

28 October 2016

## SEPTEMBER 2016 QUARTERLY ACTIVITIES REPORT

#### **HIGHLIGHTS**

#### **BAOBAB PHOSPHATE PROJECT**

- First phosphate production achieved in September quarter
- Processing plant construction complete and now ramping up
- · Post-commissioning minor plant improvements being made
- Trucking of product to Port of Dakar for stockpiling commenced in late September
- Additional product offtake agreement secured, increasing aggregate commitments to between 360,000 and 480,000 tpa
- Project on schedule for first sale of product during the December quarter
- Regional scout drilling extends the area of significant phosphate mineralisation

#### **CORPORATE**

Cash balance at 30 September 2016 of A\$14.3m

Cliff Lawrenson, Managing Director, commented "We remain very pleased with ongoing progress at the Baobab Phosphate Project during the September quarter. The annual wet season provided valuable experience when we demonstrated ongoing mining is feasible, although product drying can be delayed based on our current plant configuration. We are currently working on minor post-commissioning plant improvements as we ramp up production.

During the September quarter, we increased export offtake commitments and we are currently preparing for our maiden shipment of product. Consistent with crop nutrient markets generally, the current market for rock phosphate is soft. Indications are that new entrants to the market will need to demonstrate reliability and commitment of supply to secure longer-term offtake. We remain confident in the long-term outlook for the phosphate market given growing global food demand.

We continue to make good progress in moving from our current small mine permit to a full mine permit. This paves the way for the potential expansion of the Baobab project and we expect to submit our application in the December quarter."



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

#### 1.1 PROJECT DEVELOPMENT

Significant project milestones were achieved during the September quarter for the development of the Baobab Phosphate Project ("Project"):

- No lost time injuries were reported during the September quarter
- Wet screening plant construction completed
- Commencement of phosphate mining production
- Production of the first phosphate product
- Successful phosphate mining through the wet season
- Confirmation of visual grade control
- Commissioning of process water supply
- Road transport of first product to the Port of Dakar
- Establishment of stockpile facilities at the Port of Dakar

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

## **Mining Contract**

- Mining of the Stage 1 open pit progressed with phosphate mining during August and September. (Figure 1).
- Visual grade control of phosphate mining was confirmed, allowing the optimisation of phosphate mining methods with close geological control and efficient mining of 2m high mining benches. (Figure 2 and 3).
- Overburden removal continued in Stage 2 open pit with mining completed at the end of the quarter, leaving a further 16 metres to remove to access phosphate in this mining stage.
- Initial topsoil removal commenced for the Stage 3 open pit.
- The mining operation continued to improve, with close teamwork between mining engineering, geological, survey and contractor teams.

## Mine Design and Schedule

Ongoing optimisation of the mine design and schedule continues to demonstrate little change to the original pit design.



Figure 1: Stage 1 Open Pit Mining Operations





Figure 2: Phosphate mining under close geological control in Stage 1 Open Pit

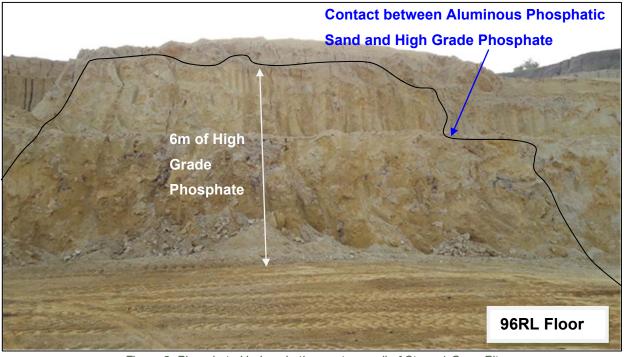


Figure 3: Phosphate Horizon in the western wall of Stage 1 Open Pit

## Infrastructure

• The road transport weighbridge was installed and commissioned at the end of September.



## Water Supply

- Process water bore pumps and associated equipment were installed and commissioned during the quarter, with water flow rates achieved from the two bores exceeding expectations.
- Liaison with the local communities regarding the selection of suitable bore equipment for the community water bores was postponed until the end of the recent wet season.

#### **Processing**

- Consulmet (Pty) Limited combined with the Company process team completed the wet screening plant construction on time at the start of August.
- Following successful commissioning with water, the plant has continued phosphate commissioning during the second half of the September quarter.
- The wet screening plant will continue to "ramp up" to nameplate capacity over the next few months.
- Plant performance to date indicates product quality as expected from the laboratory testing.
- Some delays have been encountered mobilising and establishing the contract crushing operations, with further work required in this area to ensure the required plant performance.



Figure 4: First Phosphate Product





Figure 5: Contract Crushing and Screening commissioning



Figure 6: Established Product Drying and Road Haulage loading area.

## **Transport**

The road haulage contractor mobilised the fleet to site during the September quarter. First phosphate was trucked to the Port of Dakar in the last week in September.

## Port of Dakar

The product storage facility at the Port of Dakar has been established at 30,000t capacity with compacted lower grade phosphate product used to cover the stockpile area base in order to minimise contamination.



## **Local Community Consultation and Relocation**

Close collaboration with the local communities continued through the September quarter:

- The employment rotation system for potential local employees to be identified and employed for short term and longer term operational functions continued, with labour coming from all the communities in the immediate project area.
- One of the first programs in the project environmental and community plan was completed with a tree planting program in the areas immediately outside the project safety fence. A large number of local residents were involved with this program in cooperation with the Forestry Department.

#### Recruitment

Following the completion of the construction phase of the project, a review of required labour for the operational phase is being undertaken, with a view to optimising the operating work teams.

## Marketing

During the September quarter the Company signed further export rock phosphate supply agreements increasing aggregate commitments to between 360,000 and 480,000 tpa, with Baobab rock phosphate product destined for downstream phosphate fertiliser producers. These agreements mark a significant milestone for the Company.

Preliminary price discussions indicate that the market for Baobab product is currently soft and in oversupply, consistent with crop nutrient markets generally. This reality coupled with Baobab being a new entrant to the market, with product untested at scale, will likely result in the Company making an operating loss initially as it earns and establishes its reputation in the market. This is not unusual for first production, especially when the plant is not yet at name plate capacity and production costs are still being optimised.

Establishing long-term relationships with end users of Baobab product is an important priority that is being diligently worked on as the Company prepares for it maiden shipment in the December quarter.

#### 1.2 GEOLOGY AND EXPLORATION

#### **BAOBAB PROJECT**

#### Gadde Bissik Area

Drilling activities for the quarter again focussed primarily on resource definition within and adjacent to the SMP at 125m x 125m spacing. The purpose of the current diamond drilling program is to provide sufficient information to allow an increase in the Indicated Resource at Gadde Bissik. Drilling advanced at a faster pace than the previous quarter although still slower than planned due to driller availability issues and difficult ground conditions with numerous holes having to be re-drilled to ensure satisfactory sample recoveries. A total of 76 diamond holes for 3,252 metres were drilled during the period. A drill status plan is shown at Figure 8.



BAOBAB PROJECT	Air core dril	ling	Diamond d	rilling
Purpose of drilling	Holes	Metres	Holes	Metres
Regional exploration Resource definition	31	1219	-	-
- Within SMP	-	-	41	1832
- Outside SMP	-	-	35	1420
TOTAL			76	3252

Table 1: Drilling statistics - September 2016 Quarter

Resource definition drilling is anticipated to continue for the majority of the following quarter. There has been no change to the resource estimate during the September quarter.

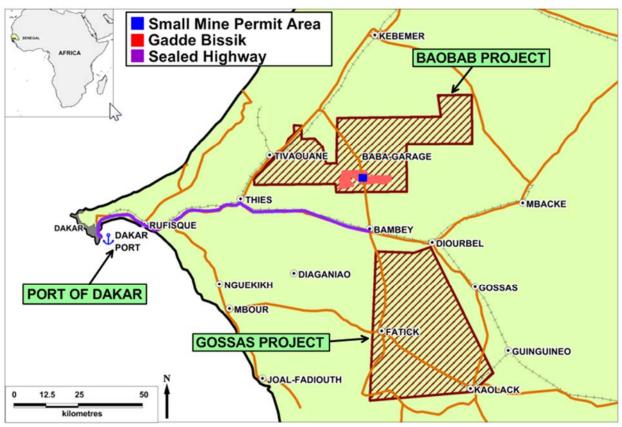


Figure 7: Baobab, Gadde Bissik and Gossas location



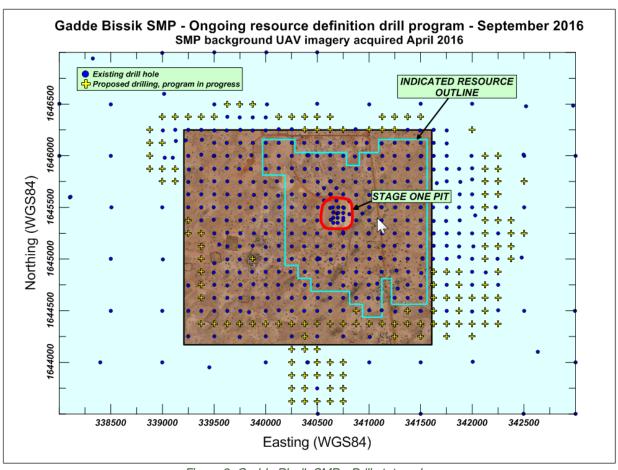


Figure 8: Gadde Bissik SMP - Drill status plan

#### Regional scout drill program

The results of a 31-hole scout air core drill program recently finalised are presented in this report. The scout drill program targeted areas to the east and north-east of the Gadde Bissik deposit (Figure 9). A table summarising all drilling results from the program and the statutory JORC Table 1 are appended to this report.

The drill program demonstrated the continuity of phosphate mineralisation up to 15 kilometres east of the SMP. Every hole drilled had anomalous to significant phosphate mineralisation present. The most significant intervals include RGRC0437 with 8 metres at 21.5%  $P_2O_5$ , RGRC0432 with 6 metres at 20.2%  $P_2O_5$  and RGRC0442 with 4 metres at 23.4%  $P_2O_5$ . Representative cross-sections showing the stratigraphic relationships are shown in Figure 10. The 8-metre interval in RGRC0437 is one of the thickest phosphate intervals outside of the current resource area and a follow up infill drill program is scheduled to commence in November 2016 along with an infill drill program around RGRC0432.



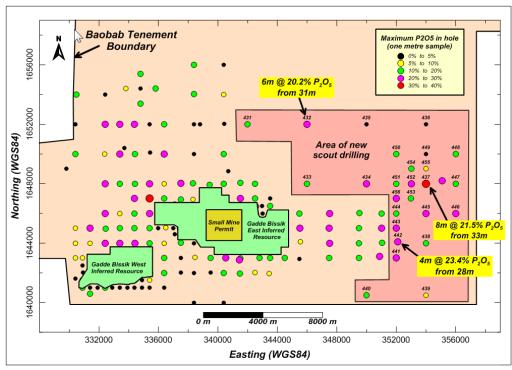


Figure 9: Regional scout drill program location and maximum phosphate values per hole (one metre sample)

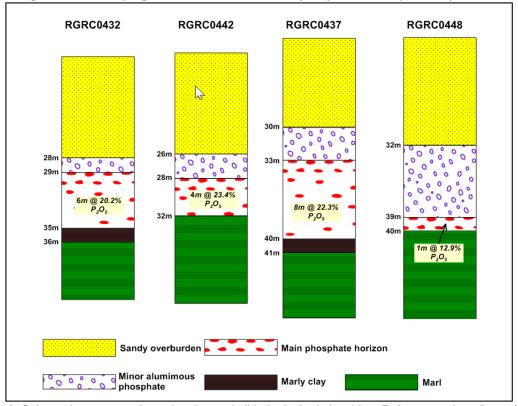


Figure 10: Schematic cross sections showing main lithological relationships. Refer to previous figure for collar locations)



Another scout drill program commenced in the September quarter and will continue in November following a short break for the wet season. This program is aimed at covering the entire north-eastern part of the Baobab tenement at 4000 x 4000 metre spacing (Figure 11).

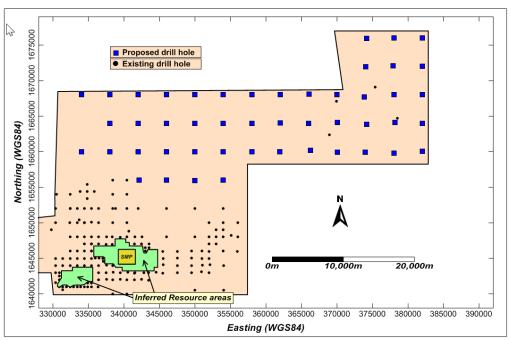


Figure 11: Location of proposed scout drilling

#### **GOSSAS PROJECT**

The Gossas tenement (Figure 7) is in the process of being transferred to Baobab Mining and Chemicals Corporation SA, an 80% owned subsidiary of the Company.

The Gossas tenement lies to the south-east of Baobab (Figure 7) and the eastern part of the tenement covers an area of high prospectivity for phosphate with numerous historical records of phosphate occurrences. In June 2016, BRGM produced a report based on a literature survey of old available geological data from water wells and boreholes to establish the most prospective geology and to recommend relevant exploration phosphate targets.

The geology of the western half of the Gossas tenement is not considered to be prospective for economic phosphate mineralisation. The eastern half of the tenement is underlain by geology that is prospective and has recorded phosphate occurrences. Some phosphate exploration was carried out in the 1950s and phosphate mineralisation up to 12 metres thick was recorded in the southeastern part of the Gossas tenement. The depth of overburden varies from 20 to 40 metres. The mineralisation is considered by the BRGM to be similar in nature to the reworked style of mineralisation that occurs at Gadde Bissik on the nearby Baobab tenement. The grade of the phosphate is conjectural with some high-grade samples recorded but sampling protocols unknown.

Initial exploration of one of the Gossas tenement commenced in July with 5 scout air core holes drilled in the Diakhao area targeting a BRGM anomaly. Phosphate was observed in three of the five holes at shallow depths (<20m) and assay results are pending validation (Figure 12).

Based on the presence of phosphate at shallow depths, the proposed scout drill program has been expanded and drilling is anticipated to recommence in late 2016 or early 2017 (Figure 12).



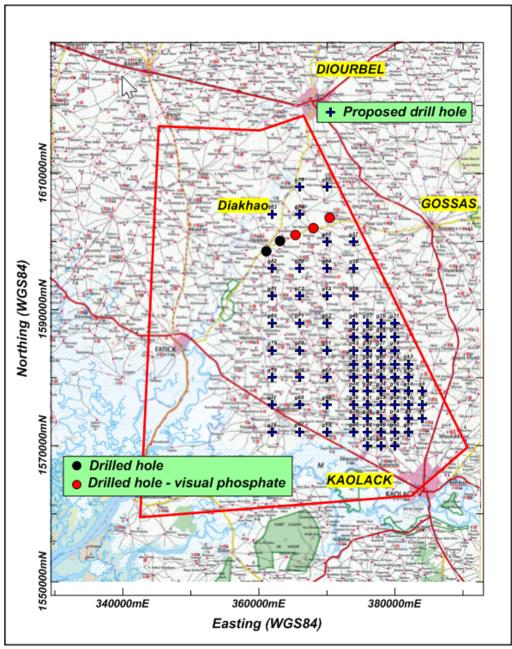


Figure 12: Gossas Project - Drill Status Plan

## 2. JDCPHOSPHATE, INC.

Avenira owns approximately 8.0% of JDC Phosphate, Inc. (JDCP) and has an exclusive licence to utilise the Improved Hard Process (IHP) technology in Australia and Senegal for an extended period of time.

Avenira has recently executed two agreements with JDCP that have:

• Updated and strengthened Avenira's exclusive IHP license agreements in Australia and Senegal for a prepayment of certain licensing fees.



- Secured convertible loan funding to JDCP to allow further time for the company to achieve its strategic objectives. The convertible loan is interest bearing and has rights to convert into additional JDC equity in certain circumstances. Avenira has an associated right to a seat on JDCP's board.
- The total funding is limited to USD2m and will be drawn down progressively.

Tip Fowler, CEO of JDCP commented "Since the June, 2016 Quarterly Report the unexpected occurrence of a massive sinkhole underneath the active phosphogypsum stack at the Mosaic Company's flagship New Wales facility served to highlight one of the primary attributes of the IHP technology i.e. that it produces no phosphogypsum. The company is making sure that it has communicated appropriately with regulators, the media and other constituencies in order that the benefits of technology change in sinkhole prone Florida be fully considered. JDCP continues to pursue a capital financing to fund technology development and ultimate commercialization of the technology at full commercial scale."

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

## 3. WONARAH PHOSPHATE PROJECT, NORTHERN TERRITORY (100% owned)

The Company continues to review the holding costs of the Wonarah project until the commercial validation of the IHP technology. A strategy of reducing the exploration tenement area peripheral to ML27244 continued in the September quarter with the surrender of EL23767. None of the Wonarah JORC Mineral Resource is contained within EL23767.

#### 4. CORPORATE

During the quarter the following securities have been released from escrow:

- 140,000,000 fully paid ordinary shares;
- 80,000,000 unlisted options, exercise price \$0.25, expiry 24/09/2019; and
- 40,000,000 'Class B' Contingent Share Rights, expiry 24/09/2020.

#### 4.1 BOARD CHANGES

Due to the current illness of Avenira Chairman Dick Block, Dr. Chris Pointon has been appointed Deputy Chairman

#### 4.2 CASH POSITION

At the end of the September 2016 Quarter, Avenira had cash of \$14.3 million.

Breakdown of cash spend for the September quarter:

Tenement cost and maintenance	(\$0.04m)
Wonarah Project and JDCP	(\$2.13m)
Baobab Phosphate Project	(\$7.47m)
Net Admin and Corporate	(\$0.87m)
Proceeds from issue of shares	\$0.45m

Cliff Lawrenson

Managing Director





#### Schedule of Avenira Limited Tenements as at 30 September 2016

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	Wonarah Mineral Lease	ML27244	100%
Senegal	Baobab	14626/MIM/DMG	80%
Senegal	Gadde Bissik	09810/MIM/DMG	80%

#### Compliance Statement

The information in this report that related to Exploration Results is based on information compiled by Russell Fulton, who is the Geological Manager and a full-time employee of the Company and a Member of the Australian Institute of Geoscientists. Mr Fulton has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is 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'. Mr Fulton consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Other 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

#### 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

7 January 2016: Technical Report Mineral Resource Estimation for the Gadde Bissik Phosphate Deposit, Republic of Senegal

#### 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.



## **ANNEXURE 1**

JORC Table



# JORC Code Table 1 Report: Baobab Project Exploration Results released as at 30 September 2016

## Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> </ul>	<ul> <li>Exploration drilling undertaken in 2015-2016 by BMCC, an 80% owned subsidiary controlled by Avenira Limited. Exploration was planned and managed by Avenira's geological manager. The program was comprised of 31 air core (AC) holes totalling 1,219 m of drilling.</li> <li>No previous exploration in the area covered by this program.</li> </ul>
	Include reference to measures taken to ensure sample representivity	AC were sampled over 1 m down hole intervals.
	and the appropriate calibration of any measurement tools or systems used.	<ul> <li>AC sub-samples were collected by riffle splitting.</li> </ul>
		<ul> <li>All drilling and sampling was supervised by BMCC field geologists.</li> </ul>
	Aspects of the determination of mineralisation that are Material to the Public Report.	<ul> <li>Hand-held radiation detection measurements were used to aid selection of intervals for assaying. Phosphate mineralisation is typically associated with weakly elevated uranium. These results will not be used for resource estimation.</li> </ul>
	In cases where 'industry standard' work has been done this would be	100% of the AC samples were analysed by SGS Lakefield in Canada.
samples from which 3 kg was pulverised to proc fire assay'). In other cases more explanation may where there is coarse gold that has inherent sam	relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems.  Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information	<ul> <li>SGS's sample preparation takes place in Dakar, Senegal, and comprises oven drying and crushing of the entire sample to 75% passing -2mm. A 1.5kg sample of -2mm is separated by riffle splitter. The 1.5kg sub-sample is pulverised to 85% passing -75 microns in a ring and puck pulveriser. SGS Method PRP89, PRP94.</li> </ul>
		<ul> <li>20g sample is dispatched air freight to the analytical laboratory. A 0.2-0.5 gram sub-sample of the pulverised material was fused with lithium metaborate and analysed by XRF for P<sub>2</sub>O<sub>5</sub>, Al<sub>2</sub>O<sub>3</sub>, CaO, Fe<sub>2</sub>O<sub>3</sub>, K<sub>2</sub>O, MgO, MnO, Na<sub>2</sub>O, SiO<sub>2</sub> and TiO<sub>2</sub> (± Cr<sub>2</sub>O<sub>5</sub> and V<sub>2</sub>O<sub>5</sub>). SGS Method XRF76C,V. LOI was determined separately and gravimetrically at</li> </ul>



Criteria	JORC Code explanation	Commentary
		1000°C.
Drilling	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air	The AC drilling utilised a bit diameter of 114.3mm.
techniques	blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	All drilling was vertical.
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> </ul>	<ul> <li>AC sample recovery was assessed by weighing total recovered sample material. AC drilling was conducted over two phases with one drill rig.</li> </ul>
	<ul> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	Recoveries of 65-70% were recorded within the mineralised zone. The mineralised zone contains the most difficult ground conditions with the presence of hard pebbles causing issues with all types of drilling.
	<ul> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>The available information suggests that the sampling is representative and does not include a systematic bias due to preferential sample loss or gain.</li> </ul>
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	<ul> <li>Air core holes were routinely geologically logged by industry standard methods, with logging available for all AC drilling. Sub-samples of all AC chips were retained in chip trays for the future reference.</li> </ul>
	<ul> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> </ul>	<ul> <li>The geological logging is qualitative in nature, and of sufficient detail to support the exploration.</li> </ul>
	The total length and percentage of the relevant intersections logged.	<ul> <li>All recovered material was logged at one metre intervals.</li> </ul>
Sub-	If core, whether cut or sawn and whether quarter, half or all core taken.	AC samples were collected over generally 1m down-hole intervals and
sampling techniques and sample	<ul> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> </ul>	sub-sampled with a three tier riffle splitter. Virtually all AC samples were dry.
preparation	<ul> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> </ul>	<ul> <li>Measures taken to ensure the representivity of AC sub-sampling include close supervision by field geologists, use of appropriate sub-sampling methods, routine cleaning of splitter and cyclones, and rigs with</li> </ul>
	Quality control procedures adopted for all sub-sampling stages to	sufficient capacity to provide generally dry, high recovery AC samples.
	maximise representivity of samples.	<ul> <li>Information available to demonstrate the representivity of sub-sampling includes AC field duplicates.</li> </ul>
situ material collec	situ material collected, including for instance results for field	<ul> <li>The available information demonstrates that the sub-sampling methods</li> </ul>
	duplicate/second-half sampling.	and sub-sample sizes are appropriate for the grain size of the material



Criteria	JORC Code explanation	Commentary
	Whether sample sizes are appropriate to the grain size of the material being sampled.	being sampled, and provide sufficiently representative sub-samples for resource estimation.
Quality of assay data and laboratory tests	<ul> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>Hand-held radiation detection measurements were used to aid selection of intervals for assaying.</li> <li>Avenira's assay quality control procedures include certified reference standards, coarse blanks and external laboratory checks. These results have established acceptable levels of precision and accuracy for the assays included in the current estimates.</li> <li>The available QAQC information has established acceptable levels of precision and accuracy for the attributes included in reporting of exploration results.</li> </ul>
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	The geological manager of Avenira has verified calculated intercept grades for intervals reported in this announcement on the basis of the data supplied by field personnel.
	The use of twinned holes.	No twin holes were drilled in this scout program.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Sample intervals and geological logs were recorded on logging sheets and subsequently entered into desk-top or lap-top computers. These logs and laboratory assay files were merged directly into a central Micromine database.
		Database and geological staff routinely validate database entries with reference to original data.
		<ul> <li>Avenira's database geologist and geological manager carry out checks of database validity including: Comparison of assay values with geological logging, comparison of assay values between nearby holes, checking for internal consistency between, and within database tables, and for most assays from drilling the results from laboratory source files were compared with database assay entries.</li> </ul>
		These checks showed no significant discrepancies in the databases used for resource estimation.



Criteria	JORC Code explanation	Commentary
	Discuss any adjustment to assay data.	No assay results were modified.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	<ul> <li>All holes reported here have high accuracy differential GPS collar surveys.</li> <li>No holes were down-hole surveyed in the scout program.</li> </ul>
	Specification of the grid system used.	All surveying was undertaken in UTM Zone 28 coordinates.
	Quality and adequacy of topographic control.	<ul> <li>Topographic control by hand-held GPS and follow up with high accuracy differential GPS surveying is adequate for the current exploration data.</li> </ul>
Data spacing and distribution	Data spacing for reporting of Exploration Results.	<ul> <li>Drill hole spacing for this scout program varied from 4,000 metres to 1,000 metres between holes.</li> </ul>
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	The data spacing has established geological continuity sufficiently for the current Exploration Results.
	Whether sample compositing has been applied	Drill hole sample data were composited from 1 m down-hole intervals.
Orientation of data in	possible structures and the extent to which this is known, considering	The mineralisation is flat lying to gently undulating, and perpendicular to the generally vertical drill holes.
relation to geological structure	<ul> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>The drilling orientation achieves un-biased sampling of the mineralisation.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Sample collection for the drilling was supervised by BMCC geologists using protocols established by Avenira's geological manager.</li> </ul>
		<ul> <li>The Gadde Bissik project is in a largely rural area with easy access to the general public. Samples selected for assaying were collected in heavy-duty polyweave plastic bags that were immediately sealed and placed inside an BMCC vehicle. The bagged samples were then taken</li> </ul>



Criteria	JORC Code explanation	Commentary
		by BMCC employees directly to a site office in the regional town of Tivaouane where they were kept under lock and key. Samples were transferred to the BMCC office in Dakar weekly where paperwork was prepared and samples then delivered directly to SGS in Dakar by BMCC personnel. No contractors or third parties were permitted unsupervised access to sample before delivery to SGS.
		<ul> <li>Results of field duplicates and blanks, and the general consistency of results between this phase and previous sampling phases provide confidence in the general reliability of the data.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Sample data reviews have included comparisons between this and previous sampling phases and methods which provide some confidence in the general reliability of the data.
		<ul> <li>The Avenira geological manager independently reviewed the quality and reliability of the exploration data. These reviews included observation of drilling and sampling, review of database consistency, comparison of laboratory source files with database entries, and review of QAQC information.</li> </ul>
		The Competent Person considers that the sample preparation, security and analytical procedures adopted for the BMCC drilling provide an adequate basis for the reporting of Exploration Results.



# Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	tenement and agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites,	<ul> <li>The Baobab project areas lie within BMCC 1553km² Research Permit "Cherif-LO Ngakham" in the region of Thies. The licence was renewed on 28 July 2014 for three years.</li> <li>A 5km² higher grade, more closely drilled portion, is the subject of a</li> </ul>
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	granted Small Mine Permit. Avenira is an 80% owner of BMCC. The obligations in regard to fees and future royalties are not considered by the company to be commercially onerous. There are no known impediments to maintaining a licence to explore or to obtaining a licence to mine in the area.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>No previous exploration has taken place in the area of this phase of scout drilling. This phase of drilling is in an area 5 to 26 kilometres east of the Small Mine Permit.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	• Phosphate mineralisation within the Baobab tenement is part of the widespread marine phosphate phase developed within the Senegalese sedimentary basin in the Middle Eocene (48.6 to 40.4 million years). Phosphate mineralisation in the Gadde Bissik area is predominantly a product of dismantling and reworking of primary high grade "residual" phosphate deposits and subsequent deposition under palaeomorphological control. The "reworked" deposits at Gadde Bissik are thicker and higher grade than typically recorded in the broader area and may indicate a more proximal source resulting in a lower degree of dilution through mixing with non-phosphatic material.
		<ul> <li>The Gadde Bissik stratigraphic succession is comprised of a footwall of marl or marly clays, with overlying nummulitic limestone in places, discordantly overlain by the phosphatic sequences. The contact is typically marked by elevated iron levels within the marly clay. The main phosphatic unit is comprised of phosphate sands with hard and soft phosphate pebbles, phosphatic conglomerates and varying degrees of ferruginous gravels. The unit varies from 1 to 10m thick with the thicker areas occurring as lenticular or pod-like bodies. Grades vary from 5-</li> </ul>



Criteria	JORC Code explanation	Commentary
		35% P <sub>2</sub> O <sub>5</sub> . Above the main phosphate unit a layer of white gravelly aluminium phosphate is developed with grades typically in the range of 1-5% P <sub>2</sub> O <sub>5</sub> infrequently ranging up to 10%. The layer is not continuous and varies from 1-5m where present. The lower part of this unit grades into the main phosphatic unit in some places. The phosphatic units are overlain by clayey sands ranging from 25-40m thick.
		<ul> <li>Assay data and geological observations indicate that the mineralisation observed in this phase of scout drilling is likely to be of a similar nature to that which is contained within the Small Mine Permit area.</li> </ul>
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</li> </ul>	Drill hole results from this phase of drilling are included in this Public Report.
	o easting and northing of the drill hole collar	
	<ul> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> </ul>	
	o dip and azimuth of the hole	
	o down hole length and interception depth	
	o hole length.	
	<ul> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> </ul>	AC drilling data reported in these Exploration Results are nominally reported with a cut-off grade of 8%. For completeness, poorly-mineralised holes are reported with lower cut-offs.
	<ul> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> </ul>	• The spread of assay results for this style of phosphate deposit between $0\%$ and $40\%$ $P_2O_5$ . Assays of economic interest are around $20\%$ or higher so there are minimal issues with skewing of averages due to high/low grade samples.



Criteria	JORC Code explanation	Commentary
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	The exploration results do not include equivalent values.
Relationship between mineralisation	These relationships are particularly important in the reporting of Exploration Results.	The mineralisation is flat lying to gently undulating, and perpendicular to the generally vertical drill holes, with down-hole lengths representing true thicknesses.
widths and intercept	• If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	
lengths	<ul> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Included in text of announcement.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All drill holes are reported here.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	No other substantive data has been collected within the area of this phase of scout drilling.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	Closer-spaced AC drilling in the vicinity of the drill holes that have returned significant results from this phase of drilling is planned to
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	<ul> <li>commence in October 2016.</li> <li>Further scout exploration work is continuing at a regional scale, initially on a 4 x 4km grid spacing.</li> </ul>



# Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	No mineral resource has been established
	Data validation procedures used.	
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	No mineral resource has been established
	If no site visits have been undertaken indicate why this is the case.	
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	No mineral resource has been established
	Nature of the data used and of any assumptions made.	
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	
	<ul> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> </ul>	
	The factors affecting continuity both of grade and geology.	
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	No mineral resource has been established
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	No mineral resource has been established.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes	No mineral resource has been established.



Criteria	JORC Code explanation	Commentary					
	appropriate account of such data.						
	The assumptions made regarding recovery of by-products.	No mineral resource has been established.					
	• Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).						
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	No mineral resource has been established.					
	Any assumptions behind modelling of selective mining units.	No mineral resource has been established.					
	Any assumptions about correlation between variables.	No mineral resource has been established.					
	Description of how the geological interpretation was used to control the resource estimates.	No mineral resource has been established.					
	Discussion of basis for using or not using grade cutting or capping.	No mineral resource has been established.					
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	No mineral resource has been established					
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	No mineral resource has been established.					
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	No mineral resource has been established.					
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	No mineral resource has been established.					



Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	No mineral resource has been established.
Environmenta I factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	No mineral resource has been established.
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> </ul>	No mineral resource has been established.
	<ul> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	No mineral resource has been established.
	Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data,	The resource classification accounts for all relevant factors.



Criteria	JORC Code explanation	Commentary					
	confidence in continuity of geology and metal values, quality, quantity and distribution of the data).						
	Whether the result appropriately reflects the Competent Person's view of the deposit.	No mineral resource has been established.					
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	No mineral resource has been established.					
Discussion of relative accuracy/confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	No mineral resource has been established.					
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.						
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.						



ANNEXURE 2
Baobab Phosphate Project scout drill program phase 1 - material air core drill intercepts

Hole ID	Easting	Northing	RL	Dip	Total depth	Mineralised intercept data (average grade over width)						
						From	То	Width	P <sub>2</sub> O <sub>5</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	Al <sub>2</sub> O <sub>3</sub> %	MgO%
RGRC0437	353999.0	1647998.4	35.8	-90°	44	33	41	8	21.5	1.07	2.26	0.03
						33	34	1	31.5	0.76	1.90	0.02
RGRC0432	345999.9	1652000.1	22.0	-90°	41	30	36	6	20.2	3.43	3.21	0.06
						32	35	3	24.8	3.37	2.57	0.04
RGRC0443	352001.7	1644999.4	35.2	-90°	45	37	42	5	17.3	6.96	1.72	0.04
						38	40	2	24.5	2.68	1.28	0.03
RGRC0434	350001.6	1648000.7	34.7	-90°	42	33	38	5	10.9	1.82	1.79	0.10
						34	35	1	20.1	1.62	2.06	0.07
RGRC0442	352114.9	1644097.6	37.4	-90°	34	28	32	4	23.4	2.20	2.46	0.14
RGRC0446	355992.0	1645995.5	36.7	-90°	39	32	36	4	19.0	6.83	2.05	0.04
RGRC0456	351999.7	1646998.5	35.3	-90°	42	36	40	4	15.6	1.97	1.89	0.08
						37	38	1	21.7	2.64	1.59	0.05
RGRC0452	352999.4	1647998.4	36.7	-90°	43	36	40	4	14.3	1.58	1.91	0.05
						37	38	1	25.4	1.11	1.06	0.02
RGRC0453	352998.3	1646998.9	34.4	-90°	42	34	40	4	13.1	1.85	3.43	0.75
RGRC0441	351991.9	1643003.7	35.3	-90°	27	22	25	3	18.3	3.40	3.73	0.71
						23	24	1	22.7	1.65	2.19	0.03
RGRC0450	351998.8	1650001.0	31.5	-90°	45	40	43	3	15.4	1.77	3.40	0.44
RGRC0451	352000.3	1647998.7	37.3	-90°	45	40	43	3	11.6	4.76	2.81	0.52
RGRC0445	354000.0	1646000.0	38.6	-90°	45	40	43	3	17.5	10.80	2.04	0.07
RGRC0438	354003.7	1643999.0	37.7	-90°	35	30	32	2	20.9	6.38	3.73	0.05
RGRC0431	341996.7	1652003.5	25.0	-90°	33	30	32	2	10.9	2.76	3.58	0.05
RGRC0444	352002.5	1645994.7	36.1	-90°	47	43.0	44	1	13.6	2.08	1.60	0.07
RGRC0433	346006.0	1648004.1	38.9	-90°	23	18	19	1	13.0	6.14	8.47	2.45
RGRC0448	356000.9	1650002.4	34.3	-90°	43	39	40	1	12.9	8.15	6.70	1.24
RGRC0440	349998.0	1640500.8	36.9	-90°	22	18	19	1	12.8	6.93	8.87	0.87
RGRC0447	355999.1	1647999.6	37.7	-90°	41	38	39	1	11.7	3.51	3.94	1.15
RGRC0454	353000.0	1649000.0	37.4	-90°	43	44	45	1	11.3	2.41	2.80	0.41
RGRC0455	353999.8	1649002.4	40.0	-90°	48	44	45	1	9.17	1.56	1.07	0.07
RGRC0439	354001.5	1640500.1	35.2	-90°	27	23	24	1	7.38	3.02	4.90	0.56
RGRC0435	350000.9	1651999.0	25.1	-90°	36	31	32	1	4.44	4.22	3.24	0.06
RGRC0436	354000.5	1652001.4	32.8	-90°	48	44	45	1	3.01	1.77	3.21	0.60
RGRC0449	353999.3	1650000.4	35.9	-90°	35	31	32	1	2.24	2.73	3.31	0.09
Intervals re	Intervals restricted to those with $\geq 8\% \ P_2O_5$ except for holes with a maximum grade $\leq 8\% \ P_2O_5$											
Maximum c	Maximum of 2 metres of internal waste excluded											