Australian Securities Exchange Announcement **19 April 2022**

Project Update – Focus on Critical Mineral Production

Highlights

- The Australian Federal Government adds High Purity Alumina to Australia's critical minerals list
- Market investigations into HPA indicates end-users showing increasing demand for Australian products
- Production of >5N purity Aluminium Salt Precursor 1 compound demonstrated in six campaigns.
- Process advancements to be applied to the HPA PFS completed in June 2021

Summary

King River Resources Limited (ASX:KRR) provides this update on the ongoing, engineering, market research, laboratory pilot plant work as part of the Definitive Feasibility Study (DFS) for the Type 1 Precursor Production Plant. As reported on the 8th of September 2021 KRR chose to pursue the opportunities associated with the processing of our 5N (99.999%) purity Type 1 Precursor (an Aluminium Salt) for the battery manufacturing industry.

Critical Minerals List

The Australian Federal Government has added High Purity Alumina to Australia's critical minerals list and is taking action to grow Australia into a critical minerals powerhouse, capitalising on the strength of Australia's world-leading resources sector, expertise in processing and highly skilled workforce. $200 million has been committed to the Critical Minerals Accelerator Initiative to support strategically significant projects at challenging points in their development. This funding will accelerate projects to market and drive investment.*

KRR sees the addition of HPA to the Critical Minerals list as a very supportive opportunity to access an increase level of funding opportunities and grant levels than were previously available to the industry.

Market Investigation

Market engagement from 4N High Purity Alumina end-users has shown evidence of increasing demand for new supply from Australia with supply requirements well in excess of the capacity of the size of the current pilot plant. Internal assessments are underway to review the scale up potential of the DFS plant or the application of the new HPA Process to the previous PFS larger scale design

Process Advancements

Laboratory testwork by Source Certain International (SCI) has advanced to define a new process route to make 4N HPA (KRR ASX announcements 4 January 2022 and 16 March 2022) that modifies the initial process upon which the previous HPA Prefeasibility Study was based. The new process not only provides a potentially more economical pathway but is also a more environmentally friendly process route to the production of HPA. Work is underway to apply and refine this process to re-evaluate the PFS design. KRR is in discussion with Patent Attorneys on the protection of our IP associated with the newly developed processes.

* https://www.industry.gov.au/data-and-publications/2022-critical-minerals-strategy

254 Adelaide Tce
Perth WA 6000

PO Box Z5518,
Perth WA 6831

P: +61 (0)8 9221 8055
E: info@kingriverresources.com.au

kingriverresources.com.au

Detailed Feasibility Study

The DFS has examined four main areas:

1. Laboratory pilot plant operation, which has successfully produced a 5N purity Aluminium Salt Precursor 1 compound in six campaigns. The result of the latest Campaign 6 is provided on page 3.
2. Engineering for the Detailed Feasibility study by Como Engineers has run on schedule, to provide process design, capital cost and operating cost estimates for the Precursor 1 process plant.
3. Permitting studies are investigating an established approval process for Kwinana.
4. Market investigations into trade level volumes and pricing for targeted products.

Financial Modelling of the DFS

The KRR Board has decided to place further work on the DFS for the 2000tpa 5N Aluminium Salt Precursor 1 plant on hold, including any further financial modelling, to capitalise on the other emerging HPA opportunities.

Work done to date has provided an excellent foundation of understanding on the Capital and Operating costs associated with this size of plant in such a modular flow sheet design.

Path Forward

The laboratory testwork is ongoing and the results will be used to examine different scales of 4N HPA production and further reduce capital and operating costs. Focus will be on the application potential to scale up the DFS plant currently designed or a modification to the previous PFS engineering design by applying these advancements to the HPA circuit removing equipment and process stages no longer required.

Engineering and financial modelling investigations are underway to modify and scale up the Precursor plant design to produce 4N purity (99.99%) High Purity Alumina (HPA) at a scale proportionate to market demand and which minimises the capex and opex for a profitable operation.

Type 1 Precursor – Campaign 6

Source Certain International (SCI) has continued to run the laboratory pilot plant to confirm and optimise the ARC process and produce market samples. Campaign 6, as per the previous runs, resulted in >99.999% purity for Precursor 1 (Figure 1).

The Type 1 Precursor Aluminium salt product from Campaign 6 was produced from an industrial chemical compound feedstock by the ARC Process. In Campaign 6 a new higher quality feedstock was used with an improvement in the final results (Figure 1). SCI assayed the Type 1 Precursor products using the ICP-MS and ICP-AES methods. As with previous campaigns, SCI completed 4 duplicate analyses on the Campaign 6 batch to improve confidence in the results (Figure 1) and the >99.999% purity is an average of the 4 repeat assays. Each Precursor purity result was calculated by the addition of all the assayed element impurities that reported above the detection limit then subtracting this result from 100%. Variability in the results is due to differences in the test sample and the analytical precision. The main contaminants in the Precursor are silicon (Si) and potassium (K).

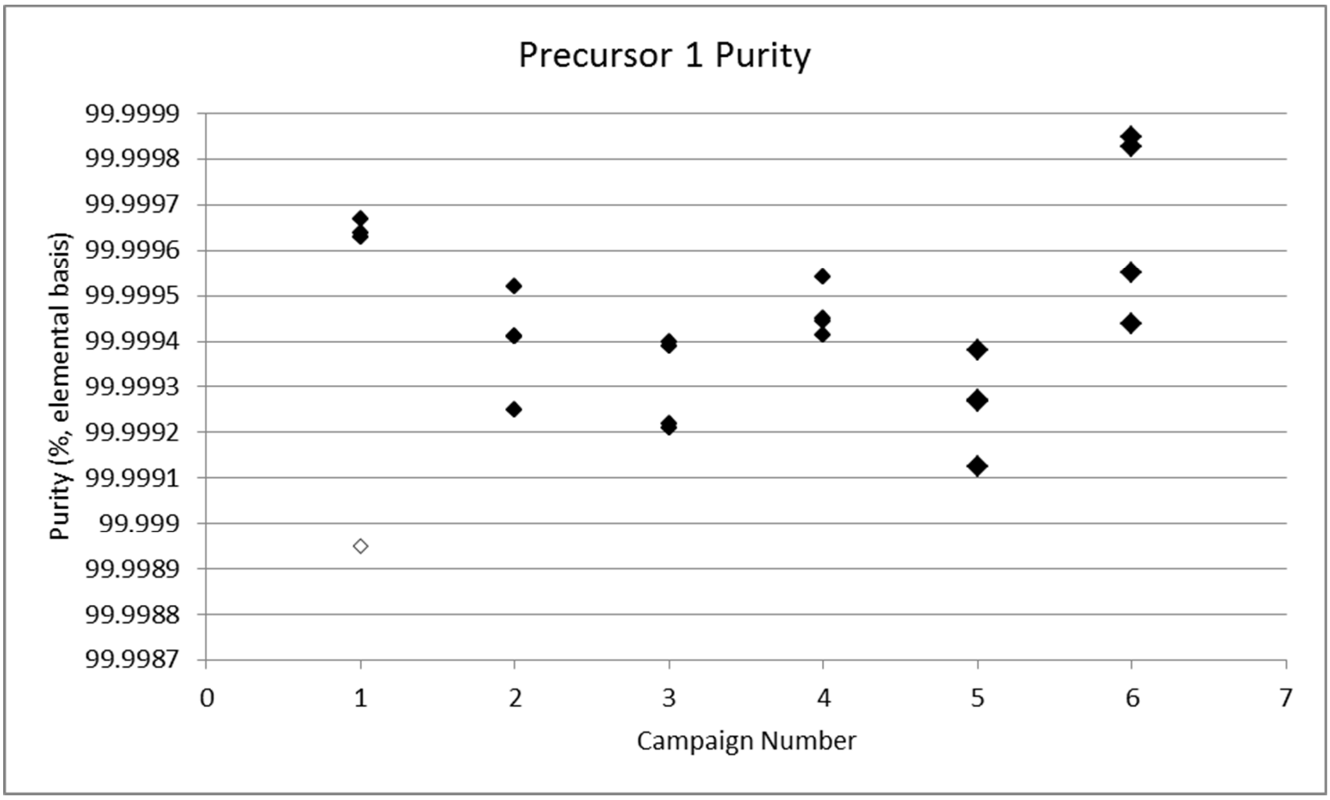

Figure 1: Repeat assays for Type 1 Precursor from Campaign 6

This announcement was authorised by the Chairman of the Company.

Anthony Barton
Chairman
King River Resources Limited
Email: info@kingriverresources.com.au
Phone: +61 8 92218055

Statement by Competent Person

The information in this report is based on information compiled by Mr Ken Rogers (BSc Hons) and fairly represents this information. Mr Rogers is the Chief Geologist and an employee of King River Resources Ltd, and a Member of both the Australian Institute of Geoscientists (AIG number 2359) and The Institute of Materials Minerals and Mining (IMMM number 43552), and a Chartered Engineer of the IMMM. Mr Rogers has sufficient experience in the activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Rogers consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

Appendix 1: King River Resources Limited HPA Project JORC 2012 Table 1

Section 1 : Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling Techniques	*Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	This ASX Release dated 19 April 2022 provides an update on KRR Precursor-HPA Project, including the production of 5N Precursor used to make precursor Cathode Active Materials (P-CAM) and high purity alumina (HPA) from an Aluminium chemical compound feedstock produced from other industrial chemical processes. Chemical precipitation and recrystallisation purification methods of KRR's ARC process have been used in the separation and precipitation of the high purity Aluminium Precursor compound reported in this announcement. The details of the process are a trade secret and commercial in confidence. The Type 1 Precursor Aluminium Salt product reported in this announcement represents the results of Campaign 5 of a series of planned test runs using KRR's laboratory scale pilot plant at the SCI laboratory. Campaign 1, 2, 3, 4, 5 and 6 Precursor Type 1 products reported in this announcement used 9.5kg, 9.5kg, 7.385kg, 8.995kg, 8.995kg and 8.995kg samples respectively of the industrial chemical feedstock. Analytical duplicate subsamples were taken from the Precursor sample for analysis.
Drilling techniques	*Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	Not Applicable. The samples were generated from a feedstock of an industrial chemical.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	Not Applicable.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Not Applicable.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Not Applicable.
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	Not Applicable.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Not Applicable.
	The total length and percentage of the relevant intersections logged.	Not Applicable.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	Not Applicable.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Not Applicable.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Not Applicable.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Not Applicable.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	Not Applicable.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate to the grain size of the material being sampled.

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	Source Certain International (SCI), previously TSW Analytical, Testwork Testwork on the Aluminium chemical feedstock includes chemical precipitation, solid liquid separations, and purification steps, that produce purified intermediate Precursor precipitates. Assays are conducted on solutions and solid precipitates. SCI is an established analytical service provider that has developed a reputation for providing accurate analyses of complex samples. The company's expertise has assisted with the development of hydrometallurgical flow-sheets for multi-element ore concentrates. The Aluminium Precursor products have been assayed using ICP-AES and ICP-MS. Samples are digested in nitric acid and then suitably diluted prior to analysis using ICP-AES and ICP-MS instrumentation. The primary and mother liquors have been analysed using ICP-AES and ICP-MS. The samples were diluted suitably for the appropriate ICP based analysis. Dilutions are used to bring the analyte concentration into the optimum analytical range of the ICP instrument used and to reduce matrix interference complications during quantification. Precipitation efficiency has been determined using the mass of the total analyte in the Precursor product divided by the mass of the total analyte in the initial liquor solution used. The resulting fraction is multiplied by 100 to give percent precipitation efficiency. SCI uses in-house standards and Certified Reference Materials (CRMs) to ensure data are "Fit-For-Purpose".
	For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	Not Applicable.
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Source Certain International (SCI) SCI reports concentrations as micrograms per gram (µg/g) in the solid (unless otherwise stated). Instrumental response is measured against AccuTrace High Purity multi-element standards (Choice Analytical) to achieve quantitation. Data are subjected to in-house QA and QC procedures where an independent analyst recalculates instrumental output and compares the newly generated data set with the original. Lack of equivalence between the two data sets triggers an internal review and if necessary re-analysis of the entire data set. Under these circumstances a third independent analyst will assess all generated data prior to sign off. Initial equivalence between the two data sets, generated by the analyst and reviewer, will clear data for remittance to the customer. In addition to these procedures, samples are regularly sent to selected analytical laboratories in Western Australia for confirmation of the analytical data obtained. Once completed, all reports are then reviewed by an independent analyst prior to submission to the customer and where necessary, relevant changes such as wording that may give rise to possible ambiguity in interpretation will be modified prior to the final report being sent to the customer. In order to validate analytical data, SCI circulates duplicate samples to selected analytical laboratories in Western Australia for confirmation of their results.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Assay results have been verified by alternative SCI laboratory company personnel. SCI has completed analytical duplicate analyses on all batches produced.
	The use of twinned holes.	Not applicable - no drilling. Multiple samples have been produced and assayed.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Not applicable
	Discuss any adjustment to assay data.	Not applicable.
Location of data	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	Not Applicable.

Criteria	JORC Code explanation	Commentary
points	*Specification of the grid system used.*	Not Applicable.
	Quality and adequacy of topographic control.	Not Applicable.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	Not Applicable.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	Not Applicable.
	Whether sample compositing has been applied.	Not Applicable.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	Not Applicable.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	Not Applicable.
Sample security	*The measures taken to ensure sample security.*	Chain of Custody is managed by the Company until feedstock samples pass to Source Certain International, for subsampling, assaying, and hydrometallurgical test work. The Aluminium feedstock sample was delivered to the metallurgical laboratory by the Company or a competent agent. The chain of custody passes upon delivery of the samples to the metallurgical laboratory. Products, Residues and Duplicates of all samples are retained at the Company's Perth laboratory to insure against any sample loss
Audits or Reviews	*The results of any audits or reviews of sampling techniques and data.*	No external audits have been completed.

SECTION 2 : REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	Not Applicable.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Not Applicable.
Geology	*Deposit type, geological setting and style of mineralisation.*	Not Applicable.
Drill hole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* ○ *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the*	Not Applicable.

Criteria	JORC Code explanation	Commentary
	Competent Person should clearly explain why this is the case.	
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.*	Not Applicable.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	Not Applicable.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Not Applicable.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	Not Applicable.
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	Not Applicable.
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	Reports on previous metallurgical and study results can be found in ASX Releases that are available on our website, including announcements 1 April 2010, 15 July 2010, 9 November 2010, 8 February 2012, 21 April 2017, 21 August 2017, 9 October 2017, 4 December 2017, 30 January 2018, 27 February 2018, 21 March 2018, 25 June 2018, 23 July 2018, 15 October 2018,19 November 2018, 18 January 2019, 1 March 2019, 21 March 2019, 22 March 2019, 9 May 2019, 7 June 2019, 27 September 2019, 26 November 2019, 6 December 2019, 22 January 2020, 24 March 2020, 23 April 2020, 13 May 2020, 17 June 2020, 7 September 2020 and 13 October 2020, 11 November 2020, 19 November 2020, 26 November 2020, 15 December 2020, 25 March 21, 30 April 2021, 21 May 2021, 16 June 2021, 22 July 2021, 27 July 2021, 8 September 2021, 4 October 2021, 2 December 2021, 10 December 2021, 4 January 2022, 24 January 2022, 16 March 2022 and 5 April 2022.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	Not Applicable.
Further work	*The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Further metallurgical tests and mini-pilot plant testwork runs are underway to refine the ARC process and produce Precursor and HPA products.