



# Quarterly Report for the period ended 30 June 2019

# **Highlights**

- Pilot plant construction is nearing completion and preliminary precommissioning phases of the key equipment list is nearing completion
- High-grade, high-quality HPA feedstock results received from combined diamond and reverse circulation drilling program
- Completed placement to raise \$811,000 which was supported by Regal Funds Management and existing investors
- FYI continues positive progress with locked cycle and broader definitive feasibility studies (DFS)
- Mining Lease approved for the Cadoux Project

High Purity Alumina (HPA) developer, FYI Resources Limited (ASX: FYI) (the "Company" or "FYI"), is pleased to release its June 2019 quarterly activity report and Appendix 5B.

FYI's Cadoux Kaolin Project (EL70/4673) is located ~220km northeast of Perth. The Company's integrated HPA strategy is to mine and beneficiate kaolin at the Cadoux project site and transport the upgraded aluminous clay to Kwinana, ~30km south of Perth CBD, for refining into HPA ahead of export to expanding global markets.

Commenting on the quarter, FYI Resources Managing Director Roland Hill said:

"Progress on the Company's HPA strategy over the June quarter has been very pleasing. Whilst a number of broader key activities have been completed that bring us closer to our goal of completing the DFS, our main focus has been on the Locked Cycle and Pilot Plant studies. These study phases are generally notoriously slow and meticulous; however, the level of detail being achieved, combined with the results we are observing, is above our expectations. This is particularly pleasing in light of how critical the test outcomes are in understanding the efficiency of the designed flowsheet and the materials handling aspects of the process and how the results feed into the economics of the project. We are encouraged that we are experiencing, and subsequently overcoming, challenges unique to HPA processing at this stage of development rather than later at the production stage".

# **HPA** pilot plant development

During the quarter, FYI continued to progress development of its pilot plant program and Locked Cycle testwork. Pre-commissioning of individual plant and equipment to verify suitability and functional operability of the separate flowsheet items is currently being undertaken ahead of full commissioning and continuous pilot production of high purity alumina (HPA).

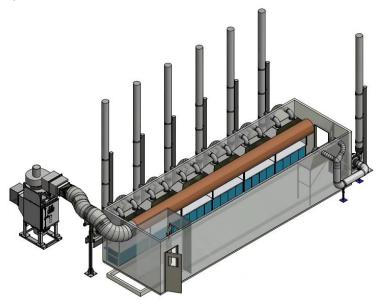
The pilot plant has been designed and engineered to test the HPA production flowsheet developed by FYI; to assess the supporting process engineering technology; and to optimise and de-risk the flowsheet ahead of full-scale production.





The testwork results will be invaluable to understanding the process and operating parameters that are important to advancing the development of the Cadoux Kaolin Project. Once completed, the pilot plant should produce sufficient quantities of HPA for product application testing by potential end users and customers that will assist negotiating off-take agreements and to help support project financing. Additionally, FYI will become the first ASX-listed HPA company to have built and produced product from its own pilot plant.

As announced on July 2, 2019, the pilot plant construction is nearing finalisation and preliminary pre-commissioning phases of the key equipment list has begun. A few minor delays have been experienced due to small manufacturing defects in the specialised equipment supplied by independent contractors. The metallurgical manager, Independent Metallurgical Operations (IMO), have adjusted the work plan and plant operation schedule to minimise any time delay. It is critical in the development of the process flowsheet and supporting engineering design that the material processing characteristics are fully understood prior to constructing a commercial sized plant.



Schematic Isometric view of FYI's HPA pilot plant currently being commissioned in Welshpool





Images of FYI's pilot plant during construction at Welshpool





# High quality results received from drilling completed to advance Definitive Feasibility Study (DFS) and outline first phase of mining grade control

During the quarter, FYI completed a combined RC and diamond drilling program at the Cadoux Kaolin Project in Western Australia (refer announcement 16 May 2019).

The drilling program consisted of 22 vertical (-90 degree) RC drill holes totalling 614 metres (4 holes for hydrological purposes) and 4 angled (-70 degree) PQ triple tube diamond drill holes totalling 75 metres.

The program was designed to meet several key technical project objectives and contribute to delivery of a robust bankable feasibility study for FYI's integrated HPA strategy, including:

- Increased understanding of the project's metallurgical model in terms of grade and variation of the deposit as a feedstock;
- Additional kaolin feedstock for continued metallurgical test work and pilot plant process studies;
- Critical ore characterisation for the mining and waste disposal studies;
- Hydrological study data for processes water and environmental permitting;
- Increased technical understanding and confidence in the deposit for the upgrade from a Measured to a Proven Reserve for the first phase of mining; and
- grade control data for the first phase of mining and increase the predictability of the future production schedule.

A summary of the results is provided in the table below:

| Item   | Result |
|--|--------|
| Number of samples submitted (composites)         | 441    |
| Number of samples =/> 18% Al2O3                  | 93%    |
| Highest value (Al2O3) - Hole GLRC003             | 34.7%  |
| Average (Al2O3) (of all samples)                 | 23.9%  |
| Average metres of kaolin per drill intercept (m) | 17     |



Diamond drill core at Cadoux Project



RC Drilling at Cadoux Project





# **HPA Outlook Update (4N-5N)**

FYI continues to develop its HPA market strategy through engagement with end customers, traders and independent commodity research groups. Through the Company's direct findings, it has noted that the HPA market has appreciably evolved since publication of its last major review of the market coinciding with the finalising of our Cadoux Prefeasibility Study in October 2018.

FYI notes two major factors in the HPA market since then:

- evidence suggests that the underlying growth in the aggregated HPA segments (defined by product) has most likely been dramatically appreciated from last year's internal assessment. The proliferation of HPA related products, predominantly light emitting diodes (LEDs) and lithium-ion batteries (LIBs), that FYI has witnessed suggested that demand for both 4N and 5N is increasing strongly; and
- 2. There is a definite and continued migration up the quality and consistency demand curve in HPA from the LED, LIB and other specialist markets. Customers are actively seeking higher quality HPA which is causing a quality and purity rift in the HPA market between qualified quality product and inferior product being passed off (traded) as superior specification at a premium price.

Customers are getting frustrated by repeated rejection of product and/or failure of applications due to the involvement of inferior grade and quality HPA. This is causing reputational damage and additional costs along the supply chain leading to exclusion of lower order quality product.

FYI's recent findings are a significant improvement upon the independent HPA market report published in 2018 by CRU Group (CRU), one the world's leading commodity research groups – whom have a strong focus on HPA, that FYI used as analysed and modelled market data for the Company's PFS.

FYI believes that the HPA demand volumes, at all grades, may be significantly higher than the previously used forecast volume of ~120,000 tonnes by 2025 as stated by CRU in October 2018, based on assumptions drawn from direct discussions with numerous market participants outlining their expansion plans into the growing LED and LIB markets.

FYI is developing its flowsheet design and associated business model around the appropriate product mix to meet the forecast growth in demand, to optimise our positioning with in the industry and to maximise the financial benefit to the Company.





# **Cadoux Mining Lease granted**

The Mining Lease (M70/1388) covering the Cadoux ore reserve (refer announcement 29 October 2018) for the Cadoux kaolin project has been granted.

The approval provides a major formal step in the Company's development of the HPA project and allows FYI to progress the Cadoux site-based activities and future phases of project development as we advance towards proposed commercial production.

FYI will now progress to the next stage of development by focusing on the Mining Proposal in preparation for the planned production activities.

# Completion of \$811,000 placement

During the quarter, the Company raised approximately \$811,000 (before costs) through the issue of approximately 16.22 million shares at 5 cents per share with 1 attaching unlisted option for every 2 shares issued. The placement was supported by Regal Funds Management for their full pro rata of 12.9%.

The funds raised from the Placement are being used to continue development of FYI's HPA strategy, including operation of the pilot plant to produce product for customer qualification (test work), on-going project development at Cadoux and completion of the DFS and general working capital.

# Corporate

#### Cash

As at 30 June 2019, FYI held \$0.94 million cash at bank.

The second tranche payment of \$250,000 advanced against FYI's expected 2019 R&D tax rebate was received on 2 July 2019, following the initial payment of \$300,000 previously announced on 27 March 2019.

For more information please contact:

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# **About FYI Resources Limited**

FYI 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 FYI's HPA strategy is the superior quality aluminous clay (kaolin) deposit at Cadoux and the positive metallurgical response that the feedstock has to the Company's moderate temperature, atmospheric pressure and straightforward HCI flowsheet. The strategy's superior quality attributes combine to give a potential world class HPA project.

In September 2018, FYI announced results of its Preliminary Feasibility Study ("PFS") for its Cadoux kaolin project in Western Australia. The PFS confirmed the Company's intention to become a predominant vertically-integrated, long life producer of high quality, sought after HPA.

#### <u>Interest in Mineral Tenements at 30 June 2019</u>

| Tenement     | Location          | Interest at the beginning of the quarter | Interest at the end of the quarter |
|--------------|-------------------|--|------------------------------------|
| E70/4673     | Western Australia | 100%                                     | 100%                               |
| E70/5145     | Western Australia | 100% (under application)                 | 100%                               |
| M70/1388     | Western Australia | 100% (under application)                 | 100%                               |
| WMM SPLs (6) | Thailand          | 100% (under application)                 | 100% (under application)           |

#### **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 <a href="https://www.fyiresources.com.au">www.fyiresources.com.au</a>





#### **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 <a href="https://www.fyiresources.com.au">www.fyiresources.com.au</a>.

#### 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 <a href="https://www.fyiresources.com.au">www.fyiresources.com.au</a>.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the findings in the relevant market announcements continue to apply and have not materially changed and that all material assumptions and technical parameters underpinning the estimate in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original announcement.