

31 July 2018

## JUNE 2018 QUARTERLY ACTIVITIES REPORT

### HIGHLIGHTS

- **Baobab Expansion Project Feasibility Study due in the fourth quarter of 2018**
- **Processing test work continues with positive results**
- **Gadde Bissik mine selling phosphate rock to a local major fertiliser company**
- **No lost time injuries during the period**
- **Chairman Mr Brett Clark to take a more active role to support Avenira**
- **Cash balance at 30 June 2018 of A\$3.7 million**

### 1. **BAOBAB PHOSPHATE PROJECT (Avenira 80%)**

#### 1.1 EXPANSION AND UPGRADE PROJECT

During the June 2018 quarter Avenira continued to progress the Feasibility Study with lead engineering consultant Wood PLC (Wood) advancing key areas in process design, Tailings Dam Storage Facility design and mine scheduling and starting the process to develop capital and operating cost estimates.

It was announced during the quarter the following personnel are assisting the Company on the Feasibility Study:

- Glenn Gruber, a phosphate beneficiation specialist, had joined the Wood team as a process expert.
- Company consultant Henry Lamb, a geologist with forty years' experience in mining, geology and exploration of phosphate deposits, and
- Ibrahima Gaye, a phosphate industry professional with over thirty-five years' experience in phosphate mining and beneficiation in Senegal.

Laboratory scale comminution and magnetic separation tests carried out by processing technology suppliers at their testing facilities since the conceptual study completion support the main processing options selected at the conceptual stage and essentially confirm the results of preliminary testing in 2017. The purpose of the test work is to confirm the feasibility and effectiveness of selected technologies and to provide design basis for the mass-balance projection and equipment sizing, in line with the project objective to deliver a concentrate with > 34% P<sub>2</sub>O<sub>5</sub> with Fe<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> levels meeting market requirements.

Comminution test work was performed to evaluate the hardness and abrasiveness characteristics of the larger size rocks in Baobab's ore from the Gadde Bissik Mine and provide data for crushing and milling equipment selection and design.

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CFO and Company Secretary, Avenira Limited



The Bond Low Energy Impact Crusher Work Index tests indicated that the material is Soft within the range for resistance to breakage. The Bond Abrasion Index test results yielded an average abrasion index indicating that the material is Very Soft or not very abrasive. The Bond Rod Mill Work Index test results showed that the material is in the Medium range for resistance to breakage.

Magnetic Separation (MS) test work has been carried out on both Rare Earth Dry Roll and on Wet High-Intensity technologies with both types of processes achieving effective separation of ferruginous particles from the rock concentrates at the laboratory scale. MS test work is continuing to further optimise processing arrangements and maximise phosphate recovery and final concentrate grade.

Extensive laboratory scale flotation tests have been performed and have demonstrated at that scale that the target separation performance can be met by reverse flotation of silica (SiO<sub>2</sub>) using amine-based formulated reagents. Current period test work includes onsite bench scale flotation testing using actual mine water on various samples extracted from the Gadde Bissik open pit. Settling and dewatering tests of tailings and final concentrate product by process technology suppliers are being performed in the September quarter.

While testwork completed to date supports the selected flowsheet, Wood and Avenira have instigated further flotation and magnetic separation testwork to confirm the process robustness and its ability to accommodate potential run-of-mine variability across the life of mine, particularly regarding silica particle size distribution and iron content. This additional work will enable Wood to finalise the basis of engineering and freeze the process plant design ahead of finalising the Feasibility Study.

Due to the additional work, the Feasibility Study is now likely to be completed in the fourth quarter of 2018. The Company is planning to initiate the “Bankable” Feasibility Study phase once a final project configuration has been selected, with a targeted second quarter of 2019 completion.

The Company's mining operations have been conducted under a three-year renewable Small Mine Permit granted on 6 May 2015, for a 5 km<sup>2</sup> area in the zone of Gadde Bissik. In May 2017, the Company applied to transform the Small Mine Permit into an Exploitation Permit covering an expanded area of 75 km<sup>2</sup> around its current Gadde Bissik operations and continues to wait for the approval from the Senegalese Government. Should the Exploitation Permit not be granted for any reason and the Company wishes to continue mining operations it may need to apply for a renewal of the existing Small Mine Permit.

## 1.2 PROJECT OPERATIONS

Key areas of activity during the June 2018 quarter are listed below.

### **Occupational Health and Safety**

No medical treatment injury or lost-time injury during the quarter.

### **Mining & Processing**

Crushing and processing of mined ore from the ROM continued to build product inventory ahead of sales to local end user.



## Bargny-Sendou Port

Initial civil works (land clearing and levelling of the entire port area) were essentially completed.

## Sales

Since June 2018 the Company has been shipping a small quantity of phosphate rock product to a local Senegalese major fertiliser producer.

## 2. JDC PHOSPHATE, INC. (Avenira ≈ 7%)

As detailed in the Company's announcement of 13 June 2018, JDC has informed Avenira that it has commissioned its new demonstration plant at its Fort Meade, Florida facility. The plant has operated and successfully produced phosphoric acid using the IHP process, a key IHP process development milestone. JDC intends to continue operations and will provide additional updates as merited.

Avenira owns a minority position of approximately 7% of JDC Phosphate, Inc. (JDC) and has an exclusive license to utilise the Improved Hard Process (IHP) technology in Senegal and Australia for an extended period of time.

Shareholders are encouraged to view the JDCP website <http://jdcphosphate.com/>

## 3. WONARAH PHOSPHATE PROJECT, Australia NT (Avenira 100%)

The Company continues to monitor the improving phosphate market conditions with respect to progressing the Wonarah project.

## 4. CORPORATE

### 4.1 FINANCING

With the Feasibility Study now likely to be completed in 4Q 2018, the Company is currently reviewing the potential amount, timing and sources of interim funding to enable the Company to complete the Feasibility Study.

### 4.2 BOARD UPDATES

Current non-executive Chairman Mr. Brett Clark has agreed to take a more active role with the Company, with a particular focus in engaging with investors and capital markets.

### 4.3 CASH POSITION

At the end of the June 2018 Quarter, Avenira had a cash balance of \$3.7 million. Please see June 2018 Quarterly cash flow report for further details.



## Schedule of Avenira Limited Tenements as at 30 June 2018

Location	Tenement Name	Tenement	Nature of Company's Interest
Northern Territory	Arruwurra	EL29840	100%
Northern Territory	Wonarah	EL29841	100%
Northern Territory	Dalmore	EL29849	100%
Northern Territory	Central Wonarah	EL31477	100%
Senegal	Baobab	014015/MIM/DMG	80%
Senegal <sup>(1)</sup>	Gadde Bissik	09810/MIM/DMG	80%

### Note:

- (1) The Company's mining operations continue to operate under the Small Mine Permit whilst the Company's Exploitation Permit application is going through the Government approval process.

## Compliance Statement

Information in this report relating to Exploration Results or estimates of Mineral Resources or Ore Reserves has been extracted from the reports listed below. The reports are available to be viewed on the company website at: [www.avenira.com](http://www.avenira.com)

### **Baobab Project:**

27 April 2015: Minemakers to acquire a potential near-term production rock phosphate project in the Republic of Senegal  
11 May 2015: Minemakers delivers maiden Inferred Resource for Baobab Rock Phosphate Project in Republic of Senegal  
22 September 2015: Baobab project update  
7 December 2015: Maiden Indicated Mineral Resource at Baobab Phosphate Project  
21 January 2016: Technical Report Mineral Resource Estimation for the Gadde Bissik Phosphate Deposit, Republic of Senegal  
28 October 2016: September 2016 Quarterly activities report  
23 February 2017: Baobab exploration results update  
2 March 2017: Significant increase to Indicated Mineral Resource at Baobab Phosphate Project.  
9 June 2017: Company Update (Strategic Plan)  
31 July 2017: June 2017 Quarterly Activities Report  
11 September 2017: Baobab Exploration Results Update  
12 October 2017: Mineral Resource increase at Baobab Phosphate Project  
5 February 2018: Mineral Resource Increase at Baobab Phosphate Project

### **Wonarah Project:**

15 March 2013: Technical Report Mineral Resource Estimation for the Wonarah Phosphate Project, Northern Territory, Australia  
30 April 2014: Quarterly activities report

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, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates 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 market announcement.

## Cautionary Statement Regarding Forward-Looking Information

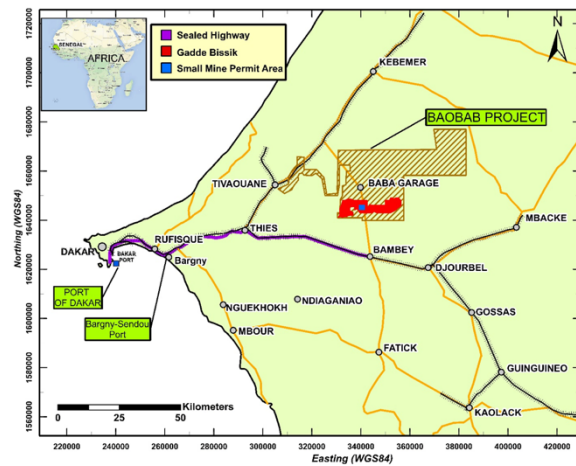
All statements, trend analysis and other information contained in this document relative to markets for Avenira trends in resources, recoveries, production and anticipated expense levels, as well as other statements about anticipated future events or results constitute forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as "seek", "anticipate", "believe", "plan", "estimate", "expect" and "intend" and statements that an event or result "may", "will", "should", "could" or "might" occur or be achieved and other similar expressions. Forward-looking statements are subject to business and economic risks and uncertainties and other factors that could cause actual results of operations to differ materially from those contained in the forward-looking statements. Forward-looking statements are based on estimates and opinions of management at the date the statements are made. Avenira does not undertake any obligation to update forward-looking statements even if circumstances or management's estimates or opinions should change. Investors should not place undue reliance on forward-looking statements.



## About Avenira Limited

Avenira Limited (ASX: AEV) is a phosphate rock mining company with a vision to develop a portfolio of agricultural minerals and production assets that will build long term shareholder value by supplying to the world the agricultural nutrients critical to global food security.

Our flagship asset is the 80% owned Baobab Phosphate Project located in Senegal, West Africa. During the 2017 calendar year, the Company has established its strategic plan for the Baobab Project, focused first on a major expansion and upgrade of the beneficiation plant at Baobab's Gadde Bissik mine to bring it to a profitable operational higher level, and subsequently on implementing next-step investments towards its longer-term objective of downstream integration.



*Project location plan*



*Phosphate Concentrate Production*



*Gadde Bissik Pit 1*

Under the plan to expand and upgrade the existing ore beneficiation unit the Company engaged engineering firm Hatch to conduct a conceptual study which delivered positive results. Following the successful completion of its Entitlement Offer and Placement capital raising, the Company has embarked on the next phases of its strategic plan, to include more detailed engineering work, approvals and financing. As detailed in the Company's 16 May 2018 announcement, Avenira has subsequently appointed Wood Group PLC as the lead engineering consultants.

The Company also owns approximately 7% interest in JDCPhosphate Inc., a private company in the USA focused on the development of the Improved Hard Process (IHP), a potentially game-changing proprietary high-grade phosphoric acid production technology. Avenira has exclusive license rights to use the IHP in Australia and Senegal once commercially proven.

The Company's other asset is the 100% owned Wonarah Phosphate Project in the Northern Territory. The project forms part of the Company's long-term strategy and will be enabled by the IHP process. Wonarah is one of the largest known phosphate deposits in Australia.

For further information on the company please refer to the company's website at [www.avenira.com](http://www.avenira.com).