

13th March 2019

FYI ACHIEVES OUTSTANDING GRADE RECOVERY OF 99.999% (5N) PURITY ALUMINA

- FYI has successfully produced 99.999% alumina (5N) during the Locked Cycle test work it is currently undertaking
- The 5N product was produced via FYI's standard process flowsheet and within standard operating conditions
- Achieving the 5N product demonstrates the quality of the process design and suggests that there is potential for positive improvements to the project capex, opex and overall economic case previously set out in the pre- feasibility study (PFS) released to the ASX on the 25th September 2018.
- The 5N market is moderate in size compared to the 4N market, however it is forecast to grow at a rapid rate (~ 22% CAGR)*
- To date no other ASX listed kaolin HPA company has demonstrated the ability to produce ultra-high purity 5N product

High Purity Alumina (HPA) developer, FYI Resources Limited (ASX: FYI) (the "**Company**" or "**FYI**") is pleased to announce the production of 99.999% purity Al₂O₃ during continued product development and benchmark variability test work for the Company's flagship HPA Project bankable feasibility study (BFS). The purity of 99.999% alumina was independently analysed and verified by Ultra Trace Pty Ltd in Perth.

As a component of the BFS test work and Locked Cycle testing (please see FYI ASX announcement 6th March 2019), the Company has achieved the outstanding product grade of 99.999% alumina.

The test work is designed to provide data and information from the process flowsheet results of the laboratory-based test work as a "replication" of the full scale (production sized) process design.



**FYI Resources 99.999% (5N)
high purity alumina**

FYI's Managing Director, Mr Roland Hill, commenting on the results said: "Achieving 99.999% or 5N HPA is an extremely encouraging result. Not only is it an incredible outcome to attain this level of purity, it also has a potentially profound impact on the overall project economics.

"Whilst focusing on the 4N as the predominant HPA market segment, FYI sought to produce 5N HPA to demonstrate the flowsheet effectiveness, as well as to develop an additional product line that could supply a market that displays forecasted long-term growth at a significant premium to the 4N market.

"Demonstrating the strong premium to the 4N market, Allied Market Research estimates 4N HPA product to sell in a range from US\$30,000 - \$35,000/t in 2018/19 versus over US\$50,000/t for 5N. We believe the ability to generate such a ultra-high purity product continues to demonstrate the Cadoux Kaolin Project is world-class potential and we look forward to progressing discussions with possible end use customers."

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13th March 2019

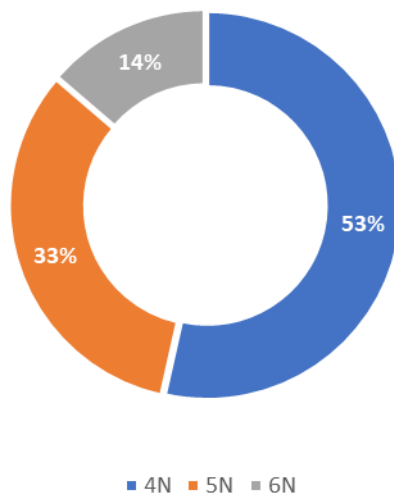
5N HPA Market Expected to Grow

4N HPA is a high-value product that has many broad traditional applications and is increasingly becoming a critical component in the electric vehicle, battery and power storage markets.

5N is a sub-set of the HPA sector with smaller market applications that are generally tailor-made to the special requirements of each customer. However 5N attracts a significant premium in pricing over 4N due to its use in very complex applications. The greater portion of use for 5N being in the medical, aerospace and defence, and automotive sensors sectors.

5N HPA finds application in LEDs that are used in traffic lights, outdoor displays, and high-performance back light units. The growing demand for these products is one of the key driving factors for the 5N market. Leading players in this market are focusing on developing environmentally friendly 5N HPA using less energy. Such product innovations and technological advancements may provide an opportunity for FYI Resources in the world HPA market.

Global market share by HPA purity
Allied Market Research – HPA Report 2016



Global 5N HPA Forecast Demand

Allied Market Research – HPA Report 2016

Year	2015	2016	2017	2018	2019	2020	2021	2022	CAGR% (2016–2022)
5N	7,424	9,003	10,935	13,306	16,213	19,787	24,184	29,594	21.9

Allied Market Research (HPA Market Report 2016) has stated the Asia-Pacific 5N HPA market generated revenue of \$430 million in 2015 and is estimated to generate a revenue of \$1,554 million by 2022, registering a CAGR in sales of ~ 21.9% during the forecast period.

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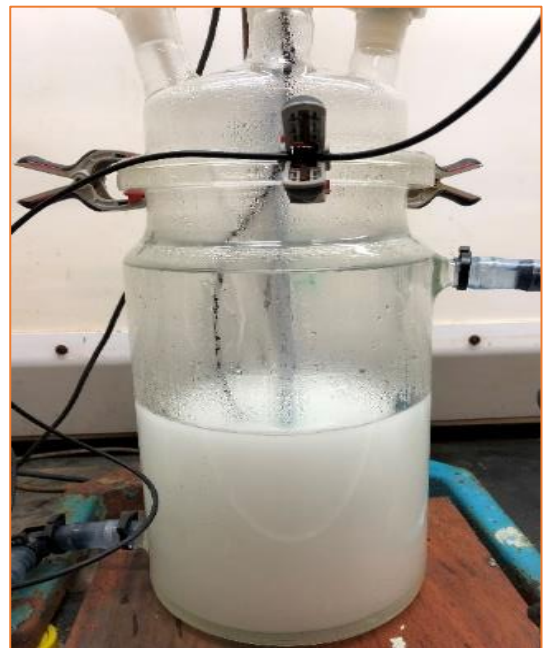
5N HPA Testwork: Further Detail

The 99.999% Al₂O₃ sample was generated by combining phase 1 precipitate solids from previous testing to determine the aluminium chloride hexahydrate crystal size.

The solids underwent another stage of precipitation testing with intermediate distilled water leaches to resolubilise the aluminium chloride hexahydrate. To target an increased grade, each precipitation stage targeted lower stage recoveries of ~90%, lower when compared to the +95% previously utilised for all other precipitation testing for 4N (99.99%) product material.

The assay for 99.999% HPA was conducted by Ultra Trace in Perth utilising the following method:

- Lithium Borate Fusion at a 12:22 flux ratio;
- XRF Analysis – Low Level detection;
- Multi stage LOI by Thermal Gravimetric Analysis (300, 475 and 1,000°C);
- Laser Ablation – Inductively Coupled Plasma – Mass Spectrometry.



Images of FYI Resources 99.999% (5N) high purity alumina at final stage of precipitation at laboratory

13th March 2019

FYI Resources Independent 99.999% (5N) HPA Assay Results

Analyte	Units	Sample Analysis (ppm)
Al ₂ O ₃		99.999
Si		4.67
Fe		0.00
Na		0.00
Ag		0.10
Ba		0.50
Ce		0.34
Co		0.10
Cr		5.00
Cs		0.03
Dy		-
Er		-
Gd		0.01
La		0.20
Mn	ppm	1.00
Nd		0.15
Ni		-
Pr		0.04
Rb		0.10
Sc		0.10
Sm		0.02
Sn		0.80
Sr		0.20
Ta		-
Th		-
Ti		-
U		0.01
V		0.30
W		0.10

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FYI's is positioning itself to be a significant producer of high purity alumina (4N or HPA) in a rapidly developing LED, electric vehicle, smartphone and television screen as well as other associated 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.

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13th March 2019

Competent Persons Statements

Ore Reserves

The information in this report that relates to Ore Reserves is based on information compiled by Mr. Steve Craig, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Steve Craig is a full-time employee of Orelogy Consulting Pty Ltd and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". The information is extracted from the Ore Reserve announcement released 29 October 2018 and is available to view on the Company's website at www.fyiresources.com.au.

Mineral Resources

The information in this report that relates to Mineral Resources is based on information compiled by Mr Grant Louw, under the direction and supervision of Dr Andrew Scogings, who are both full-time employees of CSA Global. Dr Scogings is a Member of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. He is a Registered Professional Geologist in Industrial Minerals. Dr Scogings has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the "Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves". The information is extracted from the PFS announcement dated 25 September 2018 and is available to view on the Company's website at www.fyiresources.com.au.

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 metallurgical results are available to view on the Company's website at www.fyiresources.com.au.

13th March 2019

Appendix A March 2019

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: 9.7.2018).</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>Master composite samples were prepared representing the Cadoux resource with alumina feed grades ranging from 21.5% to 21.2%.</p> <p>The composites underwent a stage of attritioning with the products screened to generate fine and coarse size fractions.</p> <p>The fine attritioned product underwent one stage of calcination to convert kaolin clay to metakaolin.</p> <p>The calcined product was leached with hydrochloric acid at temperature.</p> <p>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.</p>

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13th March 2019

Criteria	Commentary
	<p>Conversion of the final solid aluminium chloride to alumina involved a two stage calcination process with the final product achieving 99.997% Al₂O₃ purity.</p> <p>Sizes and representative nature of the samples is considered appropriate.</p> <p>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).</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.
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.

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13th March 2019

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 22m. Fresh granitoids are found at depths of between 10 and 30m. All kaolin resources are within 4 to 11 metres of the surface. 75 Reverse circulation drillholes were completed with a total of 1,613m drilled. All holes were drilled vertically. Intersected kaolin thickness ranged 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 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.

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13th March 2019

Criteria	Commentary
Other substantive exploration data	<p>Metallurgical test-work is being conducted on composite kaolin samples by IMO. IMO are following a standard diagnostic flowsheet template to determine aluminium leaching and precipitation characteristics of the kaolin.</p> <p>The test work involves the following procedure of composited kaolin samples of the recent drilling program (see FYI ASX announcement dated 9th June 2018)</p> <p>The sample was calcined at for one hour to convert the Kaolin to an acid soluble species. The sample was then leached in 26% (w/w) Hydrochloric acid at 20% solids and 100°C for 180 minutes with samples being collected to provide kinetic leach recoveries.</p> <p>As a component of the Locked Cycle test work (see FYI ASX announcement 6th March 2019), IMO targeted high grade Al₂O₃ production.</p> <p>Leach testing was conducted in a glass leach vessel containing concentrated feed sample scalped at 106 µm and concentrated industrial grade hydrochloric acid.</p> <p>The 99.999% Al₂O₃ sample was generated by combining phase 1 precipitate solids from previous testing to determine the aluminium chloride hexahydrate crystal size which had been in storage for ~1 month.</p> <p>The solids underwent additional stages of precipitation testing with intermediate Distilled Water leaches to resolubilise the aluminium chloride hexahydrate. To target an increased grade, each precipitation stage targeted lower stage recoveries of ~90%, lower when compared to the +95% previously utilised for all other precipitation testing.</p> <p>The assay for 99.999% HPA was conducted by Ultra-trace in Perth utilising the following method:</p> <ol style="list-style-type: none"> a. Lithium Borate Fusion at a 12:22 flux ratio; b. XRF Analysis – Low Level detection; c. Multi stage LOI by Thermal Gravimetric Analysis (300, 475 and 1,000°C); d. Laser Ablation – Inductively Coupled Plasma – Mass Spectrometry.
Further work	Continued metallurgical variability test work through the recently announced Pilot Plant studies (see FYI ASX announcement 14 th February 2019) and Bankable Feasibility Study (BFS) is ongoing and will be announced to the market shortly.

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