11 December 2019

FYI HPA PILOT PLANT OPTIMISATION EXCEEDS TARGET GRADE

Key points

- *Optimised pilot plant material handling phase achieves **99.997%** HPA*
- *HPA pilot plant efficiency and effectiveness of design and engineering is demonstrated by achievement of **enhanced** grades*
- *The optimised pilot plant results exceed FYI's original expectations in terms of **improved** operational kinetics*
- *Refinements have positive implications for production of **5N HPA***
- *The key function of the pilot plant is to validate and to improve HPA flowsheet for technical and economic purposes*

FYI Resources Ltd (**ASX: FYI**) is pleased to announce the results of the optimised component of the Company's recently completed high purity alumina (**HPA**) pilot plant trial (see ASX announcement 9th October 2019). The analyses received were well above FYI's target grade (99.99% Al_2O_3), averaging 99.995% Al_2O_3. Importantly, the achievement demonstrated operational improvements in the plant that will be applied to the process flowsheet and ultimately the commercial refining facility.

Commenting on the optimised pilot plant HPA results, FYI Managing Director, Roland Hill, said "We were very encouraged with the initial pilot plant operational performance and in the plant achieving above target grade of 99.99%. However, we are especially pleased to now receive the excellent results from the optimised phase as it demonstrates that through the efforts of the piloting, improvements and refinements to the flowsheet have been achieved. This will have a positive impact on the final design of the plant and commercial production of HPA".

Optimised pilot plant phase

FYI's pilot plant trial production was designed to test functional operation of the Company's innovative HPA flowsheet design. The plants purpose was not necessarily intended to achieve target grade of 99.99% Al_2O_3 – but more to observe and analyse the continuous "end to end" process operation and effectiveness of the materials handling for scale up factors for inclusion into the proposed full-scale commercial plant.

Using feedstock from Cadoux, FYI completed two pilot plant trial product phases: one phase comprised a standard process trial, the second phase included a refined and optimised trial run which incorporated various modifications to the plant which resulted in obvious improvements in process efficiency and achievement in grade.

108 Forrest St, COTTESLOE, WA 6011
ACN 061 289 218
www.fyiresources.com.au

Tel: +61 8 6313 3920
Email: info@fyiresources.com.au

11 December 2019

GDMS analysis results

Samples of the HPA product from the optimised phase of pilot plant were submitted for high level Glow Discharge Mass Spectrometry (**GDMS**) analysis to EAG Laboratories in New York, USA.

EAG Laboratories confirmed the optimised phase samples ranged from 99.993% to 99.997% Al_2O_3 achieving an average grade of 99.995% Al_2O_3.

EAG GDMS results

GDMS HPA Analysis	
Sample #	Al_2O_3 %
1	99.995
2	99.997
3	99.994
4	99.993
Average	**99.995**

Pilot plant results implications

The pilot plant has played a critical role in the validation of the Company's innovative HPA flowsheet. The facility has also played an equally important role in allowing FYI and the study management team to observe actual "end to end" production of the flowsheet that accurately reflects the design of the full-sized commercial refinery.

During the combined phases of the pilot plant trial, FYI noted many aspects of the production materials handling where refinements and improvements could be incorporated to the flowsheet design which were not highlighted in the design model or experienced in the previous locked cycle and variability tests (see ASX release 13 March 2019).

These combined design and operational improvements may have a positive impact to the overall quality of HPA that will be produced but also in FYI's ability to achieve a more reliable and consistent high grade.

The target production of a 5N product, if requested by customers, will also be more reliable and consistent as a result of the incorporated improvements.

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

11 December 2019

About FYI Resources Limited

FYI's is positioning itself to be a significant producer of high purity alumina (HPA) in the rapidly developing light emitting diode (LED) and phosphor applications and the electric vehicle and static power storage markets as well as other associated high-tech product markets.

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

FYI is progressing positively with its definitive Feasibility Studies (DFS) supporting a planned production of 4N and 5N HPA following the successful pilot plant trial achieving the targeted production grade of 99.99% Al_2O_3.

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 .

fyi Resources Limited

11 December 2019

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	Drilling sampling was previously reported *(ASX: 9.7.2018)*. 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.
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	Drilling sampling was previously reported *(ASX: 13.3.2019)*. 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. The sampling procedures were under the control of qualified and experienced IMO employees and considered adequate for the intended metallurgical test work. Master composite samples were prepared representing the average Cadoux life of mine resource. The composites underwent a stage of attritioning with the products screened to generate fine and coarse size fractions. The fine attritioned product underwent one stage of calcination to convert kaolin clay to metakaolin. The calcined product was leached with hydrochloric acid at temperature. The leach liquor underwent a series of precipitation stages, involving hydrogen chloride gas being sparged through the leach liquor allowing the precipitation of solid aluminium chloride. 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% Al_2O_3 purity. Sizes and representative nature of the samples is considered appropriate. All procedural work and preparation was 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).
Quality of assay data and laboratory tests	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.

Resources Limited

11 December 2019

Criteria	Commentary
	Metallurgical reviews and testwork has been overseen and approved by Mr Alex Borger – Metallurgical Project Manager and Metallurgical Competent Person – Mr Daryl Evans.
Verification of sampling and assaying	The metallurgical test work was supervised by suitably qualified personnel under laboratory conditions. 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. No adjustments are made to any assay data.
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.
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 granitoidal 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 ganitoids 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.

Resources Limited

11 December 2019

Criteria	Commentary
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 where 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.
Other substantive exploration data	As per notice to the market (see FYI ASX announcement 14th February 2019) and Definitive Feasibility Study (DFS), 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. The pilot plant trial involved the 7 day commissioning and training of the plant and equipment immediately followed by a 7 day continuous "end to end" production trial utilising feedstock of composited kaolin samples of the latest drilling program (see FYI ASX announcement dated 9th June 2018) The pilot trial run followed the exact flowsheet procedure (as has been previously reported) so as to replicate the final designed flowsheet. General analysis sampling was taken at set times throughout the 24 hour a day (2 shifts), on a 7 day a week schedule. Samples sent for GDMS analysis were selected on the basis of one sample per day following steady state of operations being achieved (ie day 2) at a set time each day. This provided a tracking of the grade on a non-random The HPA assays were conducted by GDMS analysis at EAG Laboratories in New York, USA. The results of the first phase of analysis is reported in this ASX release.
Further work	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.