

31 October 2017

## SEPTEMBER 2017 QUARTERLY ACTIVITIES REPORT

### HIGHLIGHTS

#### BAOBAB PHOSPHATE PROJECT

- Positive engineering studies conducted by Hatch on Baobab expansion and upgrade project opportunity
- Upgraded plant expected to be capable of producing a high-grade phosphate rock concentrate, which should attract a premium to benchmark prices
- Upfront processing plant capital expenditure currently estimated at US\$53.4 million (to  $\pm$  30% accuracy), with Avenira's 80% share US\$42.7 million
- Post-investment, quality-adjusted unit cash operating costs projected to be highly competitive relative to global phosphate rock production
- Definitive Feasibility Study, approvals, off-take and financing are progressing, with Final Investment Decision targeted for 2Q 2018
- Increase in Indicated Mineral Resource tonnage to an estimated 34.9 million tonnes at 20.7% P<sub>2</sub>O<sub>5</sub> and increase in Inferred Mineral Resource tonnage to an estimated 156 million tonnes at 18% P<sub>2</sub>O<sub>5</sub> (both at a 15% P<sub>2</sub>O<sub>5</sub> cut-off)
- Exploration results indicate the Gadde Bissik phosphate mineralisation extends continuously for more than 20 kilometres in varying widths and thicknesses
- No lost time injuries during the period

#### CORPORATE

- Launch of A\$13 million nine (9) for twenty (20) renounceable pro-rata Entitlement Offer to shareholders at an issue price of 4.8 cents
- Underwriting and other commitments received for \$12.34 million
- Cash balance at 30 September 2017 of A\$1.1 million

Managing Director and CEO Louis Calvarin commented: *"The Expansion and Upgrade Project conceptual engineering study has concluded during the September Quarter and its results show that implementing this strategic capital investment should place the Baobab Project among the world's most competitive producers of high-grade phosphate rock concentrate. The Company has also announced a very positive increase in estimated mineral resources at Gadde Bissik, as well as an entitlement offer to all shareholders to fund the continuation of the engineering studies. All very positive steps for Avenira."*

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

### 1.1 EXPANSION AND UPGRADE PROJECT

#### Background

During the 2017 calendar year, the Company has established a strategic plan for its Baobab Phosphate Project, focused first on a major expansion and upgrade of the existing Baobab Project's beneficiation plant at Gadde Bissik mine to bring it to a sustainable operational level, and subsequently on implementing next-step investments towards its longer term objective of downstream integration.

Under the plan to expand and upgrade the existing ore beneficiation unit, the Company engaged engineering firm Hatch to conduct a conceptual engineering study which has delivered positive results detailed in the Company's announcement of 17 October 2017.

The Hatch engineering study concluded that upgrading the processing plant, and increasing its nameplate capacity to 1 Mtpa of high-grade phosphate rock concentrate, could be undertaken for a total upfront capital expenditure of approximately US\$53.4 million (to  $\pm$  30% accuracy)<sup>1</sup>. This expansion should significantly improve product specifications and place the Baobab Project in a globally competitive unit operating cost position, on a quality adjusted basis.

Key benefits from the expanded and upgraded plant are expected to include:

- Year-round production with nameplate capacity doubled to approximately 1 Mtpa of phosphate rock product, at a controlled 3% moisture level;
- A plant capable of producing a higher grade product (~ 35% P<sub>2</sub>O<sub>5</sub>) with low CaO:P<sub>2</sub>O<sub>5</sub> ratio (< 1.4), delivering lower sulfuric acid consumption and lower gypsum by-production to phosphoric acid manufacturers, expected to attract a premium price to the benchmark;
- The product should also have a competitive silica assay and continue to feature low organic carbon and carbonate content, thereby minimizing detrimental foaming in phosphoric acid reaction systems;
- Reduced unit operating costs expected from increased phosphate recovery at approximately 70% (versus approximately 50% currently), in addition to economies of scale;
- Before quality adjustments, projected post-investment unit cash operating costs are estimated at approximately US\$56/t, FOB vessel in a contract-mining scenario. Owner-mining could further reduce unit cash operating costs by approximately US\$10/t, at an estimated upfront mobile fleet capital cost of approximately US\$40 million;
- Expected quality specifications may add at least US\$10/t premium to cash operating margins, based on CRU's quality adjustment methodology, leading to a "business cost" (as defined by CRU, i.e. including quality adjustments) of approximately US\$46/t for contract-mining and approximately US\$36/t for owner-mining, placing Baobab well into the bottom half (and potentially in the lowest quartile in an owner-mining scenario) of CRU's 2017 "business cost" curve<sup>2</sup>.

<sup>1</sup> The estimated capital cost of US\$53.4 million (on a  $\pm$  30% basis) is subject to the assumptions detailed below.

<sup>2</sup> See 17 October 2017 "Baobab Expansion and Upgrade Project Update" Company announcement.



## Processing Plant Capital Cost Estimate

Based on the concept level engineering work undertaken by Hatch to-date, the capital cost estimate for the expansion and upgrade of the processing plant is US\$53.4 million (on a  $\pm$  30% basis), including direct costs of US\$28.9 million, indirect costs of US\$13.8 million and a contingency of US\$10.7 million<sup>3</sup>. Avenira's 80% share is estimated at US\$42.7 million. While the engineering work provides an estimated capital cost range, the Company does not anticipate capital costs being less than US\$53.4 million. Further work to refine this estimate will be undertaken in the next phase of study.

The beneficiation process is designed to separate silica and any clays present in the ore from the phosphate mineral. The plant has been designed to process approximately 2.4 Mtpa of feed with a nominal grade of 20.6% P<sub>2</sub>O<sub>5</sub> to recover approximately 1.0 Mtpa of concentrate with an approximate grade of 35% P<sub>2</sub>O<sub>5</sub>. The process steps including primary and secondary crushing, scrubbing, desliming, sizing, reverse flotation, magnetic separation, dewatering, drying and product storage.

The processing plant capital cost estimate currently excludes any mobile equipment, mine infrastructure, site buildings or camp, site security and site communication systems. It also assumes that the existing water supply is sufficient for plant demand, the existing tailings impoundment area is sufficient for the life of mine and there are no incremental capital costs associated with securing the necessary electrical power supply from the local authority. Further work will be undertaken in the next phase of study to refine these assumptions.

Should the Company elect to owner-mine (as opposed to contract-mine) at Baobab, management's estimate, which has been reviewed by Hatch, is that the anticipated mobile fleet would have an upfront capital cost of approximately US\$40 million.

## Cash Unit Operating Cost Estimate

Post-investment cash operating costs<sup>4</sup> are projected at approximately US\$56/t FOB vessel in a contract-mining scenario. Owner-mining could further reduce unit cash operating costs by approximately US\$10/t. Mining costs have been estimated by the Company and reviewed by Hatch. Processing costs have been estimated by Hatch in conjunction with the Company. Other costs are based on quotes, Company estimates and royalty rates. The Company's experience operating the mine over the past ~12 months gives it additional confidence that these estimates are likely to be within a reasonable level of accuracy. Further work refining the estimates will be undertaken in the next phase of study.

<sup>3</sup> See 17 October 2017 "Baobab Expansion and Upgrade Project Update" Company announcement.

<sup>4</sup> See 17 October 2017 "Baobab Expansion and Upgrade Project Update" Company announcement.



## Forward Work Program

Following completion of the upcoming capital raising, the Company plans to expedite the remaining activities required to facilitate funding and make a Final Investment Decision on the expansion and upgrade project during Q2 2018. Though subject to change, this includes the following current targeted milestones:

Completion of Ore Reserve estimate	Q4 2017
Award of Large Mine Concession (Exploitation Permit)	Q1 2018
Engineering & Full Feasibility Study	Q1 2018
Offtake Agreement(s)	Q1 2018

## 1.2 PROJECT DEVELOPMENT

Key areas of activity during the September 2017 quarter are listed below.

### Occupational Health and Safety

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

### Permitting

The Company had submitted a Cherif Lo-Ngakhm exploration permit renewal application to the Senegalese government during the month of May, and approval has been granted during the September Quarter for three additional years, starting on 27 July 2017. The new permit area is now covering 1,163 km<sup>2</sup>.

### Mining & Processing

- Overburden has been removed from a section of Stage 3 open pit, designated as Stage 3A, with limited cover left over the ore in that 3A area, for protection. Mining activities have been interrupted starting September 1 for the remainder of the wet season.
- The Company's operational priority is to complete the targeted 1 Mtpa nameplate capacity expansion and upgrade engineering and feasibility studies, whilst also securing off-take, approvals and financing. Once the final decision to invest will have been made, the Company's focus will shift to a successful implementation of this capital investment project. In the meantime, mining activities at Baobab Project, if any, are expected to be limited in scope.

### Local Community Consultation and Relocation

Avenira continued to collaborate closely with the local communities through the September 2017 Quarter. Starting with the inception of the rainy season in July, most local community members have been tending their fields and rotational employment at the Baobab Project has been scaled back to a minimum.

### Marketing

No phosphate concentrate sales during the September 2017 Quarter.



### 1.3 GEOLOGY AND EXPLORATION

#### **BAOBAB PROJECT**

##### **Gadde Bissik Area**

The project location is shown in Figure 1.

During the September 2017 quarter an Exploration Results Update announcement was published on 11 September 2017. The new exploration results, combined with previous drilling data, indicate that the Gadde Bissik phosphate mineralisation extends broadly east-west for more than 20 km in varying widths and thicknesses.

After validation of assay results from SGS laboratory, an update of the JORC Mineral Resource estimate was completed by independent consultants MPR Geological. An announcement was published on 12 October 2017 and provided the following resource information (Table 1 and Figure 2).

<b>GADDE BISSIK MINERAL RESOURCE TABLE - EFFECTIVE DATE 31/08/2017</b>									
<b>Cut-off grade 15% P<sub>2</sub>O<sub>5</sub></b>									
<b>Area</b>		<b>Resource Category</b>	<b>Mt</b>	<b>P<sub>2</sub>O<sub>5</sub> %</b>	<b>CaO %</b>	<b>MgO %</b>	<b>Al<sub>2</sub>O<sub>3</sub> %</b>	<b>Fe<sub>2</sub>O<sub>3</sub> %</b>	<b>SiO<sub>2</sub> %</b>
Gadde Bissik East	Within SMP	Indicated	27.2	21	29	0.08	2.1	3.66	40.7
		Inferred	2	20	28	0.14	2.6	2.7	43
	Outside SMP	Indicated	7.7	19.6	27.2	0.08	2.28	3.93	43.7
		Inferred	68	18	25	0.11	2.9	3.5	46
	Combined	Indicated	34.9	20.7	28.6	0.08	2.14	3.72	41.4
		Inferred	70	18	25	0.11	2.9	3.5	46
Gadde Bissik West		Inferred	6	17	23	0.19	5.1	6.7	42
Gandal		Inferred	16	18	25	0.1	3.4	8.8	41
Gadde Escale		Inferred	43	19	26	0.14	2.2	2.9	47
Dinguiraye		Inferred	21	19	27	0.19	3.1	3.3	43
Total Resources		Indicated	34.9	20.7	28.6	0.08	2.14	3.72	41
		Inferred	156	18	26	0.13	2.9	4	45

Table 1: Mineral Resource Table

During the September 2017 quarter, initial results of the June quarter 250 x 250 m and 125 x 125 m grid diamond drilling campaign conducted in the Gadde Bissik Inferred Resources area east of the Small Mine Permit (SMP) and results of the 500 x 500 m air core drilling campaign conducted at Gadde Escale prospect area have become available, and are being interpreted. Diamond drilling at 250 x 250 m grid-spacing near the SMP and 500 x 500 m further to the east continued in the same Gadde Bissik Inferred Resources area to better define the thickness of the mineralisation and its potential extension further to the East (Figure 2). A total of 31 diamond holes (1,313.55 m) were made east of the SMP (Table 2) during the quarter.

No drilling is planned for the last calendar quarter of 2017 in the Gadde Bissik area.

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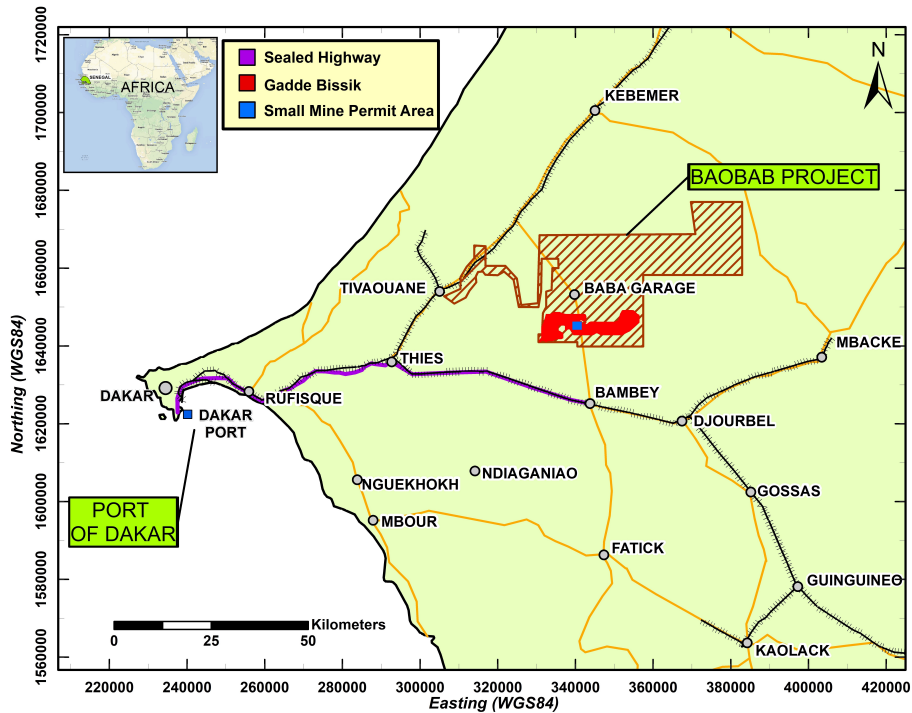


Figure 1: Project location plan

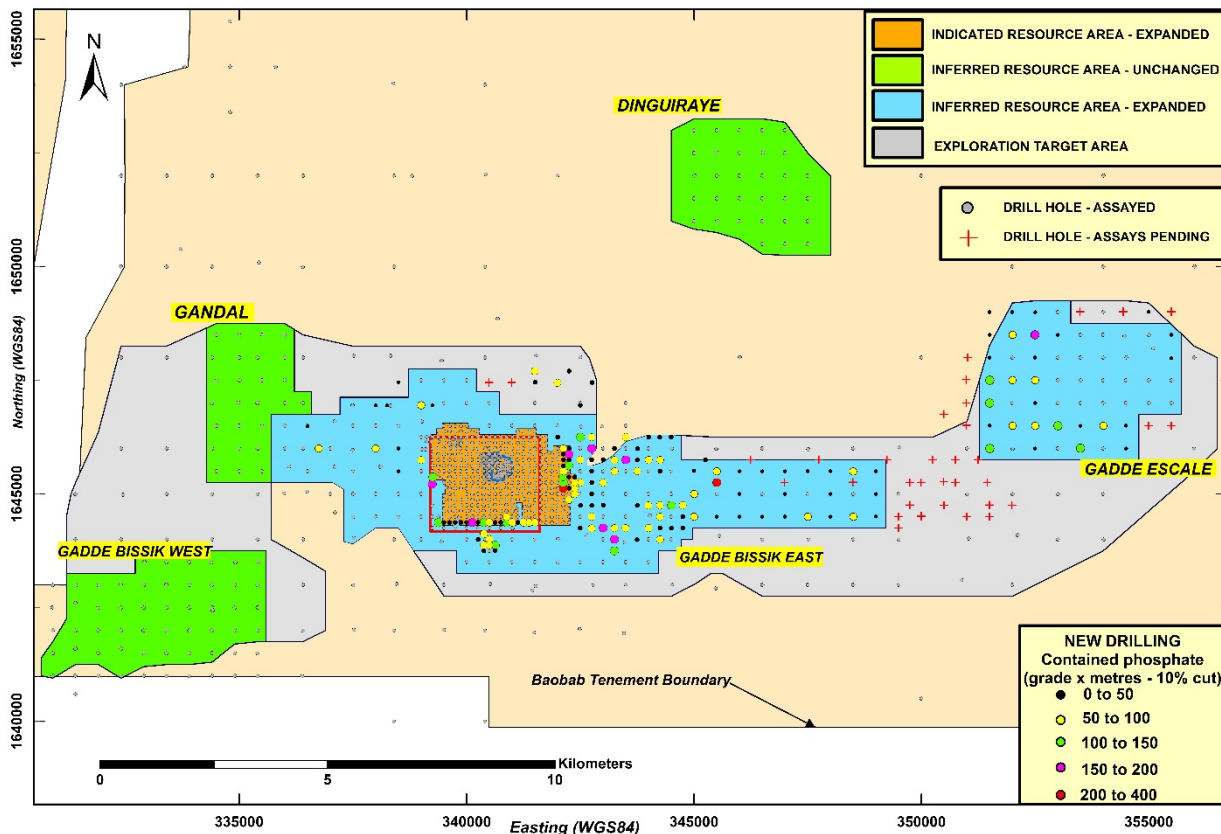


Figure 2: Drill results plan and resource outlines for Gadde Bissik area. Small mine permit outline in red. Pit outline in blue. Drilling results are as at 30 September 2017.

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## Mining Support

During the September quarter, results of the air core 50 x 50 m grid-spaced Grade Control drilling program within the SMP perimeter undertaken to better control the presence, thickness, grade and geometry of the phosphate sequence planned to be exploited during Stages 3 and 4 of the mine's operating plan became available. Assays confirm the presence and the expected grade of the phosphate horizon.

Air core drilling for control and sterilisation with the objective to identify and confirm sterile areas where mining infrastructure and processing equipment can be installed, moved or relocated became available as well. Assays indicate the presence of the phosphate horizon below and around the current infrastructure and infrastructure relocation areas will have to be defined during Q4 2017.

## Drilling Statistics

Tenement	Purpose of drilling	AC		DD	
		Holes	Metres	Holes	Metres
BAOBAB	Regional exploration	-	-	-	-
	Resource definition	-	-	-	-
	- Within SMP	-	-		
	- Outside SMP	-	-	31	1,313.55
<b>TOTAL</b>		-	-	31	1,313.55

Table 2: Drilling statistics – September 2017 Quarter

## Gossas Area

Following the notification in the June 2017 quarterly report that no further drilling in the Gossas area was planned, the Board decided not to proceed with the acquisition of the Gossas tenement.

## 2. JDCPHOSPHATE, INC. (Avenira ≈ 7%)

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

Timothy Cotton, CEO of JDCP commented "JDCP is making good progress towards the modification of its facility in Fort Meade, Florida and expects to complete the construction activities by early 2018, as projected."

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

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

The Company continues to take action to reduce the holding costs of the Wonarah project until the commercial validation of the IHP technology.

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## 4. CORPORATE

### 4.1 FINANCING

On 9 June 2017, the Company announced its three-stage plan to secure the financing required to fund the completion of the expansion and upgrade investment and the Company's ongoing working capital requirements. The first stage was to secure short-term financing in June 2017 by way of shareholder loans from shareholders Tablo and Agrifos totalling US\$4,900,000 (**Shareholder Bridge Loans**). During the period July 2017 to October 2017 the Company drew down the remaining US\$3.9 million available under the Shareholder Bridge Loans.

A renounceable pro rata entitlement offer (**Entitlement Offer**) of new shares (**New Shares**) is the second stage, to raise up to A\$13 million (before costs) to progress the strategic plan and to fund the repayment of the Shareholder Bridge Loans (further details regarding the use of funds are included in the Offer Document). The final stage of funding will comprise a combination of debt and equity with a significant capital raising likely to take place within the next 12 months.

Under the Entitlement Offer<sup>5</sup>, Eligible Shareholders (defined below) will be able to subscribe for nine (9) New Shares for every twenty (20) existing shares they hold at an issue price of 4.8 cents per Share. The issue price represents a 24% discount to the volume weighted average trading price for the 30-days trading prior to and including 20 October 2017, and a 14% discount to the closing price on 20 October 2017.

The Offer Document includes details of the Entitlement Offer and its effect on the Company and the risks associated with an investment in the Company.

Shareholders may apply for an uncapped number of New Shares in excess of their full entitlement under the Entitlement Offer. New Shares applied for by eligible shareholders in addition to their entitlement and by other investors offered shortfall shares will be issued in priority to those eligible shareholders and other investors before any allocation to the underwriters.

#### **Underwriting and commitments**

The Company has been successful in securing commitments from major shareholders to take up their entitlements under the Entitlement Offer, for a combined A\$5.75 million. In addition, Company shareholders Tablo Corporation and Agrifields DMCC have agreed to underwrite any shortfall to the Entitlement Offer up to a combined A\$6.59 million. The combined commitments and underwriting from major shareholders ensure a minimum raising of A\$12.34 million.

#### **Lead Manager**

The Company has appointed Foster Stockbroking as lead manager to the Entitlement Offer (**Lead Manager**). The Lead Manager will seek to place Shortfall shares on a best endeavours basis in priority to Tablo's and Agrifields' underwriting.

#### **Placement**

In addition to the Entitlement Offer, and subject to there being sufficient demand, the Company may also undertake a placement offer of up to 41,666,667 ordinary shares to investors to raise up to approximately A\$2 million (before costs) at an issue price of 4.8 cents per share. The placement will be carried out under the Company's existing placement capacity and funds raised to be used to further the Company's strategic plan and for working capital. Further details are provided within the Offer Document.

<sup>5</sup> See 24 October 2017 "Renounceable Entitlement Offer" Company announcement and Offer Document.





## 4.2 CASH POSITION

At the end of the September 2017 Quarter, Avenira had a cash balance of \$1.1 million.

Breakdown of cash movement for the September 2017 quarter:

Wonarah Project (including tenement maintenance costs) and JDCP	(\$0.01m)
Baobab Phosphate Project <sup>(i)</sup>	(\$4.45m)
Net Admin and Corporate	(\$0.70m)
Proceeds from equity issue and borrowing	\$3.34m

(i) Includes receipts from sale of 2<sup>nd</sup> shipment

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### Schedule of Avenira Limited Tenements as at 30 September 2017

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	14626/MIM/DMG	80%
Senegal	Gadde Bissik	09810/MIM/DMG	80%

### 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

#### 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.