed sand stockpile was generated over a period of more than ten plant operational days with the ROM sand sourced from the main quarry face. The sand used is not expected to be representative of the entire sand resource but is an indication of the material that can be currently produced</li> </ul>
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li>• No drilling was completed</li> </ul>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li>• No drilling was completed</li> </ul>
<i>Logging</i>	<ul style="list-style-type: none"> <li>• No logging was completed</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>• For the samples used to determine the average chemistry of the washed sand entire samples were submitted to Intertek Genalysis in Perth. The samples were riffle split to around 200 g and then pulverized in a zirconia bowl pulveriser</li> <li>• For the Spiral and Classified sand the samples were split out of the UCC bulk underflow by AML and then delivered to Intertek Genalysis for pulverization in a zirconia bowl pulveriser</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <li>• The samples were submitted to Intertek Genalysis Analytical Laboratory for analysis where the sample was accurately weighed and digested in a mixture of acids</li> <li>• ICP-AES and ICP-MS analysis was used to determine the trace element concentrations with elements converted to the most common oxides</li> <li>• Where SiO<sub>2</sub> % is given it is calculated by difference using the oxide values</li> <li>• A non-certified minimum 99.99% SiO<sub>2</sub> standard was inserted by ASQ for blind analysis by Intertek Genalysis with the testwork samples. Results were within acceptable limits</li> </ul>
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>• As these testwork results are preliminary in nature they have not been independently verified</li> </ul>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>• Sample were collected from the Urban Resources washed sand conveyor and stockpile.</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• The sand used is not expected to be representative of the entire sand resource but is an indication of the material that can be currently produced</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>• The samples were metallurgical in nature and not designed to be representative of the entire deposit</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>• The samples were collected by and remained in the possession of BRL geological staff who delivered the samples to the AML and Intertek Genalysis laboratories in person. Sample receipt lists were manually checked against collection lists and results</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>• No internal or external audits have been completed as these results are considered preliminary in nature</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>The sand used for the testwork was sourced from M70/326, a granted mining lease (expiry 26/5/2030) and the premises of an existing fully permitted and approved mining operation</li> <li>Mining lease M70/326 is held by Stefanelli Developments Pty Ltd</li> <li>An agreement between Urban and Stefanelli grants Urban the exclusive right to conduct mining on M70/326 subject to an owner royalty. The term of the lease is 7 years commencing 1 July 2011 and extendable up to 30 June 2022 with the lease converting to a periodical month by month arrangement at the end of the term subject to termination by either party with one-month notice. Negotiation is underway to extend the agreement for an additional 5 years to 30 June 2027</li> <li>The Development Application approval for the site expires on 12 October 2020 and is the subject of an application for an extension of term. The Company is not aware of any reason that the term will not be extended, and understands that all conditions have been met in accordance with the original approval</li> <li>The operating licence issued under the Environmental Protection Act 1986 expires on the 24th of May 2020 and is the subject of an application for an extension to term. The Company is not aware of any reason that the terms will not be extended, and understands that all conditions have been met in accordance with the Act</li> <li>The mining lease is located on a single freehold title</li> <li>The current trucking route from the site requires trucks to travel north on local roads and enter Great Northern Highway at the newly constructed Stock Road grade separated interchange. This route is currently under review by Urban Resources, Main Roads WA and the City of Swan</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>In the Gingin project area previous exploration has been completed for silica sand by Silica Sales Pty Ltd, Rocla Quarry Products, and Sorenson Short and Associates, (for West Australian Silica Sand).</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>The silica sand deposit is located in aeolian sand dunes formed in the quaternary</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>No drilling was completed</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>Arithmetical averages were used to determine the average chemistry grades and grain sizes for the washed sand product ASQ-GWW1. Grain size analysis was undertaken on 3 samples out of a total of 9 samples for the washed sand product ASQ-GWW1. Each sample was collected over 9 consecutive plant operating days.</li> </ul>
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>This announcement is considered to be a balanced report</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>No other exploration data is considered material to this report</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>No further geological work is planned on this deposit</li> </ul>



## APPENDIX 2 – Washed Sand Product (ASQ-GWW1) and Spiraled and Classified Sand (ASQ-GWSC1) Geochemical analysis – Full Data

(Concentrations in ppm unless marked as %)

ELEMENTS	Al	Ca	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Na	Ni	P	SiO2 (%)	Ti	V	LOI
LIMITS OF DETECTION	50	50	1	5	1	10	20	1	20	1	20	1	50	0.1	5	1	0.01
ASQ-GWW1 19/06/13	142	X	X	X	X	151	X	4	27	4	50	X	X	99.8	349	X	0.05
ASQ-GWW1 19/06/14	113	X	X	X	X	144	46	4	X	4	49	X	X	99.8	344	1	0.04
ASQ-GWW1 19/06/19	107	X	X	X	X	150	44	4	X	5	35	X	X	99.8	393	X	0.03
ASQ-GWW1 19/06/20	106	X	X	X	X	133	43	5	X	4	31	X	X	99.9	344	X	0
ASQ-GWW1 19/06/21	100	X	X	X	X	106	40	5	X	3	44	X	X	99.9	288	X	0.02
ASQ-GWW1 19/06/24	116	X	X	X	X	173	45	5	25	5	37	X	X	99.8	364	X	0.02
ASQ-GWW1 19/06/25	124	X	X	X	X	186	42	5	24	5	37	X	X	99.8	403	X	0.06
ASQ-GWW1 19/06/26	104	X	X	X	X	79	34	5	X	3	49	X	X	99.8	317	X	0.06
ASQ-GWW1 19/06/27	101	X	X	X	X	123	43	5	X	3	45	X	X	99.8	290	X	0.07
ASQ-GWSC1	98	X	X	X	X	60	32	4	40	1	42	X	X	99.8	166	X	0.08

## APPENDIX 3 – Washed Sand Product (ASQ-GWW1) Grain Size Distribution – Full Data

SCREEN SIZE ANALYSIS				
SAMPLE DETAIL	SCREEN SIZE (um)	SCREEN WT(g)	% WT Distribution	% WT Passing
ASQ-GWW1- 19/06/19	850	3.1	0.5	99.5
	710	9.4	1.6	97.8
	600	38.1	6.6	91.3
	500	75.9	13.1	78.2
	425	101.3	17.5	60.7
	355	116.5	20.1	40.6
	300	82.0	14.1	26.5
	250	57.8	10.0	16.5
	212	36.2	6.2	10.3
	180	21.6	3.7	6.6
	150	23.7	4.1	2.5
	125	9.2	1.6	0.9
	106	3.3	0.6	0.3
	90	0.9	0.2	0.2
	63	0.5	0.1	0.1
	53	0.4	0.1	0.0
	45	0.0	0.0	0.0
38	0.0	0.0	0.0	
Start Wt. 589.65g	-38	0.2	0.0	
	<b>TOTAL</b>	580.1	100.00	

SAMPLE DETAIL	SCREEN SIZE (um)	SCREEN WT(g)	% WT Distribution	% WT Passing
ASQ-GWW1- 19/06/24	850	2.0	0.4	99.6
	710	7.3	1.4	98.2
	600	33.2	6.3	91.9
	500	72.1	13.8	78.1
	425	88.3	16.9	61.3
	355	103.6	19.8	41.5
	300	76.0	14.5	27.0
	250	51.6	9.9	17.1
	212	33.9	6.5	10.7
	180	20.5	3.9	6.7
	150	21.8	4.2	2.6
	125	8.4	1.6	1.0
	106	3.0	0.6	0.4
	90	0.9	0.2	0.2
	63	0.4	0.1	0.2
	53	0.6	0.1	0.0
	45	0.0	0.0	0.0
38	0.0	0.0	0.0	
<b>Start Wt. 525.30g</b>	-38	0.2	0.0	
	<b>TOTAL</b>	523.8	100.00	

SAMPLE DETAIL	SCREEN SIZE (um)	SCREEN WT(g)	% WT Distribution	% WT Passing
ASQ-GWW1- 19/06/26	850	1.5	0.3	99.7
	710	8.2	1.6	98.2
	600	33.7	6.4	91.8
	500	76.3	14.5	77.3
	425	108.3	20.5	56.8
	355	91.8	17.4	39.3
	300	77.9	14.8	24.6
	250	45.1	8.6	16.0
	212	34.0	6.4	9.6
	180	18.9	3.6	6.0
	150	19.9	3.8	2.2
	125	7.4	1.4	0.8
	106	2.5	0.5	0.3
	90	0.7	0.1	0.2
	63	0.4	0.1	0.1
	53	0.4	0.1	0.0
	45	0.1	0.0	0.0
38	0.0	0.0	0.0	
<b>Start Wt. 528.89g</b>	-38	0.1	0.0	
	<b>TOTAL</b>	527.2	100.00	

#### APPENDIX 4 – Spiraled and Classified Sand Product (ASQ-GSC1) Grain Size Distribution – Full Data

Microns	ASQ-GWSC1	
	Retained WT %	Cumulative %
850	0.3	0.3
710	1.3	1.5
600	4.9	6.5
500	19.3	25.7
425	18.6	44.4
355	21.7	66.1
300	13.3	79.4
250	9.1	88.5
212	4.7	93.2
180	3.3	96.5
150	2.4	98.9
125	0.8	99.7
106	0.2	100.0
90	0.0	100.0
63	0.0	100.0
53	0.0	100.0
45	0.0	100.0
38	0.0	100.0
-38	0.0	100.0
Total	100.0	