

## UPDATE ON URBAN'S MARALLA ROAD SILICA SAND MAIDEN RESOURCE

Bauxite Resources Limited ("BRL" or the "Company") advises that it has an Update to the previously announced "Urban's Maralla Road Silica Maiden Resource<sup>1</sup>" that was lodged with ASX on 23 April 2019 which is attached to this Announcement.

At the request of ASX, the Company retracts the following comments that were made in the 23 April 2019 Announcement:

"Defined Resource deposit is able to be mined at an initial rate of 150,000 tonnes per annum" and "The company plans on commencing silica sand export sales at a rate of 50-150 Ktpa" – these comments have been deleted from the Updated Announcement attached.

The reasons for these retractions are that the Company has only defined a JORC inferred resource, and under the ASX listing rules a measured or indicated resource or a reserve would be required to support these comments. As a consequence the Company and shareholders are advised that they should not rely on them.

As Urban Resources Pty Ltd ("Urban") is a private company, it has never had a requirement to complete a JORC resource. Urban has been operating the mine for the last 5 years.



Operating Plant at Urban's Maralla Road Deposit

**DATE: 7 May 2019**

**ASX Code: BAU**

**BAUXITE RESOURCES LTD**

**ABN: 72 119 699 982**

**DIRECTORS:**

**Robert Nash**

Non Executive Chairman

**Luke Atkins**

Non Executive Director

**Neil Lithgow**

Non Executive Director

**Zhaozhong Wang**

Non Executive Director

**Sam Middlemas**

Chief Executive Officer and

Company Secretary

**Head Office:**

Suite 10, 295 Rokeby Road

Subiaco WA 6008

**Mail:**

Suite 10, 295 Rokeby Road

Subiaco WA 6008

T: +61 8 9200 8200

F: +61 8 9200 8299

E: [admin@bauxiteresources.com.au](mailto:admin@bauxiteresources.com.au)

W: [www.bauxiteresources.com.au](http://www.bauxiteresources.com.au)

**Share Registry:**

Security Transfer Registrars

PO Box 535

Applecross WA 6953

T: +61 8 9315 2333

F: +61 8 9315 2233

1. Mining lease M70/326 is held by Stefanelli Developments Pty Ltd. An agreement between Urban and Stefanelli grants Urban the exclusive right to conduct mining on M70/326 subject to an owner royalty and options up to 30 June 2022. Negotiation is underway to extend the agreement for an additional 5 years to 30 June 2027.

## URBAN'S MARALLA ROAD SILICA SAND MAIDEN RESOURCE

- Bauxite Resources Limited (BRL), through its wholly owned subsidiary Australian Silica Quartz Pty Ltd (ASQ), has drilled Urban Resources Pty Ltd's (Urban's) Maralla Road Silica Sand deposit<sup>1</sup> and has determined a Total Inferred Mineral Resource of 10.7 million tonnes @ 99.8% SiO<sub>2</sub> (Resource)
- The Resource has been generated from a combination of historic drill holes and recent BRL vacuum drilling
- The Resource is entirely within Urban's M70/326 with full permitting and approvals in place for the existing operation
- Heads of Agreement announced 21 January 2019 between ASQ and Urban allows ASQ to market and sell high grade silica sand from the Resource
- Washed, screened and density separated silica sand samples returning results up to 99.93% SiO<sub>2</sub>

Bauxite Resources Limited (ASX: BAU) ("BRL" or "the Company") is pleased to announce the results from the independent estimate of the resource at Urban Resources Pty Ltd's (Urban's) Maralla Road Sand Deposit located north of Perth.

BRL's wholly owned subsidiary Australian Silica Quartz Pty Ltd ("ASQ") has executed a binding term sheet with Urban to jointly exploit Urban's Maralla Road Silica Sand deposit located in Bullsbrook, Western Australia.

Under the term sheet, ASQ will run the marketing and sales operations, and will fund the additional equipment up to \$1.25 million required to upgrade the current sand produced to the higher grades required to meet the overseas markets requirements. Urban will be the mine operator using its current staff and equipment (together with the additional equipment acquired by ASQ) with each party providing its services at its cost and profits will be split equally (*BRL (2019). Update on Silica Sand Term Sheet. ASX Release 21 January*).

Metallurgical testwork undertaken by ASQ and Urban has indicated that after washing, the mined sand is expected to produce a product with 99.93% silica and iron levels less than 0.012%. Further testwork is in progress and includes attritioning.

High Purity Silica is in high demand and can secure a premium price for applications that include PV Solar cells, specialty and high-tech glass, semiconductors, high quality foundry sands and other specialist technology applications.

BRL's CEO, Sam Middlemas, commented as follows "This result confirms the Company's belief that Urban's Maralla Road deposit is a high-quality silica sand resource that will sustain long term operations. ASQ is actively marketing this sand and hopes to begin exports in the coming months, initially with washed sand from the existing plant and then further refined high grade silica sand once the plant upgrade has been completed"

DATE: 7 May 2019

ASX Code: BAU

BAUXITE RESOURCES LTD

ABN: 72 119 699 982

**DIRECTORS:**

**Robert Nash**

Non Executive Chairman

**Luke Atkins**

Non Executive Director

**Neil Lithgow**

Non Executive Director

**Zhaozhong Wang**

Non Executive Director

**CEO & COMPANY SECRETARY:**

**Sam Middlemas**

**Head Office & Mail:**

Suite 10/295 Rokeby Rd

Subiaco WA 6008

E: [admin@bauxiteresources.com.au](mailto:admin@bauxiteresources.com.au)

W: [www.bauxiteresources.com.au](http://www.bauxiteresources.com.au)

**Share Registry:**

Security Transfer Registrars

PO Box 535

Applecross WA 6953

T: +61 8 9315 2333

F: +61 8 9315 2233

1. Mining lease M70/326 is held by Stefanelli Developments Pty Ltd. An agreement between Urban and Stefanelli grants Urban the exclusive right to conduct mining on M70/326 subject to an owner royalty and options up to 30 June 2022. Negotiation is underway to extend the agreement for an additional 5 years to 30 June 2027

### Maiden Urban Marella Road Silica Sand Deposit Mineral Resource

The Mineral Resource estimate (MRE) for Urban's Maralla Road Silica Sand Deposit comprises an Inferred Mineral Resource of 10.7 Mt @ 99.8% SiO<sub>2</sub> reported in accordance with the JORC Code 2012 Edition.

The MRE results are given in Table 1. This resource is based on the results obtained from 27 historic vacuum drill holes for 220 m completed by previous explorers and 10 BRL vacuum drill holes for 105 m with the white silica sand horizon modelled on the basis of geological logging and chemical analysis.

*Table 1 – Urban's Maralla Rd March 2019 Inferred Mineral Resource Estimate*

| Tonnage<br>Mt | SiO <sub>2</sub><br>% | Fe <sub>2</sub> O <sub>3</sub><br>% | Al <sub>2</sub> O <sub>3</sub><br>% | CaO<br>% | MgO<br>ppm | K <sub>2</sub> O<br>% | TiO <sub>2</sub><br>% | LOI<br>% |
|---------------|-----------------------|-------------------------------------|-------------------------------------|----------|------------|-----------------------|-----------------------|----------|
| 10.7          | 99.8                  | 0.02                                | 0.01                                | 0.003    | 24.1       | 0.003                 | 0.05                  | 0.07     |

*Note:*

*All Mineral Resources figures reported in the table above represent estimates at 18 April 2019. Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape and continuity of the occurrence and on the available sampling results. The totals contained in the above table have been rounded to reflect the relative uncertainty of the estimate. Rounding may cause some computational discrepancies.*

*Mineral Resources are reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The Joint Ore Reserves Committee Code – JORC 2012 Edition).*

### Testing completed on the Urban's Marella Road Silica Sand Deposit

As previously reported, (BRL ASX Release 21 January 2019 -Update on Silica Sand Term Sheet for Operating DSO Export Venture Executed with Urban Resources) ASQ in collaboration with Urban, have completed metallurgical testwork on washed sand from the existing Urban mining operation.

Expected chemistry and sizing specifications for washed and spiralled Urban Maralla Road Silica Sand is given in Tables 2 & 3.

*Table 2 – Expected chemical specifications for washed and spiralled Urban Maralla Road Silica Sand*

| Yield % | SiO <sub>2</sub><br>(%, by difference) | SiO <sub>2</sub><br>(%, by difference<br>less LOI) | TiO <sub>2</sub> (%) | Al <sub>2</sub> O <sub>3</sub> (%) | Fe <sub>2</sub> O <sub>3</sub> (%) |
|---------|--|--|----------------------|------------------------------------|------------------------------------|
| 95%     | 99.93%                                 | 99.85%   | 0.024%               | 0.012%                             | 0.008%                             |

*Table 3 – Expected sizing specifications for washed and spiralled Urban Maralla Road Silica Sand*

| Screen Aperture | % Retained | % Passing |
|-----------------|------------|-----------|
| 1mm             | 0.01       | 99.99     |
| 0.710mm         | 1.53       | 98.46     |
| 0.500mm         | 16.30      | 82.16     |
| 0.355mm         | 34.75      | 47.41     |
| 0.25mm          | 27.46      | 19.95     |
| 0.180mm         | 13.21      | 6.74      |
| 0.125mm         | 5.58       | 1.15      |
| 0.090mm         | 0.86       | 0.29      |
| 0.063mm         | 0.11       | 0.18      |
| 0.045mm         | 0.01       | 0.17      |
| Pan             | 0.17       | 0.00      |

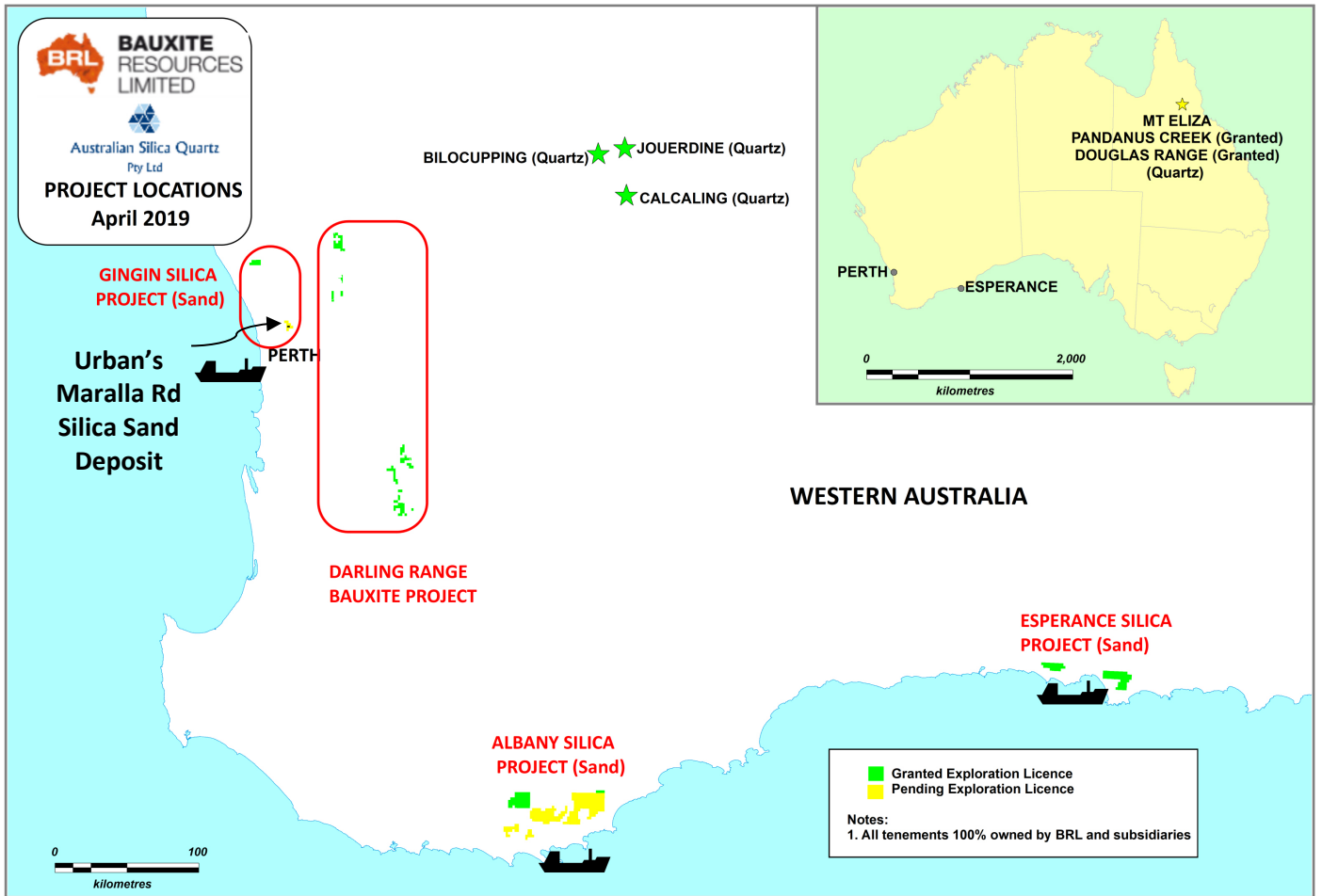


Figure 1: BRL Project Locations

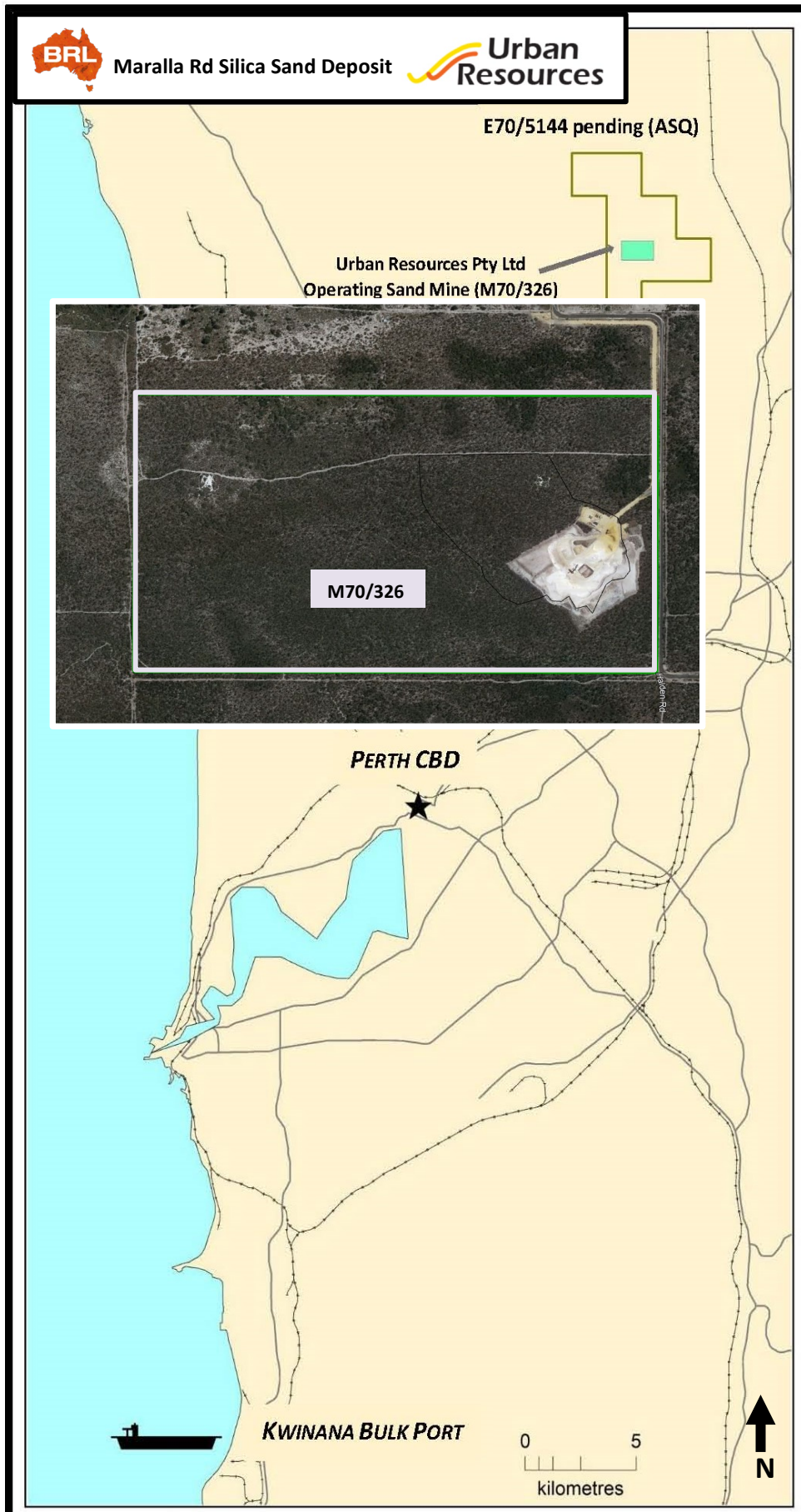


Figure 2: Urban's Maralla Road Silica Sand Deposit Location





Figure 3: BRL vacuum drilling at Urban's Maralla Road Silica Sand Deposit next to Urban's existing operation

### **Summary of Information Required according to ASX Listing Rule 5.8.1**

#### Geology and Geological Interpretation

The sand deposits under investigation belong to the Cainozoic sedimentary formation known as the Bassendean Sand. The formation is an extensive flat-lying body of quartz sand which covers a large proportion of the Swan Coastal Plain. It extends north and south as a long belt, with its western margin lying subparallel to the coast, between 5 and 10 km inland. The width of the belt ranges up to approximately 20 km while the maximum thickness is estimated to be approximately 50 m.

Concretionary ferruginous material, locally known as 'coffee rock', is developed discontinuously in the sand at about the present-day water table. It results in fluctuations of groundwater level and the consequent precipitation of iron from iron-rich solutions.

Within Urban's Maralla Road Silica Sand Deposit, the target sand occurs as a large east west orientated aeolian sand dune. The white silica sand overlies iron rich yellow sand which is occasionally interspersed with ferruginous nodules.

#### Drilling and Sampling Techniques

Both historic and BRL drill holes were undertaken using tractor mounted vacuum drill rigs with historic holes located using traditional survey techniques and BRL drill holes located using GPS. The drilling grid is approximately 500mE x 60mN with 6 historic holes twinned by BRL and 4 additional infill holes by BRL. Sampling was at every two metres down hole in the historic drilling and every metre for the BRL drilling. The Competent Person considers the drilling, sampling and analysis to be of an acceptable standard for use in a Mineral Resource in accordance with the JORC Code.

#### Sample Analysis Method

Historic drilling analysis was completed using XRF at A.R.M Laboratories in Geraldton and BRL drilling analysis was completed at Intertek in Perth by XRF and ICP. X-Ray Fluorescence Spectroscopy ("XRF") was completed on fused disc samples using a lithium borate flux. For the ICP results the samples were fully digested in a multi acid mix of Hydrofluoric, Nitric, Perchloric and hydrofluoric acids in Teflon beakers and analysed by Inductively Coupled Plasma Optical (Atomic) Emission Spectrometry.

### Estimation Methodology

The deposit mineralisation was constrained by wireframes constructed using down hole geochemistry and associated lithological logging. The optimum white sand mineralisation is characterised by high silica assays (more than 99.5%). The basal extent of the white sand was determined by a noticeable decrease in silica assays with an associated change in colour. This geochemical change generally coincided with intervals logged yellow or brown sand. The wireframe was applied as a hard boundary in the estimate.

Using parameters derived from modelled variograms, Ordinary Kriging was used to estimate average block grades within the white sand domain for eight elements; SiO<sub>2</sub> (%), Fe<sub>2</sub>O<sub>3</sub> (%), Al<sub>2</sub>O<sub>3</sub> (%), CaO (%), MgO (ppm), K<sub>2</sub>O (%), TiO<sub>2</sub> (%), and LOI (%). No high grade cuts were deemed necessary. Maximum extrapolation distance from data points was 260 m, approximately half of the 500 m drill hole spacing.

The block dimensions used in the model were 100 m EW by 50 m NS by 2 m vertical with sub-cells of 6.25 m by 3.125 m by 0.5 m. An orientated 'ellipsoid' search was used to select data and was based on parameters taken from the variography.

Four dry in situ bulk density measurements were conducted by Construction Sciences Pty Ltd using a nuclear densometer. The results are corrected based on the measured moisture content. A bulk density of 1.63 t/m<sup>3</sup> was assigned in the block model for the mineralisation based on an average of the three white sand measurements. A value of 1.5 t/m<sup>3</sup> was assigned to the overburden based on the overburden measurement.

### Resource Classification

The Mineral Resource estimate is reported here in compliance with the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' by the Joint Ore Reserves Committee (JORC). The Mineral Resource was classified as Inferred Mineral Resource based on data quality, sample spacing, and lode continuity.

### Cut-off Grade

No reporting cut-off grade has been considered as it is assumed all the white sand domain can be processed to create a high purity silica product.

### Mining and Metallurgical Methods and Parameters and other modifying factors

The existing mining operation and ongoing metallurgical testwork are consistent with a reasonable view that the deposit could potentially be mined using open pit techniques. The minimal amount of overburden and shallow nature of the deposit allows mining to be carried out with surface mining equipment, but the economic viability of this approach has not been verified in this study.

### **Competent Persons Statement**

The information in this document that relates to the metallurgical testing of Urban's Maralla Road Silica Sand Deposit Silica Sand is based on data collected under the supervision of Mr Nick Algie, in his capacity as Exploration Manager for Bauxite Resources. 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.

The information in this report that relates to the Mineral Resource has been compiled under the supervision of Mr. Shaun Searle who is a director of Ashmore Advisory Pty Ltd and a Registered Member of the Australian Institute of Geoscientists. Mr. Searle has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he has undertaken 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 Searle 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.

### **Further Information:**

Sam Middlemas  
Chief Executive Officer – Bauxite Resources Limited  
[sam.middlemas@bauxiteresources.com.au](mailto:sam.middlemas@bauxiteresources.com.au)  
Phone: (08) 9200 8200



## APPENDIX 1 - JORC 2012 Table 1

### Section 1 Sampling Techniques and Data

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

| Criteria  | Commentary  |
|---|---|
| <b>Sampling techniques</b>                            | <ul style="list-style-type: none"> <li>For the 2019 VAC drilling, samples are 1 m down hole intervals with the entire sample collected. All 2019 samples were weighed to monitor the potential for down hole contamination. Two sub-samples, A and B, of ~200 g were taken using a sampling spear from the drill samples. The remainder was retained for metallurgical test work. The "A" sample was submitted to Intertek in Perth for drying, pulverisation in a zircon bowl and then each sample had a 4 Acid digest with analysis by ICP-OES as well as Fused Disk preparation and XRF analysis. LOI was determined by Thermal Gravimetric Analyser.</li> <li>The historic vacuum drilling samples were 1 m down hole intervals with 2.3 kg subsamples collected from each metre with the exception of the initial organic rich 1 m layer. Every second meter a 2.3 kg sample was split using a riffle splitter, dried at 105 degrees Celsius for one hour and pulverized to 100 % less than 75 µm using a tungsten carbide bowl. Analysis was by XRF with preparation by borate bead glass fusion and matrix connection. LOI was determined gravimetrically at 950 degrees Celsius.</li> </ul>   |
| <b>Drilling techniques</b>                            | <ul style="list-style-type: none"> <li>Both historic and current drilling was undertaken using a tractor mounted vacuum drill rig.</li> </ul>   |
| <b>Drill sample recovery</b>                          | <ul style="list-style-type: none"> <li>All 2019 samples were weighed. This provides an indirect record of sample recovery.</li> <li>All VAC samples were visually checked for recovery, moisture and contamination.</li> <li>No relationship exists between sample recovery and grade.</li> </ul>   |
| <b>Logging</b>  | <ul style="list-style-type: none"> <li>All 2019 holes were field logged by company geologist. Sand colour, roundness, sorting and composition was recorded.</li> <li>All drill holes were logged in full in an excel spreadsheet.</li> <li>Logging was qualitative in nature.</li> </ul>  |
| <b>Sub-sampling techniques and sample preparation</b> | <ul style="list-style-type: none"> <li>For the 2019 VAC drilling, samples are 1 m down hole intervals with the entire sample collected. For the historic drilling every second whole metre was analysed. Every metre drilled was analysed. All 2019 samples were weighed to monitor the potential for down hole contamination. Two sub-samples, A and B, of ~200 g were taken using a sampling spear from the drill samples. The remainder was retained for metallurgical test work. The "A" sample was submitted to Intertek in Perth for drying and pulverization in a zircon bowl and disk pulveriser.</li> <li>The historic vacuum drilling samples were 1 m down hole intervals with 2.3 kg subsamples collected from each meter with the exception of the initial organic rich 1 m layer. Every second meter 2.3 kg sample was delivered to Associated Resource Management's Geraldton laboratory and split using a riffle splitter, dried at 105 degrees Celsius for one hour and pulverized to 100 % less than 75 µm using a tungsten carbide bowl pulverizer.</li> <li>For the 2019 drilling QC procedures involved the use of certified and non-certified reference materials (1 in 20), and field duplicates (1 in 20). The field duplicates have accurately reflected the original assay. Recognised laboratories have been used for analysis of samples.</li> <li>Sample sizes are considered appropriate to correctly represent the bulk tonnage mineralisation based on the style of mineralisation, the thickness and consistency of the intersections, the sampling methodology and assay value ranges for silica sand.</li> </ul>   |
| <b>Quality of assay data and laboratory tests</b>     | <ul style="list-style-type: none"> <li>Historic drilling analysis was completed using XRF at A.R.M Laboratories in Geraldton and the reporting obtained on this work does not include details of the QAQC methods employed. The laboratory was known to be NATA certified at the time. Six of the historic drill holes have been twinned as part of the 2019 drilling program with good agreement between the results from paired holes.</li> <li>2019 drilling samples were analyzed at Intertek in Perth by XRF and ICP. X-Ray Fluorescence Spectroscopy ("XRF") was completed on fused disc samples using a lithium borate flux. For the ICP results the samples were fully digested in a multi acid mix of Hydrofluoric, Nitric, Perchloric and hydrofluoric acids in Teflon beakers and analyzed by Inductively Coupled Plasma Optical (Atomic) Emission Spectrometry.</li> <li>Certified Low grade silica standards (99.53% SiO<sub>2</sub>) and non-certified high purity silica (99.99% SiO<sub>2</sub>) standards were included in the drill sample submissions to Intertek, in sequence, on a ratio of 1 in 20. The high purity standard was not certified but has been previously used by the company at Intertek and other laboratories to determine the level of contamination by the laboratory processes. Field duplicate samples were submitted in a ratio of 1 in 20.</li> <li>Laboratory QAQC includes the use of internal standards using certified reference material, laboratory duplicates and pulp repeats. The field duplicates have accurately reflected the original assay. Certified standards have generally reported within acceptable limits. A full analysis of all the quality control data has been undertaken. This analysis validates the drill assay dataset and conforms with the guidelines for reporting under the JORC 2012 code.</li> <li>The QAQC results confirm the suitability of the drilling data for use in the resource estimation.</li> </ul> |
| <b>Verification of sampling and assaying</b>          | <ul style="list-style-type: none"> <li>For the 2019 drilling significant drill hole intersections were verified by BRL exploration personnel. The BRL logging process involves placing drill samples for each 1 m interval into chip trays which are then photographed to provide a permanent record of the down hole lithology. BRL geologists logged all drill samples at the rig, with a minimum logging interval of 1 m. All chip-tray samples were collected as permanent physical records for audit and validation purposes, and all holes photographed for future reference and reconciliation of assay results with geology.</li> </ul>   |



| Criteria   | Commentary   |
|--|--|
|  | <ul style="list-style-type: none"> <li>Six of the historic drill holes were twinned as part of the 2019 drilling program with good agreement between the results from paired holes.</li> <li>The data for the historic holes was all sourced from WAMEX report A14907 and hard copy data was manually entered into the data base or alternatively captured using optical character recognition. All data was subject to extensive verification and validation by BRL geological staff.</li> <li>Assay values that were below detection limit were adjusted to equal half of the detection limit value. Intervals with no samples were left blank in the database.</li> </ul>   |
| <b>Location of data points</b>                                 | <ul style="list-style-type: none"> <li>All the historic drill holes were surveyed in MGA grid co-ordinates. 2019 drill holes were located using GPS in MGA grid co-ordinates with the expected relative accuracy. Down hole surveys have not been taken as drill holes are all less than 14 m in depth and drilled vertically through the predominantly flat lying sand deposits.</li> <li>2019 collars have been located in UTM, MGA94, Zone 50K co-ordinates. Historic collars were located in UTM, AGD84, Zone 50K co-ordinates re-projected to MGA94. When completing the 2019 twin holes the original historic wooden pegs and metal hole ID tags were located at a number of the twin hole locations verifying the accuracy of the historic hole survey and re-projection.</li> <li>The topographic surface used was based on based a LiDAR digital elevation model obtained from Geoscience Australia.</li> </ul> |
| <b>Data spacing and distribution</b>                           | <ul style="list-style-type: none"> <li>The historic drill holes were spaced every 60 m along 500 m spaced lines. The 2019 drilling was spread evenly across the project area with two twin holes for each historic drill line and four intermediately spaced infill holes.</li> <li>For the historic drilling every second whole metre was analysed.</li> <li>For the 2019 drilling every metre drilled was analysed.</li> <li>The mineralised domains have demonstrated sufficient continuity in both geological and grade continuity to support the estimation procedure and classification applied under the 2012 JORC Code.</li> <li>All samples were taken at even 1 m intervals, so no compositing was required.</li> </ul>  |
| <b>Orientation of data in relation to geological structure</b> | <ul style="list-style-type: none"> <li>The orientation of the drilling (vertical) is approximately perpendicular to the sub-horizontal mineralisation and is unlikely to have introduced any significant sampling bias.</li> <li>No orientation based sampling bias has been identified in the data</li> </ul>   |
| <b>Sample security</b>   | <ul style="list-style-type: none"> <li>For the 2019 drilling the chain of custody is managed by BRL. Samples were collected onsite and delivered to Intertek by BRL geological staff. BRL employees have no further involvement in the preparation or analysis of the samples.</li> <li>Chain of custody information for the historic drill holes is unavailable.</li> </ul>   |
| <b>Audits or reviews</b>                                       | <ul style="list-style-type: none"> <li>There has been no audit or review of the drilling, sampling or analysis at this time.</li> </ul>  |

## Section 2 Reporting of Exploration Results

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

| Criteria                                       | Commentary  |
|--|---|
| <b>Mineral tenement and land tenure status</b> | <ul style="list-style-type: none"> <li>All drilling was completed on 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 24<sup>th</sup> 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 will be changed with the opening of the Northlink upgrade to the Great Northern Highway estimated to open mid-2019. The proposed alternative route 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> |
| <b>Exploration done by other parties</b>       | <ul style="list-style-type: none"> <li>27 VAC drill holes were completed in the project area in 1984 as part of a wider program defining non JORC silica sand resources by Silica Sales Pty Ltd. These historic holes form the basis for this Mineral Resource estimation and the details of the historic data have been discussed elsewhere in this table and section 1 above.</li> </ul>  |
| <b>Geology</b>                                 | <ul style="list-style-type: none"> <li>The sand deposits under investigation belong to the Cainozoic sedimentary formation known as the Bassendean Sand (Figure 2-1). The formation is an extensive flat-lying body of quartz sand which covers a large proportion of the Swan Coastal Plain. It extends north and south as a long belt, with its western margin lying subparallel to the coast, between 5 and 10 km inland. The width of the belt ranges up to approximately 20 km while the maximum thickness is estimated to be approximately 50 m.</li> </ul>   |



| Criteria  | Commentary   |
|---|--|
|   | <ul style="list-style-type: none"> <li>The Bassendean sands are exposed at the surface as a series of low quartz-sand hills which probably represent leached coastal aeolianites. Some remnants of unleached limestone occur in the formation along the western margin of the deposit. Marine fossils have also been observed at three localities along the western edge of the sand belt, indicating shoreline deposition.</li> <li>Typically, the Bassendean sands are very clean, well rounded and well sorted quartzose sediments. They are thought to have been laid down in shoreline and coastal dune environments during two or more period of relatively stable sea level, about 8 to 25 m above present sea level. The unit probably ranges from the early to middle Pleistocene, or possibly late Pleistocene, in age.</li> <li>Concretionary ferruginous material, locally known as 'coffee rock', is developed discontinuously in the sand at about the present-day water table. It results in fluctuations of groundwater level and the consequent precipitation of iron from iron-rich solutions.</li> <li>Within M70/326 the target silica sand deposit occurs as a large east west orientated aeolian sand dune. The white silica sand overlies iron rich yellow sand which is occasionally interspersed with ferruginous nodules.</li> </ul> |
| <b>Drill hole information</b>   | <ul style="list-style-type: none"> <li>All information has been included in the appendices. No drill hole information has been excluded.</li> </ul>  |
| <b>Data aggregation methods</b>   | <ul style="list-style-type: none"> <li>Exploration results are not being reported.</li> <li>Not applicable as a Mineral Resource is being reported.</li> <li>Metal equivalent values have not been used.</li> </ul>  |
| <b>Relationship between mineralisation widths and intercept lengths</b> | <ul style="list-style-type: none"> <li>All drill holes are vertical and intersect the tabular, flat lying mineralisation orthogonally, and represent close to true thickness.</li> </ul>   |
| <b>Diagrams</b>   | <ul style="list-style-type: none"> <li>Relevant diagrams have been included within the Mineral Resource report main body of text.</li> </ul>   |
| <b>Balanced Reporting</b>   | <ul style="list-style-type: none"> <li>All 2019 hole collars were located by GPS in MGA94 Zone 50 grid.</li> <li>Historic drill holes were surveyed in GDA84 Zone 50 Grid and converted to MGA94 Zone 50 grid.</li> <li>Exploration results are reported in full.</li> </ul>   |
| <b>Other substantive exploration data</b>                               | <ul style="list-style-type: none"> <li>No other exploration data other than vacuum drill samples have been collected at M70/326.</li> </ul>  |
| <b>Further work</b>   | <ul style="list-style-type: none"> <li>Drilling completed to date indicates the presence of silica sand mineralisation only. Further drilling will be conducted to improve the confidence in the geological continuity.</li> <li>Refer to diagrams in the body of text within the Mineral Resource report.</li> </ul>  |

### Section 3 Estimation and Reporting of Mineral Resources

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

| Criteria                                   | Commentary  |
|--|---|
| <b>Database integrity</b>                  | <ul style="list-style-type: none"> <li>The database is validated by rOREdata before sending to BRL geologists. All drill logs are validated digitally by the database geologist once assay results are returned from the laboratory.</li> <li>Ashmore also performed data audits in Surpac and checked collar coordinates, down hole surveys and assay data for errors. No errors were found.</li> </ul>  |
| <b>Site visits</b>                         | <ul style="list-style-type: none"> <li>A site visit has not been conducted by Ashmore.</li> <li>A site visit was not considered necessary due to Urban's Maralla Road Mineral Resource classification (Inferred). In the case of classifying Indicated Mineral Resource in future, a site visit will be conducted.</li> </ul>   |
| <b>Geological interpretation</b>           | <ul style="list-style-type: none"> <li>The confidence in the geological interpretation is considered to be good. The geological setting is a sand dune system overlying limestone within the Perth Basin.</li> <li>Geochemistry has been used to assist identification of the rock type applied in the interpretation process.</li> <li>The deposit is tabular in geometry. Clear boundaries define the mineralisation.</li> <li>Outcropping of mineralisation has supported geochemistry. The mineralised domains are wireframed based on geochemistry and geological logging.</li> <li>The flat lying sand dunes are near surface, with minor overburden that follows the undulating topography. The basal extent of the white sand is determined from geochemical changes noted down hole in association with a noted change in sand colour.</li> </ul>                            |
| <b>Dimensions</b>                          | <ul style="list-style-type: none"> <li>Urban's Maralla Rd Mineral Resource area extends over a strike length of 1.4 km (from 401,220 mE to 402,665 mE), has a maximum width of 800 m (from 6,487,720 mN to 6,488,550mE) and was modelled from surface to a depth of approximately 14 m below surface.</li> </ul>  |
| <b>Estimation and modelling techniques</b> | <ul style="list-style-type: none"> <li>Using parameters derived from modelled variograms, Ordinary Kriging ("OK") was used to estimate average block grades within the white sand domain using Surpac software for eight elements; SiO<sub>2</sub> (%), Fe<sub>2</sub>O<sub>3</sub> (%), Al<sub>2</sub>O<sub>3</sub> (%), CaO (%), MgO (ppm), K<sub>2</sub>O (%), TiO<sub>2</sub> (%), and LOI (%). No high grade cuts were deemed necessary. Drill hole sample data was coded using mineralisation wireframes and composited to one metre lengths using the fixed length technique. Maximum extrapolation distance from data points was 260 m, approximately half of the 500 m drill hole spacing.</li> <li>Three dimensional mineralised wireframes were used to domain the data. As all samples were taken at even one metre intervals, no compositing was carried out.</li> </ul> |



| Criteria  | Commentary  |
|---|---|
|   | <ul style="list-style-type: none"> <li>No top-cuts were applied to the data as no extreme grades were noted.</li> <li>The maximum distance of extrapolation from data points was 260 m.</li> <li>Open pit mining is currently being carried out at the deposit.</li> <li>It is assumed that there will be no by-products recovered from the mining of silica.</li> <li>The deleterious elements estimated are Fe<sub>2</sub>O<sub>3</sub>, Al<sub>2</sub>O<sub>3</sub>, CaO, MgO, K<sub>2</sub>O, TiO<sub>2</sub>, and LOI.</li> <li>The block dimensions used in the model were 100 m EW by 50 m NS by 2 m vertical with sub-cells of 6.25 m by 3.125 m by 0.5 m. The block dimensions were selected based on half to a quarter of the drill hole section spacing. Block discretisation was set to 4 by 3 by 2. An orientated 'ellipsoid' search was used to select data and was based on parameters taken from the variography. Two passes were used; the first pass used a range of 250 m, with a minimum of 6 samples. For the second pass, the range was extended to 500 m with a minimum of 4 samples. A maximum of 20 samples was used for each pass.</li> <li>Selective mining units were not modelled. The block size used in the resource model was based on drill sample spacing and lode orientation.</li> <li>There is weak negative correlation between SiO<sub>2</sub> and all other elements.</li> <li>The deposit mineralisation was constrained by wireframes constructed using down hole geochemistry and associated lithological logging. The optimum white sand mineralisation is characterised by high silica assays (more than 99.5%). The basal extent of the white sand was determined by a noticeable decrease in silica assays with an associated change in colour. This geochemical change generally coincided with intervals logged yellow or brown sand. The wireframe was applied as a hard boundary in the estimate.</li> <li>After statistical analysis of individual lodges, it was determined that no high grade cuts were necessary.</li> <li>To validate the model, a qualitative assessment was completed by slicing sections through the block model in positions coincident with drilling. A quantitative assessment of the estimate was completed by comparing the average grades of the sample file input against the block model output for the white sand. A trend analysis was completed by comparing the interpolated blocks to the sample data within the white sand. This analysis was completed for eastings, northings and elevation across the deposit. Validation plots showed excellent correlation between the sample grades and the block model grades.</li> </ul> |
| <b>Moisture</b>                                   | <ul style="list-style-type: none"> <li>Tonnages and grades were estimated on a dry in situ basis.</li> </ul>  |
| <b>Cut-off parameters</b>                         | <ul style="list-style-type: none"> <li>No reporting cut-off grade has been considered as it is assumed all the white sand domain can be processed to create a high purity silica product.</li> </ul>  |
| <b>Mining factors or assumptions</b>              | <ul style="list-style-type: none"> <li>Ashmore has assumed that the deposit could potentially be mined using open pit techniques. The minimal amount of overburden and shallow nature of the deposit allows mining to be carried out with surface mining equipment, but the economic viability of this approach has not been verified in this study.</li> </ul>   |
| <b>Metallurgical factors or assumptions</b>       | <ul style="list-style-type: none"> <li>No assumptions have been made regarding metallurgy other than the material could be upgraded to a high purity 99.99 % SiO<sub>2</sub> product.</li> </ul>  |
| <b>Environmental factors or assumptions</b>       | <ul style="list-style-type: none"> <li>Urban's Maralla Road deposit is not subject to any environmental liabilities.</li> </ul>   |
| <b>Bulk density</b>                               | <ul style="list-style-type: none"> <li>Four dry in situ bulk density measurements were conducted by Construction Sciences Pty Ltd using a nuclear densometer. The results are corrected based on the measured moisture content.</li> <li>A bulk density of 1.63 t/m<sup>3</sup> was assigned in the block model for the mineralisation based on an average of the three white sand measurements. A value of 1.5 t/m<sup>3</sup> was assigned to the overburden based on the overburden measurement.</li> </ul>  |
| <b>Classification</b>                             | <ul style="list-style-type: none"> <li>The Mineral Resource estimate is reported here in compliance with the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' by the Joint Ore Reserves Committee (JORC). The Mineral Resource was classified as Inferred Mineral Resource based on data quality, sample spacing, and lode continuity.</li> <li>The input data is comprehensive in its coverage of the mineralisation and does not favour or misrepresent in-situ mineralisation. The definition of mineralised zones is based on high level geological understanding producing a robust model of mineralised domains. This model has been confirmed by recent infill drilling which supported the interpretation. Validation of the block model shows good correlation of the input data to the estimated grades.</li> <li>The Mineral Resource estimate appropriately reflects the view of the Competent Person.</li> </ul>   |
| <b>Audits or reviews</b>                          | <ul style="list-style-type: none"> <li>Internal audits have been completed by Ashmore which verified the technical inputs, methodology, parameters and results of the estimate.</li> </ul>  |
| <b>Discussion of relative accuracy/confidence</b> | <ul style="list-style-type: none"> <li>The lode geometry and continuity has been adequately interpreted to reflect the applied level of Inferred Mineral Resource. The data quality is good and the drill holes have detailed logs produced by qualified geologists. A recognised laboratory has been used for all analyses.</li> <li>The Mineral Resource statement relates to global estimates of tonnes and grade.</li> <li>Mining is currently being conducted at Urban's Maralla Road deposit, but no detailed production records were reviewed by Ashmore.</li> </ul>   |