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SUCCESSFUL JOINT PILOT PLANT TRIAL DELIVERS OUTSTANDING RESULTS

Key points

- **Alcoa and FYI joint pilot plant trial samples achieve an average of 99.9986% Al₂O₃ purity, surpassing expectations**
- **Trial outcomes continue to demonstrate effectiveness of FYI's innovative HPA refining process**
- **A key condition to Alcoa Joint Venture MOU has been achieved**

FYI Resources Ltd (**ASX: FYI**) (FYI or the Company) is pleased to announce that analytical results indicate more than 99.998% Al₂O₃ purity was consistently achieved from the recently completed high purity alumina (HPA) pilot plant trial conducted in collaboration with Alcoa of Australia Limited (**Alcoa**). This result represents an outstanding outcome and is further validation of FYI's innovative HPA flowsheet design.

The analytical results suggest the trial achieved purity levels higher than anticipated, which is a result of progressive enhancements to the flowsheet and improvements to operational procedures from previous trials including the use of an alternative feedstock supplied by Alcoa. FYI considers the outcome to be of significant relevance in improving project economics for potential commercial production.

A summary of the pilot plant results is shown in the table below:

		Sample 1	Sample 1 Duplicate	Sample 2	Sample 3	Sample 3 Duplicate	Sample 4
HPA (Al ₂ O ₃) Grade	%	99.999%	99.998%	99.998%	99.998%	99.999%	*99.992%
Total Impurities	ppm	12.3	15.1	23.3	16.8	14.0	76.1

Results from the joint Alcoa/FYI HPA pilot plant trial.

* The reduced alumina grade of Sample 4 is a result of impurities including As, Cu, Fe, Zn indicating external contamination of the solution sample at the assay lab. Based on the potential for contamination and absence of such impurities throughout the circuit during pilot operation we are confident that this assay is invalid.

Commenting on the joint pilot plant HPA analysis results, FYI Managing Director, Roland Hill, said "We are delighted with the exceptional results from the joint pilot plant trial. The achievement continues to demonstrate the outstanding qualities of our flowsheet in delivering consistent and reliably high quality HPA product – a key requirement from a customer perspective.

FYI is encouraged by the outcomes of the pilot plant and will continue to progress with the development of our HPA strategy and advancing the MOU conditions with Alcoa."

Continuing quality control

Some HPA from the joint FYI and Alcoa pilot plant trial was retained for detailed internal analysis and product phase work. In maintaining the Company's on-going high standard of quality control and product assurance, the additional pilot plant trial HPA samples will be forwarded to EAG Laboratories in New York, USA for further independent, elevated Glow Discharge Mass Spectrometry (GDMS) analysis to provide supplementary data that is intrinsic to the level of purity that has been achieved by the collaborative trial production.

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Next steps

Following the final product finishing work of the trial HPA, samples will be sent to several potential off-take parties for further product qualification – particularly directed towards the LED lighting and lithium-ion battery (LiB) markets.

Alcoa MOU Background

FYI has developed an innovative processing flowsheet design that has demonstrated the capability for the production of high purity, high quality HPA. Previous production trials have resulted in outstanding quality HPA which is currently being assessed by potential off-take parties.

FYI and Alcoa announced a MOU on 8 September 2020 for the potential joint development of FYI's innovative, fully integrated, high quality HPA project.

Collaborative operation and demonstration of FYI's pilot plant is one of several conditions' precedent under the MOU.

For more information please contact:

Roland Hill

Managing Director

Tel: +61 414 666 178

roland.hill@fyiresources.com.au

Simon Hinsley

Investor & Media Relations

Tel: 0401 809 653

simon@nwrcommunications.com.au

About FYI Resources Limited

HPA is increasingly becoming the primary sought-after input material for certain high-tech products principally for its unique properties, characteristics and chemical properties that address that applications high specification requirements such as LED's and other sapphire glass products.

The longer-term driver for HPA, with forecasts of >17% CAGR*, is the outlook for the burgeoning electric vehicle and static energy storage markets where the primary function is in the use as a separator material between the anode and cathode in batteries to increase power, functionality and safety of the battery cells.

FYI's is positioning itself to be a significant producer of 4N and 5N HPA in the rapidly developing high-tech product markets.

The foundation of the HPA strategy is the superior quality aluminous clay (kaolin) deposit at Cadoux and positive response that the feedstock has to the Company's moderate temperature, atmospheric pressure HCl flowsheet. The strategy's quality attributes combine resulting in world class HPA project potential.

* CRU HPA Industry Report 2019

About Alcoa

Alcoa is a global industry leader in the production of bauxite, alumina and aluminium, a position enhanced by a portfolio of value-added cast and rolled products and select energy assets. Since developing the aluminium industry more than 130 years ago, Alcoa has built a legacy of breakthrough innovations and best practices that have led to efficiency, safety, sustainability and stronger communities wherever they operate.

Alcoa of Australia Limited is owned 60 per cent by Alcoa Corporation and 40 per cent by Alumina Limited.

The Australian operations represent one of the world's largest integrated bauxite mining, alumina refining and aluminium smelting operations globally.

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General and forward-looking statements

The contents of this announcement reflect various technical and economic conditions, assumptions and contingencies which are based on interpretations of current market conditions at the time of writing. Given the nature of the resources industry, these conditions can change significantly and without notice over relatively short periods of time. Consequently, actual results may vary from those detailed in this announcement.

Some statements in this announcement regarding estimates or future events are forward-looking statements. They include indications of, and guidance on, future earnings, cash flow, costs and financial performance. Such forward-looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. When used in this announcement, words such as, but are not limited to, "could", "planned", "estimated", "expect", "intend", "may", "potential", "should", "projected", "scheduled", "anticipates", "believes", "predict", "foresee", "proposed", "aim", "target", "opportunity", "nominal", "conceptual" and similar expressions are forward-looking statements.

Although the Company believes that the expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties, and no assurance can be given that actual results will be consistent with these forward-looking statements.

The contents of this release are also subject to significant risks and uncertainties that include but are not limited to those inherent in mine development and production, geological, mining, metallurgical and processing technical problems, the inability to obtain and maintain mine licences, permits and other regulatory approvals required in connection with mining and processing operations, competition for among other things, capital, acquisitions of reserves, undeveloped lands and skilled personnel, incorrect assessments of the value of projects and acquisitions, changes in commodity prices and exchange rates, currency and interest rate fluctuations and other adverse economic conditions, the potential inability to market and sell products, various events which could disrupt operations and/or the transportation of mineral products, including labour stoppages and severe weather conditions, the demand for and availability of transportation services, environmental, native title, heritage, taxation and other legal problems, the potential inability to secure adequate financing and management's potential inability to anticipate and manage the foregoing factors and risks.

All persons should consider seeking appropriate professional legal, financial and taxation advice in reviewing this announcement and all other information with respect to the Company and evaluating the business, financial performance and operations of the Company. Neither the provision of this announcement nor any information contained in this announcement or subsequently communicated to any person in connection with this announcement is, or should be taken as, constituting the giving of investment or financial advice to any person. This announcement does not take into account the individual investment objective, financial or tax situation or particular needs of any person.

Competent Persons Statements

Metallurgy

The information in this report that relates to metallurgy and metallurgical test work is based on information reviewed and compiled by Mr Daryl Evans, a Competent Person who is a Fellow of the Australian Institute of Mining and Metallurgy (AusIMM).

Mr Evans is an employee of Independent Metallurgical Operations Pty Ltd, and is a contractor to FYI. Mr Evans has sufficient experience that is relevant to this style of processing and type of deposit under consideration, and to the activity that he has undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves". Announcements in respect to previous metallurgical results are available to view on the Company's website at www.fyiresources.com.au.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	<p>Drilling sampling was previously reported (ASX: 9.7.2018).</p> <p>Metallurgical test work applied to the recovered drilling samples is intended to determine aluminium leach and precipitation characteristics of the kaolin. Sample preparation and metallurgical test work was performed by Independent Metallurgical Operations Pty Ltd (IMO) in Perth, Western Australia.</p>
Drilling techniques	Previously reported (ASX: 9.7.2018).
Drill sample recovery	Previously reported (ASX: 9.7.2018).
Logging	Previously reported (ASX: 9.7.2018).
Sub-sampling techniques and sample preparation	<p>Drilling sampling was previously reported (ASX: 13.3.2019).</p> <p>The sampling techniques for the metallurgical test work was in line with industry standards in determining composite samples representative of the resource. This included drying and splitting of individual samples and then compositing into representative samples.</p> <p>The sampling procedures were under the control of qualified and experienced IMO employees and considered adequate for the intended metallurgical test work.</p> <p>Conversion of the final solid aluminium chloride to alumina involved a two-stage calcination process with the final product achieving an average of 99.99% Al₂O₃ purity.</p> <p>Sizes and representative nature of the samples is considered appropriate.</p> <p>All procedural work and preparation were conducted under strict controls and supervision. All testwork was conducted under test conditions by qualified and experienced technicians and overseen by qualified managers including Mr Alex Borger and Mr Daryl Evans (Independent Metallurgical Operations Competent Person).</p>
Quality of assay data and laboratory tests	<p>Analysis for the leach test work was deemed appropriate for the detailed test work as it was undertaken in laboratory environment with precision equipment and included worldwide accepted controls.</p> <p>Metallurgical reviews and testwork has been overseen and approved by Mr Alex Borger – Metallurgical Project Manager and Metallurgical Competent Person – Mr Daryl Evans.</p>
Verification of sampling and assaying	<p>The metallurgical test work was supervised by suitably qualified personnel under laboratory conditions.</p> <p>Primary data is captured on paper in the laboratory and then re-entered into spreadsheet format by the supervising metallurgist, to then be loaded into the company's database.</p> <p>No adjustments are made to any assay data.</p>
Location of data points	All samples used in the metallurgical test work have been accurately recorded by the laboratory technician and checked by the supervising metallurgist.

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Criteria	Commentary
Data spacing and distribution	Industry standard sample distribution and source material representation methodology has been applied.
Orientation of data in relation to geological structure	Industry standard sample distribution and source material representation methodology has been applied. The risk of sample bias is considered to be low.
Sample security	All samples were under supervision at the laboratory. All residual sample material is stored securely in sealed bags.
Audits or reviews	Mr Evans has reviewed QAQC results and found these to be acceptable.

Section 2 Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	Previously reported (ASX: 9.7.2018).
Exploration done by other parties	Previously reported (ASX: 9.7.2018).
Geology	The project area is underlain by weathered granitoid Archaean rock of the Yilgarn Granites is the likely parent material for the kaolin. Here, deep weathering of the feldspathic and ferromagnesian minerals within the metamorphosed granitic has resulted in the formation of kaolinite. There is no outcrop but recognizable granitoid fragmental rocks are sometimes present just below surface. The crust of the overburden comprises gravel and sands over reddish to off white clay. White kaolin underlies the overburden followed by weathered, partial oxidised and then fresh granitoids at depth. The recent drilling at the property has revealed a weathering profile which is very common in Western Australia with the granitoid rocks, deeply weathered forming a leached, kaolinized zone under a lateritic crust. Analysis at the Laboratory shows particle size distributions are typical of "primary style" kaolins produced from weathered granites. The crust of overburden comprises gravel and sands over reddish to off-white clay to an average depth of 5m. White kaolin then averages approximately 16 m before orange to yellow sandy and mottled clays are intersected which are followed by recognizable rounded granitoid material. The thickness of the kaolin profile varies from less than 1m to a maximum of 28m. Fresh granitoids are found at depths of between 10 and 30m. All kaolin resources are within 4 to 11 metres of the surface. All holes are drilled vertically. Intersected kaolin thickness ranges from 4-28m.
Drill hole Information	Sample and drill hole coordinates are provided in market announcements.
Data aggregation methods	The nature of the metallurgical testwork did not require data aggregation, however all data points were noted and recorded in the appropriate data base to be used in continued test work and product development.
Relationship between mineralisation widths and intercept lengths	Previously reported (ASX: 9.7.2018).
Diagrams	Project related diagrams are presented in various previous ASX announcements released to the market at the relevant time.
Balanced reporting	The reporting is considered to be balanced.

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Criteria	Commentary
Other substantive exploration data	<p>As per notice to the market (see FYI ASX announcement 14th February 2019) and Definitive Feasibility Study (DFS) (see announcement 11 March 2020), IMO completed a pilot plant trial for the refining of HPA following the flowsheet design that has been proposed and innovated by FYI to produce and refine aluminium leaching and precipitation characteristics of the kaolin to produce > 99.99% HPA.</p> <p>The pilot plant trial involved the 4 day commissioning of the plant and equipment immediately followed by a 7 day continuous "end to end" hydrometallurgical production trial utilising feedstock in conjunction with Alcoa.</p> <p>The pilot trial run followed the exact flowsheet procedure (as has been previously reported) so as to replicate the final designed flowsheet.</p> <p>Solution sampling was undertaken at set times throughout the 24 hour a day, 7 day week schedule.</p> <p>Detailed HPA product variability testwork carried out in the bespoke pilot plant during the Alcoa collaboration trial including four samples were assayed, providing final alumina grades ranging from 99.992% to 99.999%.</p> <p>Alumina grades were determined based on intermediate pilot products. Solid samples were leached in DI Water and submitted for low detection limit ICP analysis. This supported the calculation of the total mass of impurities and alumina within the sample rendering an alumina grade for each product.</p>
Further work	<p>FYI is likely to continue metallurgical test work to further refine and improve the HPA process design with any work undertaken to be announced to the market as required.</p>