

### **RIU Investor Presentation**

Developing highly strategic High Purity Alumina (HPA) Cadoux Kaolin Project in Western Australia

# Investor Notice

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# Investor Notice

# COMPETENT PERSON'S STATEMENT – CADOUX KAOLIN DEPOSIT

The information in this release that relates to the Cadoux Mineral Resource is based upon information from the Company's announcement dated 8 May and 26 July 2017 and is available to view on the Company's website at <a href="https://www.fyiresources.com.au">www.fyiresources.com.au</a>. The information that relates to Mineral Resources is based on information compiled by Mr Andrew Kohler, a Competent Person who is a Member of the Australian Institute of Mining and Metallurgy. Mr Kohler is an employee of Strategic Resource Management, and consultant to the Company.

Mr Kohler has sufficient experience that is relevant to the style of mineralisation 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. The Mineral Resource estimate comply with recommendations in the Australian Code for Reporting of Mineral Resources and Ore Reserves (2012) by the Joint Ore Reserves Committee (JORC). Mr Kohler consents to the inclusion of the report in the form and context in which it appears. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

### **COMPETENT PERSON'S STATEMENT - METALLURGY**

The information in this release 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 (AuslMM). 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>.

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 (The JORC Code). Mr Evans consents to the inclusion of the report in the form and context in which it appears. 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 dated 5 September and 23 October 2017 and 21 February 2018 and that all material assumptions and technical parameters underpinning the findings in the relevant market announcement continue to apply and have not materially changed.

# FYI Presentation Outline

### **KEY POINTS**

- FYI outline
- HPA
- Market
- Project why?
- Advantages
- Development
- Summary



"World demand for high purity alumina has gained an incredible traction, owing to growing technological advancements and increasing demand from applications"

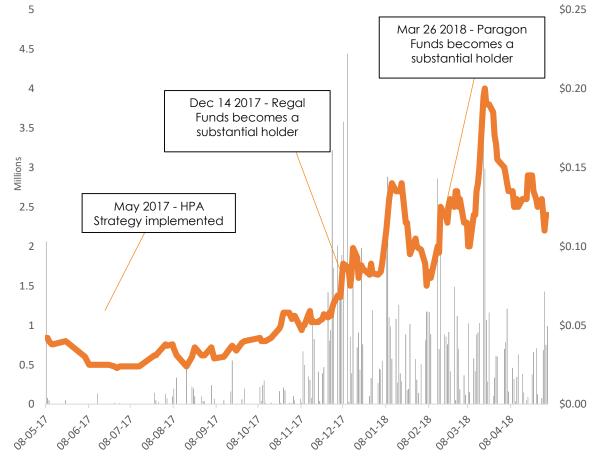
Allied Market Research (2017) – HPA Report.

# Corporate Overview

Capital Structure					
	Amount				
Total issued shares	185.4m				
Options (unlisted)	~8.0m				
Share price	\$0.12				
Market cap (fully diluted)	~\$23m				
Cash as at 4 <sup>th</sup> May 2018	~\$3.3m				

Substantial Holders	%
FYI Board & Management	16.0
Regal Funds Management	12.9
Paragon Funds Management	8.1
Top 10	52

### 12-month Share Price Performance



# What is HPA

### HPA is a versatile material allowing a multitude of uses in new age industries

• High purity alumina (**HPA**) is aluminum oxide ( $Al_2O_3$ ) powder with a purity equal to or greater than 99.99%

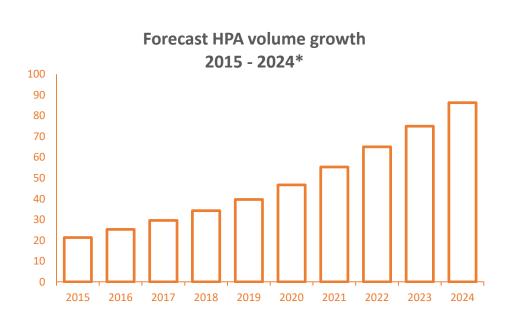
• HPA's properties include low-friction and high wear-resistance, hardness, thermal and electrical insulating ability, non-corrosive and broad chemical compatibility

- HPA is utilised extensively in applications such as:
  - o light emitting diodes (LEDs)
  - o battery technologies and energy storage (cell linings / separators)
  - Electric vehicle (EV) components
  - semiconductor wafers
  - o sapphire glass for smart phones, television screens and watch faces
  - high-strength ceramic tools
  - space and aeronautics industry components
  - high tensile light weight fabrication applications
  - artificial gemstones (sapphires)
  - Fine abrasives
  - fire-retardant insulation for electrical circuitry



# **HPA** Market Overview

### FYI's HPA strategy is based upon positive market fundamentals



- Historically a small market no justification for innovation
- Consistent, low-growth demand previously; new applications have created demand and new market opportunities requiring higher specification materials
- The current global 4N (99.99% Al2O3) HPA market demand is ~18-20k tpa;
   this is expected to increase to ~48k tpa by 2020 and ~86k tpa by 2025\*
- The market for HPA is witnessing dramatic growth / consumer driven
- HPA market forecast to be US\$4.49Bn by 2022\*
- Including a forecast volume growth of 20.5% CAGR\*
- HPA is experiencing increasing demand due to its significance in today's high-performance electronic devices and need for higher specification material as inputs



# **HPA Market Overview**





Aluminum 99% Al ~US\$2000/t

SA



High Purity Alumina 99.9% Al2O3

US\$6000/t

99.99% Al<sub>2</sub>O<sub>3</sub>

US\$23000/t

99.999% Al<sub>2</sub>O<sub>3</sub>

U\$\$35000/t H

### FYI's HPA strategy is underpinned by EV/battery revolution

### Major industry drivers include:

- increasing environmental policies and awareness
- phasing out of old and inefficient technologies (eg incandescent lighting and internal combustion engines)
- ✓ burgeoning sustainable & clean technology industries (eg LEDs & EV batteries)
- providing assurance to manufactures of a reliable and consistent supply of HPA

Light Emitting Diode (LED)

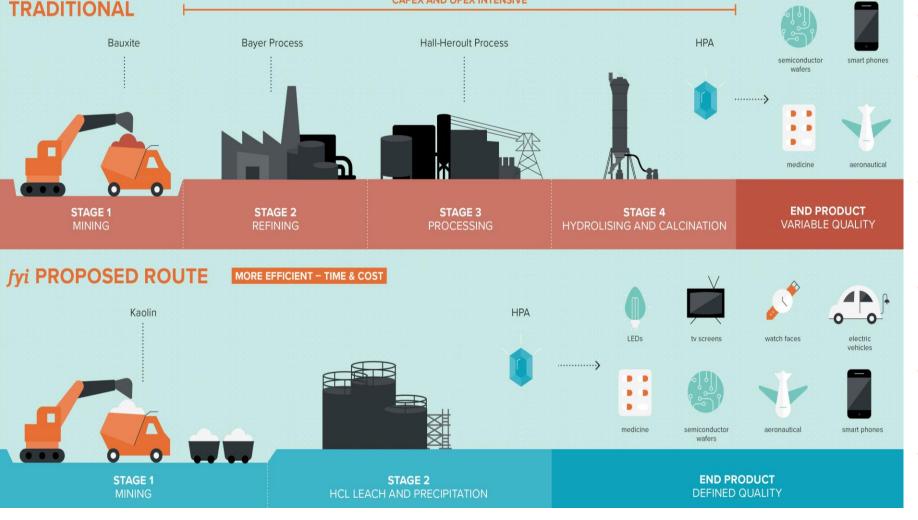
LED market is forecast to grow from US\$26Bn (2016) to US\$54Bn by 2022 and progressively take the major share of the global market of US\$110Bn\*\*



EV battery market forecast to grow from US\$450Mn (2016) to US\$35Bn (2025)\*\*\*



# HPA processing and refining



**CAPEX AND OPEX INTENSIVE** 

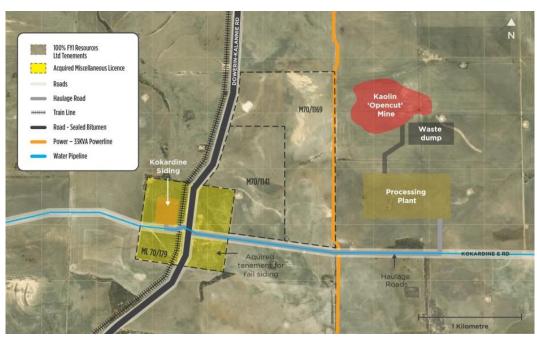
### Why?

- Replaces antiquated 1880's process
- The FYI calcining / leaching process simplifies the flowsheet reducing capex and opex in HPA production considerably
- Utilising 1940's "open file" processing flowsheet and basic chemistry adapted and refined to suit Cadoux ore characteristics
- FYI's kaolin HPA processing route has many advantages over the traditional bauxite derived HPA
- The traditional method of processing HPA is capex and opex intensive
- Process utilises "off-the-shelf" / standard equipment

fyi |

The simplified HPA processing flowsheet will provide immense commercial advantages

# It All Starts With a Quality Resource



# PORT WALCOTT OF FORTHELIAND CAPE CURVER GERALDION UNELESS LOOP CAROLAN KALGOORLE FIREMANTLE BUNGURY THE MARKET FATE Highway Fat Highway H

The Cadoux project is ideal quality feedstock

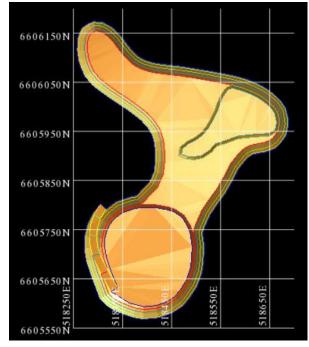
### **CURRENT JORC RESOURCE \***

JORC (2012)	Tonnage (Mt)	%-45 Microns	Average Al	Average Fe%	Average Ti%
Indicated Resource	13.0	84.4	11.58	0.47	0.34
Inferred Resource	3.1	84.4	12.50	0.69	0.49
Total Resource	16.1	84.4	11.76	0.51	0.37

\* See ASX Company announcement – 26th July 2017

- Feedstock will be sourced from our 100% owned Cadoux Kaolin project (EL70/4673)
- Cadoux geology is ideal shallow, flat lying, low strip, free digging, homogenous excellent quality & easily accessible
- The project area boasts excellent infrastructure:
  - ✓ ~220kms from Perth
  - ✓ Major arterial sealed roads
  - ✓ Rail siding < 1km from site</p>
  - Water, power and telephone services all on tenement boundary
- Cadoux contains over 50 years of high quality HPA feedstock

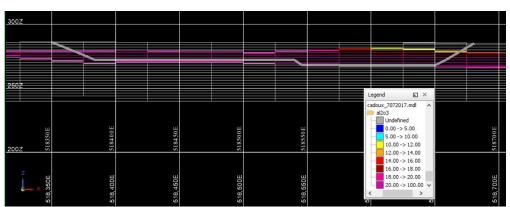
# Simple Mine design



# CONCEPTUAL CADOUX KAOLIN MINING - KEEPING IT SIMPLE

- Targeting low cost operation
- Straightforward open cut mining
- 2-3m overburden
- No drill and blast or intricate pit design
- Pit depth average depth 25m / 36m maximum
- Mineralised kaolin zone 4-23m / average ~18m
- Mine and beneficiate / upgrade at site
- Freight the beneficiated product to planned Kwinana site, Western Australia, for refining
- Infrastructure / services already established

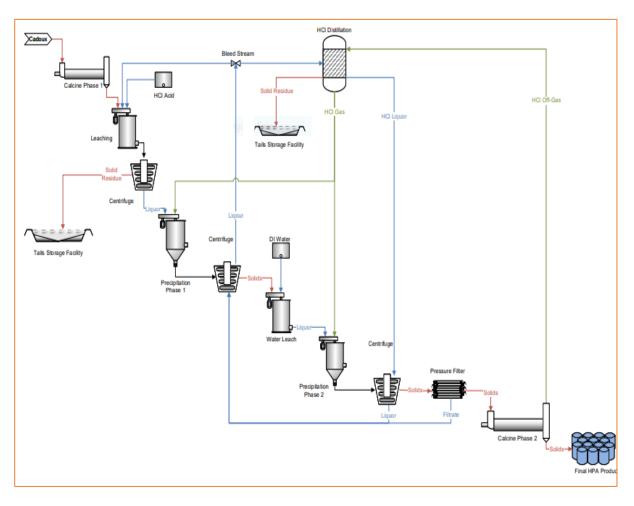
Conceptual Cadoux open pit
– plan view



Conceptual Cadoux open pit

– section view

# Process Design



### SIMPLE FLOWSHEET DESIGN

- Flowsheet being tested, refined under PFS
- Corporate strategy of being a major producer of HPA
- Processing plant planned for Kwinana, Western Australia
- Developed for Cadoux's exceptional quality and characteristics
- Utilising 'off the shelf" components nothing proprietary
- Processing beneficiated ore from Cadoux
- Small footprint / efficient processing circuit
- Atmospheric pressure
- Moderate temperature
- Low environmental impact (non-toxic waste)
- Low capex and low opex implications

# Confirmation of Process



FYI's 99.99% final product HPA (laboratory photo)

# THE HPA PROCESS HAS BEEN CONFIRMED BY DEMONSTRATING EXCELLENT Al<sub>2</sub>O<sub>3</sub> RECOVERY

- FYI's kaolin to HPA process flowsheet has been successfully demonstrated
- Targeted HPA grade of 99.99% achieved\*
- Mass HPA recovery of 97.2% achieved \*\*
- High level of analysis used (laser ablation) to determine grade
- FYI's 100% owned Cadoux kaolin resource is ideally suited to our HPA process flowsheet
- Flowsheet design specifically engineered to Cadoux resource characteristics
- Process designed to reliably produce consistent, high-grade premium quality HPA end-product
- PFS studies and refinement continues

<sup>\*</sup> See ASX Company announcement – 23<sup>rd</sup> October 2017

<sup>\*\*</sup> See ASX Company announcement – 21st February 2018

# Preliminary Project Metrics



- Current schedule of works is progressing to a Pre-Feasibility Study which will determine preliminary project metrics.
- However, internal economic assessment has determined the following is likely:
  - Capex & opex range targeting lowest industry quartile
    - o includes: mining, beneficiation and processing
  - ✓ sales range forecast market & potential revenues
  - accelerated project payback anticipated
  - above average rate of return calculated long term
  - major production reactants and reagents are recycled
  - Low cost and simple operation in comparison to traditional HPA production
  - ✓ Low infrastructure spend expected (major items already established i.e. road, rail, water, power etc)

# **HPA Development Timeline**

Completed Progressing



# FYI Summary



ASX-listed company



High purity alumina (HPA)
Cadoux Kaolin Project in
Western Australia



Positive long-term market fundamentals



Ground floor entry to an emerging growth sector



Compelling technical & geographical advantages



Experienced Board and Management



Demonstrable record of successful project development



Excellent exploration, development, operations, marketing and corporate capabilities

# **Board of Directors**

# Mr Edmund Babington

### Non-Executive Chairman

Mr Babington is a Director of the Western Australian commercial law firm, Lyons Babington Lawyers. He is also a member of AMPLA (the Australian resources and energy law association), the Franchise Council of Australia and is a Western Australian committee member of the Australian Institute of Business Brokers.

Mr Babington is a specialist in mining and resources law and the law relating to capital raisings, stock exchange requirements, corporate governance and compliance for public companies.

### Mr Roland Hill

### Managing Director

Mr Hill holds a Bachelor of Science and Bachelor of Commerce from Curtin University. Mr Hill was appointed to the position of Managing Director on 1 July 2014.

Mr Hill has extensive resource industry and investment, finance and funds management experience. He has been directly associated with the mining and exploration sector for over 20 years in senior operating and management roles within the mining industry and several Australian national and international stockbroking firms and investment banks as an analyst and corporate functions before taking a senior role as a Portfolio Manager with Deutsche Bank in their Australian and International resources equity Fund.

Just prior to joining FYI was the Managing Director and Chairman of an ASX listed gold producer with production of ~100,000oz per annum.

# Mr David Sargeant

### Non-Executive Director

Mr Sargeant holds a Bachelor of Science degree in economic geology from the University of Sydney. He has more than 40 years of experience as a geologist, consultant and Company director. He is a member of AusIMM and the Geological Society of Australia.

During his career, Mr Sargeant has held a range of senior positions, including that of senior geologist with Newmont Pty Ltd and senior supervisory geologist with Esso Australia Ltd at the time of the Harbour Lights Gold Mine discovery and development. Further, Mr Sargeant was the first chief geologist at Telfer Gold Mine during exploration, development and production at that project. In addition, he was exploration manager for the Adelaide Petroleum NL group of companies, manager of resources development for Sabminco NL and a technical director of Western Reefs Limited.

### Mr Adrian Jessup

### Non-Executive Director

Mr Jessup holds a Bachelor of Science degree (with honours) in economic geology from the University of Sydney and has more than 40 years continuous experience as a geologist, Company director and consultant involved in mineral exploration, ore deposit evaluation and mining. He is a member of AusIMM, the Geological Society of Australia and the Australian Institute of Geoscientists.

For the last 15 years, Mr Jessup has operated a geological consulting company. During that time, he was a founding director of publicly listed companies Empire Resources Limited and Sylvania Resources Limited.



For further details please contact:

# **Roland Hill**

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