



## CORPORATE INFORMATION

Bassari Resources Limited is an Australian listed company focused on discovering and delineating high-grade gold resources which can be developed into profitable operations in the Birimian Gold Belt, Senegal, West Africa.

### FAST FACTS

ASX Code	BSR
Issued Capital	1,093,837,102
No of shareholders	1,644
Top 20	47%

### INVESTMENT HIGHLIGHTS

Exploration permits (BSR: 70%) cover approx. 850 km<sup>2</sup> over prospective Birimian Gold Belt, Senegal, West Africa.

- Makabingui Gold Project, Mineral Resource (Prepared and disclosed under the JORC Code 2004 and remains unchanged) **1.0 million ounces in 11.9 Mt at 2.6 g/t gold at a 0.5 g/t cut-off.**
  - Indicated: 336,000 ozs in 2.6Mt at 4.0g/t
  - Inferred: 669,000 ozs in 9.3Mt at 2.2g/t
- Senegal, stable democracy since 1960
- Quality ground holding in a +60M ounce gold region which hosts a number of world class deposits
- Multiple prospects identified along 80km strike length within world class gold province
- Gold intersected over a wide interval on multiple prospects
- Second advanced prospect – Konkouto with significant gold intercepts

### BOARD AND MANAGEMENT

**Alex Mackenzie**

*Executive Chairman*

**Jozsef Patarica**

*Managing Director/CEO*

**Chris Young**

*Non Executive Director*

**Philip Bruce**

*Non Executive Director*

**Ian Riley**

*Company Secretary/Chief Financial Officer*

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## ASX Release

26 June 2014

# BASSARI DELIVERS OUTSTANDING FEASIBILITY STUDY RESULTS - MAKABINGUI GOLD PROJECT

## High Grade - Low Cost - Strong Cash Flow - Quick Payback

Bassari Resources Limited (ASX:BSR) is pleased to deliver the positive results of a Feasibility Study which supports profitable high-grade gold production by initially mining four high grade pits within the one million ounce Makabingui gold resource in Senegal, West Africa.

## Highlights

- **Feasibility Study shows a low cost, highly profitable operation with significant free cash flows.**
- **Project Study summary at US\$1200/oz gold price:**

○ Production (recovered gold)	<b>171,000 ounces</b>
○ Average annual gold production	<b>50,000 ounces</b>
○ Average gold grade to the mill	<b>&gt;5.6 g/t gold</b>
○ High processing recovery	<b>95%</b>
○ Processing rate	<b>300ktpa</b>
○ Initial project mine life	<b>3.4 years</b>
○ Cash Cost	<b>US\$683/oz</b>
○ Low additional capital	<b>US\$12M</b>
○ NPV (8% discount rate)	<b>US\$63M</b>
○ IRR	<b>404%</b>
○ Pre-capex free cash flow (after tax)	<b>US\$88M</b>
○ Payback from production start	<b>&lt;12 months</b>
- **Substantial, 100% owned existing infrastructure and previous operating experience in country enables production to be fast tracked**
- **Significant upside – Much larger potential from within existing gold resource and extensive land package, containing 31 additional gold targets over 80km of strike**
- **Senegal – Stable democratic country, modern mining code which supports development of mining industry**

“The outstanding results of the Makabingui Feasibility Study confirm that we have a high grade, highly profitable project which will deliver significant free cash flows.” Managing Director Jozsef Patarica said.

“Our focus on profit and building a robust business case enables the Company to add considerable value for shareholders and the strong potential to leverage the upside as additional high grade resources are added through further infill drilling.

“The considerable existing infrastructure and mobile equipment in Senegal reduces both the capital cost and lead time to gold production which is reflected in a very quick payback.

“We are considering a number of options to fund the development of the Makabingui Gold Project. With its low capital cost, high grade and metallurgical recovery, strong cash flow and quick capital payback, interest from a number of funding sources has been received.

“The Board acknowledges the support of the Senegalese Government which has now cleared the project area of artisanal miners in the lead up to mining. Makabingui is set to be the second large scale gold mine in Senegal, a significant milestone for all shareholders, stakeholders and local communities.”



## **FEASIBILITY STUDY - INTRODUCTION**

The Makabingui Gold Project currently hosts a Mineral Resource (Note 1), which comprises 11.9 million tonnes averaging 2.6 g/t gold for a contained 1 million ounces of gold classified into the Indicated and Inferred Resource categories. The initial mining phase focuses on the indicated component of the resource based on open pit mining with conventional gravity and Carbon in Leach (CIL) processing circuit. The Feasibility Study is presented on an entire project basis with Bassari (through its 100% owned local subsidiary Bassari Resources Senegal SARL) holding 70% interest in the Sambarabougou Exploration Permit.

This Feasibility Study has been managed by Bassari, with input from a number of specialist independent consultants covering key disciplines (refer Appendix A). The study provides a detailed assessment of the technical and economic viability for the initial development phase of the Makabingui Gold Project.

Note 1 :- Prepared and disclosed under the JORC Code 2004 and remains unchanged

## ECONOMIC ANALYSIS

The study is based on a 300 ktpa hard rock operation initially from four high grade open-pits over a 3.4 year mine life. The project is technically and commercially feasible and can generate strong cash flows at the low end of industry operating costs.

Additionally, exploration and mine life upside exists from within the Makabingui one million ounce resource and from the prospective area to the south – “Makabingui South” (see Figure 28).

**Table 1 – Summary of Key Financial & Technical Outputs**

Parameter	Unit	FS @ US \$1200/oz
<b>Physical</b>		
Initial Life of Mine (LOM) – Minable Inventory	kt	992
Average Mined Head Grade	g/t	>5.6
Average Mill Throughput	ktpa	300
Average Annualised Gold Production	oz	50,000
Production (Recovered Gold)	oz	171,000
Initial Mine Life	Years	3.4
<b>Cash Flow Analysis</b>		
Project Revenue	US\$M	205
Operating Cost	US\$M	117
After Tax Cash Flow (pre capex)	US\$M	88
Total Capital (Includes pre-production)	US\$M	12
Project NPV (8%)	US\$M	63
IRR	%	404
Payback period from production start	Months	<12
Cash cost (C1) - inclusive of mining, processing, site administration, royalties and refining	US\$/oz	683

### Feasibility Study Parameters:

- Processing rate 300,000 tonnes per annum
- Mining Cut-off grade 1.3 g/t gold
- Metallurgical Recovery 95%
- Average Mining Cost US\$3.15 / tonne (inclusive of haulage)
- Average Processing Cost US\$29.62 / tonne processed
- General & Administration US\$10.44 / tonne processed
- Gold Price US\$1,200 per ounce

The project in this initial development stage is 3.4 years, with strong potential to significantly increase the mine life given that mineralisation remains open along strike and at depth in the current resource area. There is also much larger resource growth potential close to the existing project area along strike at Makabingui South where previous drilling (RC & RAB) has returned significant gold intercepts (see Figure 28). These intercepts along with previous artisanal activity, highlight the opportunities for further infill drilling.

Australian Mine Design & Development (AMDAD) carried out the pit designs and developed the production schedules based on the Whittle open pit optimisation studies.

Major equipment costs were based on a combination of budget quotes, knowledge of similar projects and in-country experience from building the existing gravity plant.

#### **Pre-production Capital Cost Estimate:**

Processing Plant Upgrade	US\$5.5M
Mine Pre-development	US\$1.7M
Tailings Storage Facility (Year 1)	US\$0.5M
First Fill & Spares	US\$0.5M
Mine Establishment & Owner's Costs	US\$2.8M
<b>Sub Total</b>	<b><u>US\$11.0M</u></b>
Tailings Storage Facility (Year 2 onwards)	US\$1.1M
<b>Total Capital Cost Estimate</b>	<b><u>US\$12.1M</u></b>

#### Notes:

- Mine pre-development allows for four months of mining to build an adequate ROM stockpile prior to gold production
- Mine Establishment & Owner's Costs include mobilisation, mine infrastructure and project management costs

Capital and operating costs have been derived from first principles based on budget quotes and in-country labour rates where possible as well as consultant databases related to similar projects.

With the Company's recent focus on finalising the Feasibility Study, project financing discussions for Makabingui can advance with a view to finalising a suitable funding package.

An indicative development timeframe to first gold production is 8 months with the critical path being the processing plant construction.



## MINE DEVELOPMENT

### Mine Layout

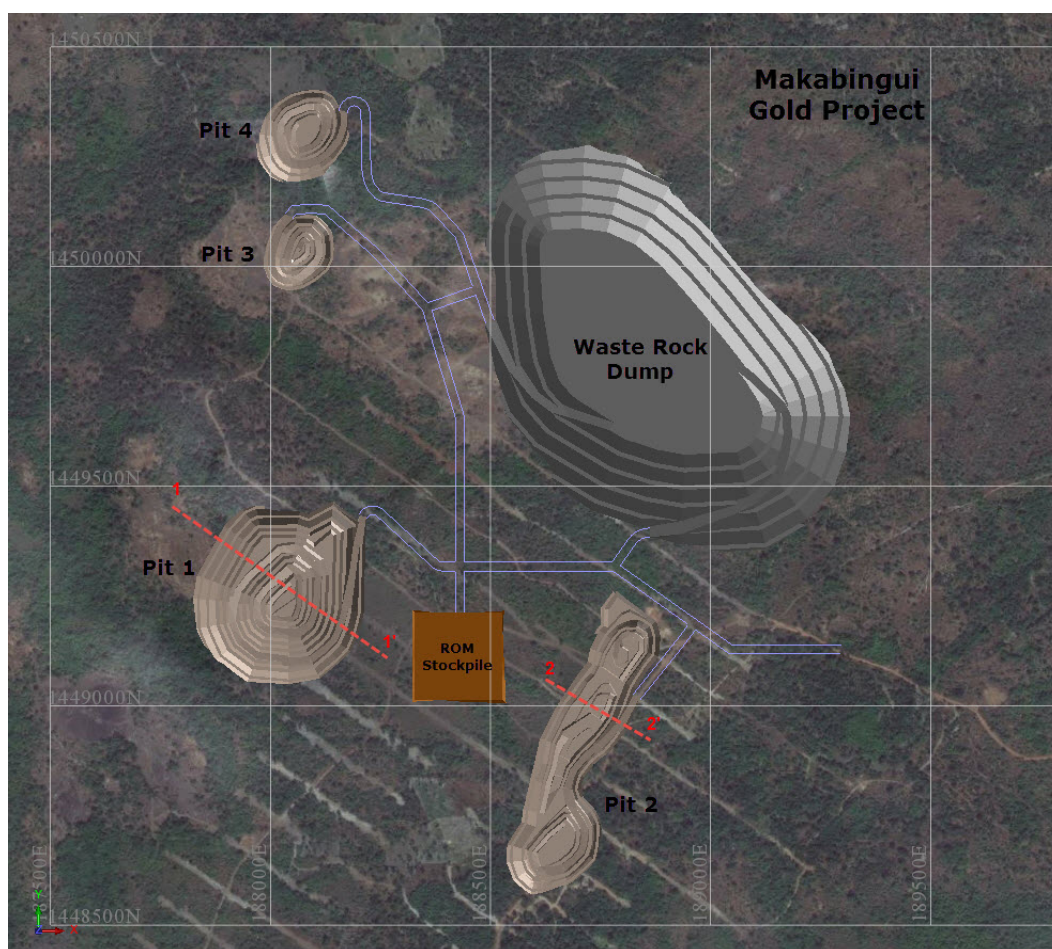
The development proposal is to commence mining operations utilising existing infrastructure, equipment and 300ktpa gravity processing plant. Four high grade open-cut pits have been identified, designed, and material movement schedules completed within the 1M ounce gold resource (refer Figures 1 & 2). The contained ounces and average grade for each pit are:

- Pit 1 – Total of ~460K tonnes at ~ **7.5 g/t gold** for **111,000 ounces**
- Pit 2 – Total of ~410K tonnes at ~ **3.8 g/t gold** for **51,000 ounces**
- Pit 3 – Total of ~50K tonnes at ~ **3.1 g/t gold** for **5,000 ounces**
- Pit 4 – Total of ~67K tonnes at ~ **5.9 g/t gold** for **13,000 ounces**

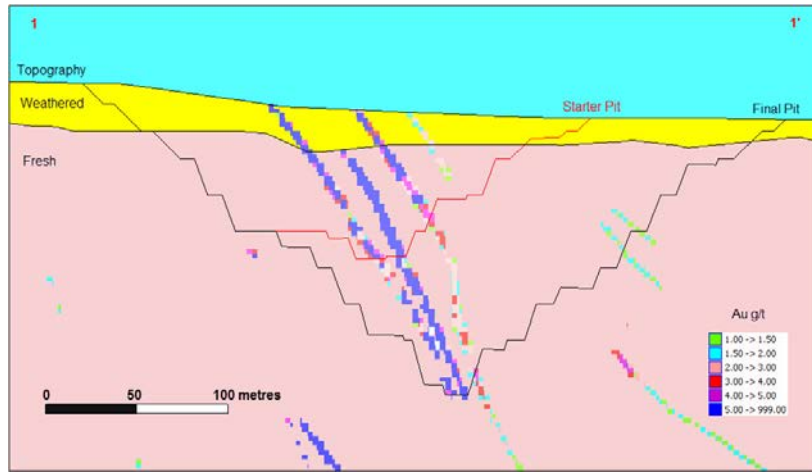
**Total     180,000 ounces**

Note – these estimates are not ore reserves (refer Appendix B)

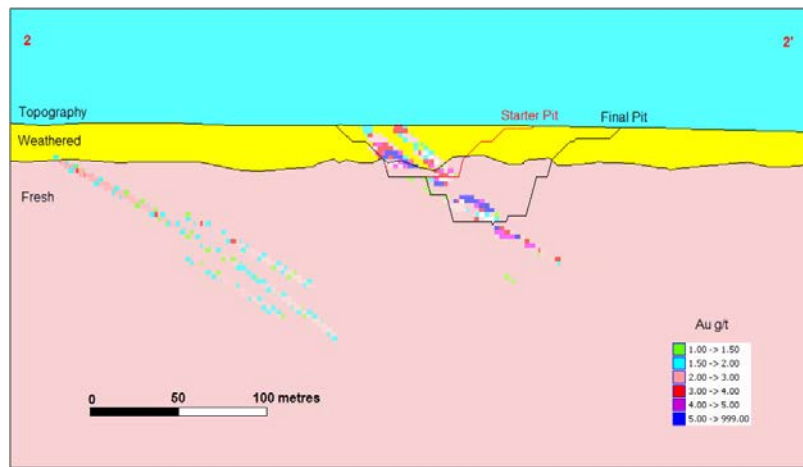
The proposed plant location is at the existing gravity plant site (refer Figure 3). A processing throughput rate of 300ktpa has been selected to minimise the capital cost of upgrading the existing gravity plant.



**Figure 1 - Mine Plan View Showing Pits and Waste Dump**



**Pit 1 - Section 1-1'**



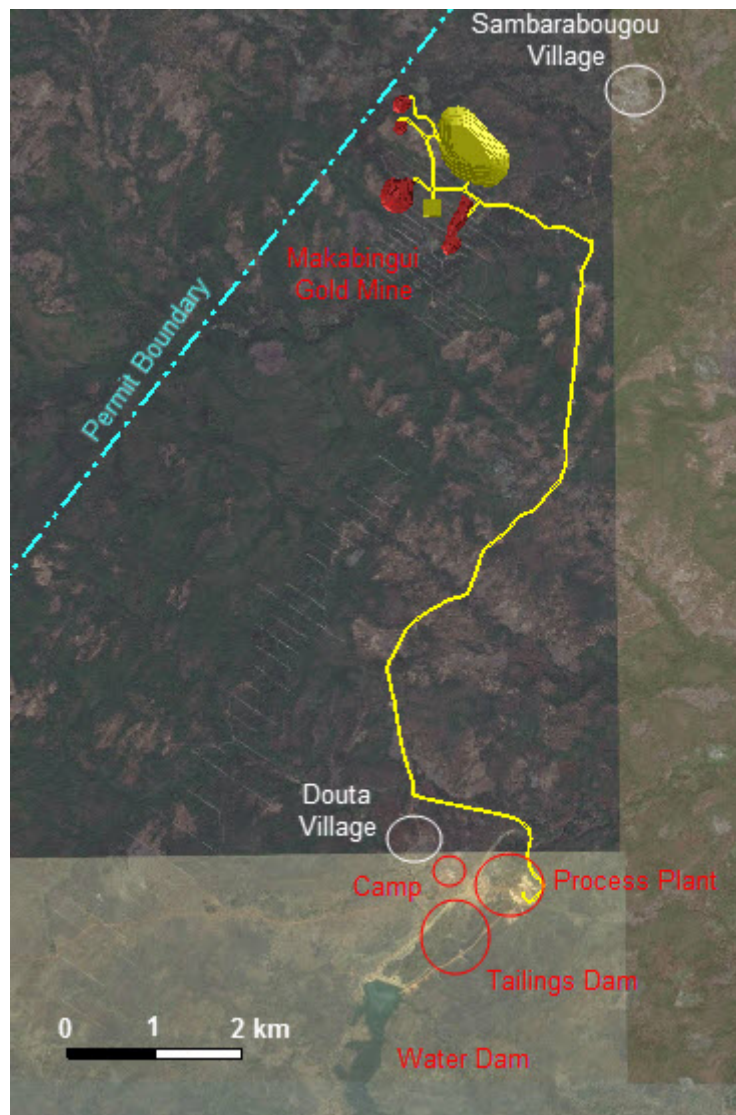
**Pit 2 - Section 2-2'**

**Figure 2 - Sections 1-1' & 2-2'**

## Mining Operations

The mining schedule has been developed for an initial production rate of 300ktpa. The schedule improves the confidence level from the Scoping Study which reviewed and assessed various open-cut scenarios (see ASX Announcement 26 February 2014), given the following factors:

- Operating costs have been derived from first principles based on current equipment databases, in country labour rates and benchmarking against nearby Senegalese mines
- Mining loss and dilution has been modelled to account for the variable mineralised lode widths resulting in an average of 21% dilution and 5% loss of mineralisation
- It is difficult to quantify the exact amount of gold removed by artisanal activity. 10% of the target mineralisation in the oxidised zone is assumed to have been removed (representing ~1,800 contained ounces). Artisanal activity has taken place outside of the four pits designed as part of the project.
- Pit slope parameters are based on a kinematic evaluation of the defect/structural logging data which has also been benchmarked against existing excavated slopes in similar rock masses nearby.



**Figure 3 – Project Layout – Mine and Processing Plant**

Production and cost estimates from the open pit designs and schedules indicate:

- The open pit designs are able to recover 99% of the gold mineralised lodes included in the optimised Whittle shell.
- The mill head grade after modelling for loss and dilution is >5.6 g/t gold.
- Average mining costs per tonne of total material movement based on the final production schedule are slightly lower than the average costs used in the pit optimisation.

Blasting will be in a minimum bench height of 5m to achieve adequate fragmentation. Mining in the waste zones will be at full 5m height. The mining faces would advance from SE to NW working up to the hanging wall of each mineralised lode.

As mining approaches within 5-10m of a mineralised lode above the cut-off grade (COG) grade control drilling will be conducted across the lode and combined with geological mapping from the benches above to define the positions of the hanging wall and footwall.



The full bench height through the lode will be blasted with the pattern, hole size and powder factor chosen to minimise movement. An excavator will mine up to the mineralised lode and scrape off the waste to expose the hanging wall, the scraped down waste will be hauled away and the lode itself scraped down to expose the footwall waste contact. The scraped down lode will be mined and the process repeated across to the next mineralised lode.

There is good visual definition of the mineralised lodes and geological mapping of each new bench floor along with geological grade control will greatly assist grade control drilling in achieving the required level of mining selectivity.

The preferred option is for a mining contractor to conduct all site development, overburden and waste removal, including site rehabilitation and haulage to the processing facility. The haulage route will be on an existing established road linking Makabingui to the processing facility (road established by and currently maintained by Bassari - refer Figure 4). Mining operations will be conducted on a 24/7, 365 days per year basis.



***Figure 4 – Existing Road between Makabingui & Processing Facility***

The Company has a 100% owned fleet of heavy mobile equipment and light vehicles which are available to undertake pre-development works and to support mining operations. The use of this equipment was factored into the study, mainly in haulage to the processing plant. The equipment is not new and in varying states of serviceability. Equipment includes: 1 x 14H Caterpillar Grader, 1 x WA480 Loader, 2 x Bell Trucks B40D, 1 x Doosan DX300LC Excavator, 1 x Komatsu PC450LC Excavator, 1 x Komatsu WB93R Backhoe, 1 x Toyota 22 Seater Coaster Bus, 1 x Truck & semi-trailer, 8 x Toyota 4WD's, 1 x Toyota Troop Carrier Ambulance (refer figure 5).





***Komatsu PC450LC Excavator***



***Bell B40D Truck***



***Komatsu WB93R Backhoe***



***Truck & Semi-Trailer***



***Doosan DX300LC Excavator***



***Komatsu WA480 Wheel Loader***



***Caterpillar 14H Grader***

***Toyota 4 x 4 Landcruiser***

***Figure 5 – Existing Mobile Equipment Fleet***

The equipment selection assumptions have a typical mining fleet including 1 x Caterpillar 345D Excavator, 2 x Caterpillar 390D Excavators, 3 x Atlas Copco ROC L8 Crawler Drills, 2 x Caterpillar 14H Graders, 1 x Caterpillar 972H Wheel Loader, 2 x Caterpillar D9T Dozers, 10 x Caterpillar 740 Trucks, 3 x 50 tonne road haul trucks.

Mining is scheduled on 3 x 8 hour shifts per day. The total mining workforce across the three shifts is 58 during the first 5 months including the 4 month pre-production period. This rises to an average of 187 people, consisting of 36 technical and supervisory staff, 98 operators and miners and 53 maintenance personnel.

Mining costs average US\$2.98 per tonne inclusive of all overburden and mineralised material movements. A further US\$4.25 per tonne of mineralised material was added for haulage to the processing plant at Douda. This gives an average mining cost of US\$3.15 per tonne for total material movement.

## **METALLURGY & PROCESSING**

### **Metallurgical Test Work Results**

The processing plant design has been finalised based on a variety of test work programs. Metallurgical tests to determine the gravity recoverable gold over a range of grind sizes were carried out with more recent test work focused purely on gravity recoverable gold (see ASX Announcement 22 May 2014).

The new test work achieved high free gold recoveries (92% recovery from four passes) supporting and improving all previous metallurgical test work programs.

Key outcomes from the test work:

- 92% gravity recovery from four passes
- 18 g/t gold calculated feed grade of the composite test sample
- Free gold up to ~3mm observed in first two passes

The majority of gravity gold was recovered in the first two Knelson Concentrator passes (ground to a P80 of 700 micron, 78% total gold recovery). An additional third pass at a grind P80 of 300 micron increased gravity gold recovery to 89%.

Previous test work procedures amalgamated (with mercury) a gravity concentrate at primary grind sizes of 425, 300, 212, 150 and 106 microns to determine the amount of free gold recoverable. Cyanide leaching and flotation were also carried out on the gravity tails for the 150 and 106 microns grind sizes. Previous metallurgical test work (see ASX release dated 30 January 2012) was carried out at a primary grind of 75 microns which produced very high leaching recoveries >96%.

Composite samples were made up from material used as part of the January 2013 metallurgical test work program. The samples are from the Metagabbro (primary focus for 2012 resource drilling program) and Metasediment hosted gold lodes. The samples were taken from multiple sections and at varying depths focused on primary (unoxidised) mineralised lodes. Tables 2, 3 and 4 summarise the results for the various stages of the test work program.

**Table 2 – Summary of Gold Recovery by Gravity Separation**

Primary grind p80 micron	106	150	212	300	425
Calculated Head g/t Au	7.38	6.14	8.08	5.37	6.91
% free gold recovered	77.8	80	82.3	82.9	78.6

**Table 3 – Summary of Gold Recovery by Leaching and Flotation on the Gravity Tails**

Process	Flotation	Leaching	Flotation	Leaching
Primary grind p80 micron	106	106	150	150
Calculated Head g/t Au	1.61	1.66	1.27	1.19
% gold recovered	93.7	89.1	89.8	83.2

**Table 4 – Summary of Total Gold Recovery**

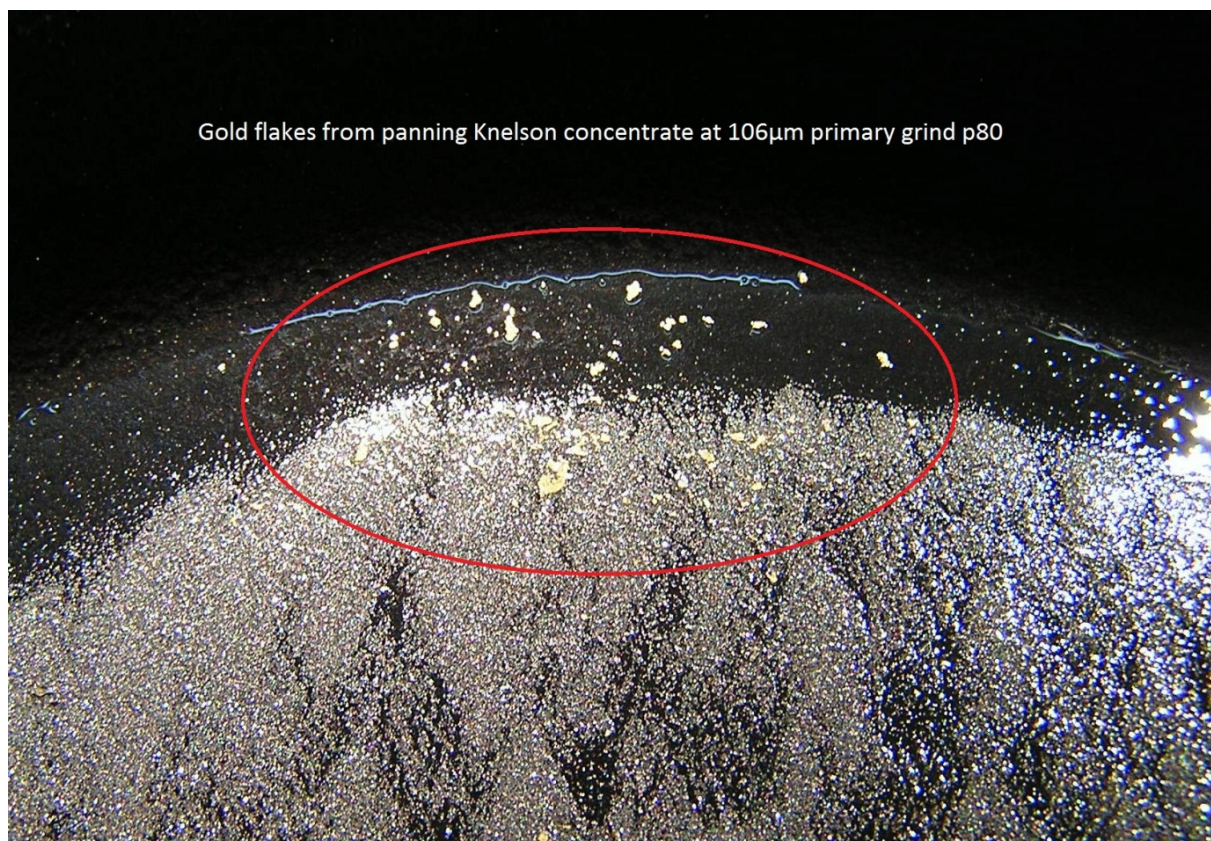
Process	% Gold Recovery	
	106 micron	150 micron
Gravity	77.8	80
Gravity + Leaching	97.6	96.6
Gravity + Flotation	98.6	98

## Gravity Gold

The initial stage of the program focused on the quantity of free gold able to be recovered by gravity methods at various primary grind sizes of 425, 300, 212, 150 and 106 microns. This was determined by grinding 2 kg samples to the required size and passing them through a 75mm Knelson concentrator, taking one bed volume of concentrate. This concentrate was examined by panning dish for the occurrence of gold flakes and then amalgamated with mercury to remove the free gold.



Figure 6 shows the free gold seen from panning the Knelson concentrate for the 106 micron primary grind test. Flakes of gold similar to those seen in this photo were seen at all the grind sizes tested with some flakes more than 1mm in size.



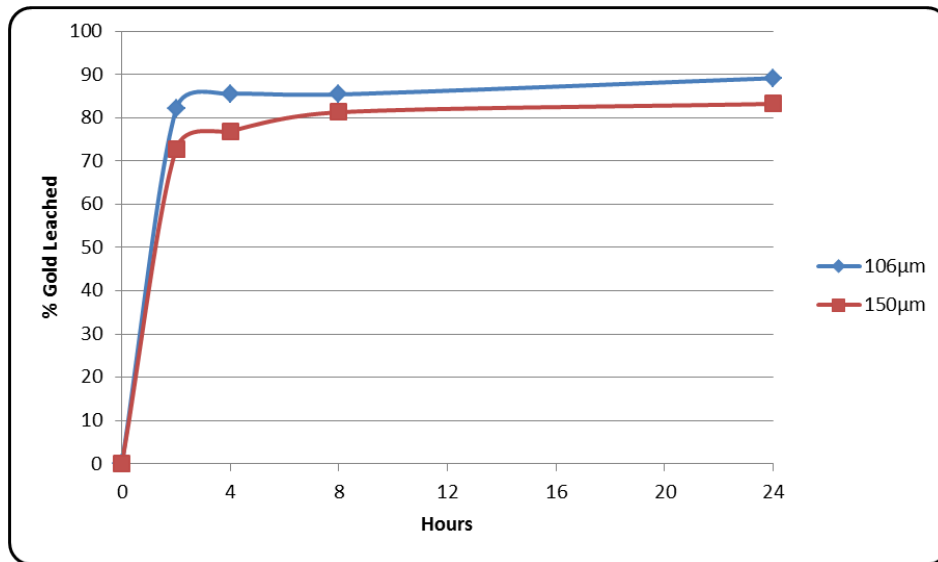
***Figure 6 - Gold Flakes in Pan Concentrate for 106 micron Primary Grind***

## **Cyanide Leach on Gravity Tails**

The Knelson tailings and the Knelson concentrate minus the removed free gold for the 150 and 106 micron tests were recombined and each was divided into two portions, one for cyanide leaching of gold and the other for a flotation test.

The cyanide leach test work indicated that there is a drop in leach efficiency at the 150 micron grind size compared to the 106 micron test but the results were still reasonably good at both grind sizes. Figure 7 shows the rate of gold dissolution at each grind size which is rapid and almost complete within the first 10 hours.





**Figure 7 - Rate of Gold Dissolution**

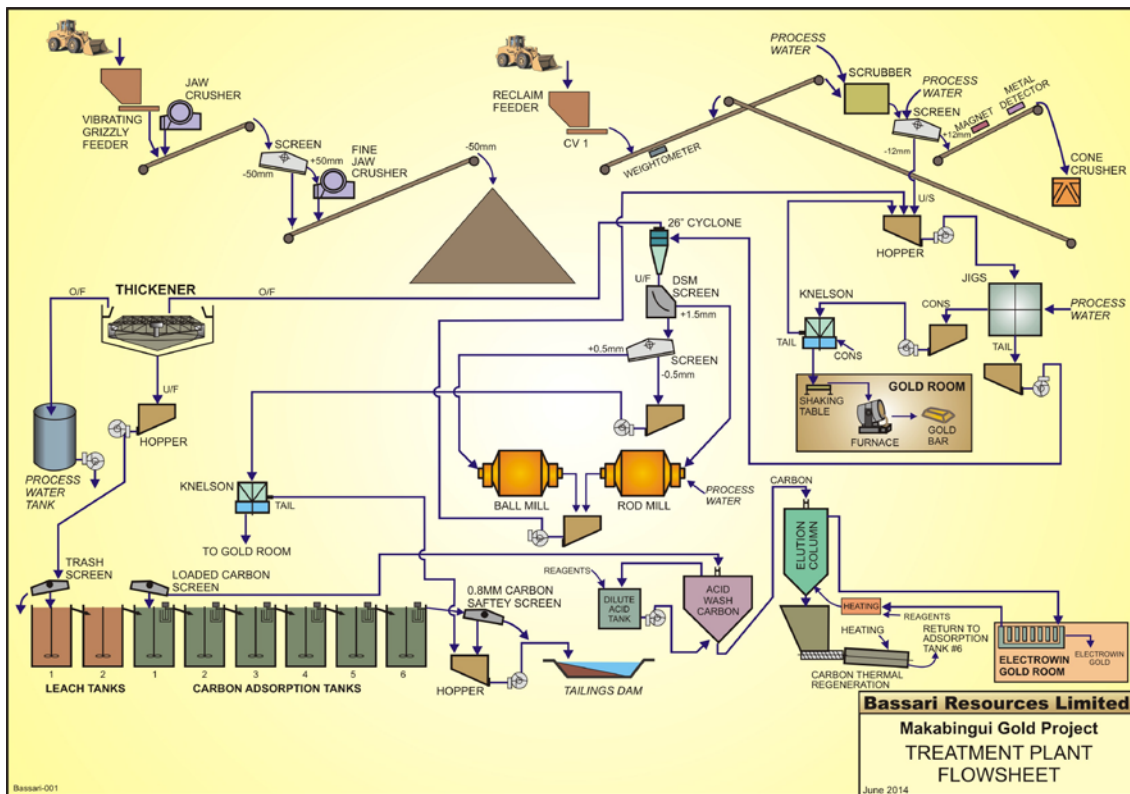
## Process Flow Sheet

Processing will be undertaken in two stages. Stage 1 will be a circuit aimed at maximising gravity recoverable gold with Stage 2 being a conventional Carbon in Leach (CIL) circuit (refer Figure 8). Plant operation will be 24 hours per day, 7 days per week with a design availability of 90% and a processing treatment rate of 38 tph.

Ore will be reclaimed by front end loader from a Run of Mine (ROM) ore stockpile and loaded into a storage bin ahead of the crushing circuit. Ore will be reclaimed from the ROM bin using a variable speed vibrating grizzly feeder discharging directly into the primary jaw crusher. Grizzly undersize material of less than 75mm bypasses the crusher and reports directly to the primary crusher conveyor. The primary crusher (single toggle jaw crusher – 900mm x 600mm) will operate with a discharge closed side setting of 75mm. Oversize material will report directly to the secondary jaw crusher (single toggle – 1200mm x 250mm) operating with a discharge closed side setting of 40mm. Secondary crusher product will be conveyed onto a crushed ore stockpile.

Ore will be reclaimed by front end loader and loaded into an existing feed bin with variable speed feed belt beneath discharging onto a scrubber feed conveyor which has a weightometer installed to measure the processing throughput rate.

The scrubber feed conveyor will discharge into an existing scrubber drum (2.2m x 3.0m) to break up and separate any clays from the crushed rock. The scrubber drum will discharge onto an existing double deck vibrating screen with oversize material sent to a short head 1200mm cone crusher operating with a discharge closed side setting of 10mm. The double deck screen undersize will be pumped to the existing jigs (refer Figure 9) with the jig concentrate upgraded in the existing Knelson concentrator. The Knelson tailings will recycle back to the jig feed and the Knelson concentrate will be upgraded by the existing shaking table in the gold room (refer Figure 10). The shaking table concentrate will be direct smelted in the existing dore furnace to produce gold dore bars. The shaking table tailings will be put into the regrind and CIL circuit to recover any remaining gold.



**Figure 8 – Process Flow Sheet**



**Figure 9 – Four existing gravity jigs in operation**



***Figure 10 – Existing Gold Room Shaking Table in Operation***

The jig tailings will be pumped to a cyclone classifier for dewatering to increase slurry density. Cyclone overflow material will be directed to an existing 12 metre diameter thickener for slimes settling. The thickener underflow material will be pumped to the CIL circuit for gold recovery.

The cyclone underflow will flow directly to a DSM screen mounted above the grinding circuit which will split the material at 1.5mm. The minus 12mm plus 1.5mm fraction will flow directly to a rod mill (2.4m diameter x 3.6m long) for grinding. The minus 1.5mm fraction will flow directly to another screen to split the material at 500 micron. The minus 1.5mm plus 500 micron fractions will flow directly to the ball mill (2.4m diameter x 4.5m long) for grinding. The minus 500 micron fraction will flow directly to the second cone concentrator feed pump hopper and exit the grinding circuit.

Both the rod and ball mills will discharge into a common mill discharge hopper pump box and be recirculated back to the jig feed for further gravity gold recovery. The milling capacity is designed to produce an 80% passing 310 micron final product grind size.

The thickener underflow at a density of 55% solids will be pumped to the cyanide leaching circuit. The circuit is configured as a CIP with two stage leach tanks and six stage carbon adsorption tanks. All tanks will be air agitated and each have a capacity of 100m<sup>3</sup> for a total residence time of 24 hours. The tailings from the last adsorption tank will discharge over a vibrating carbon safety screen and any carbon recovered will be carried back into the adsorption tank.

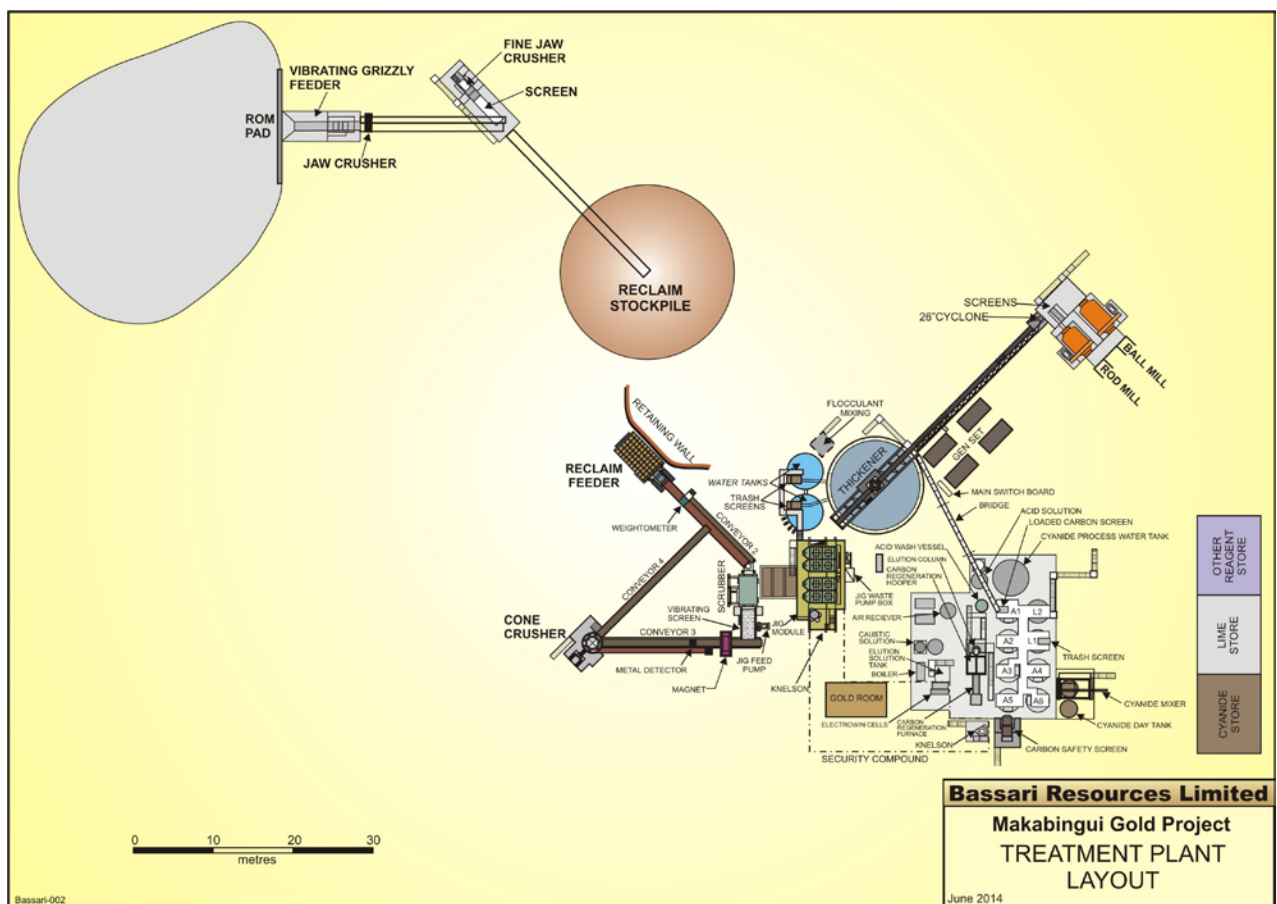


Loaded carbon from the circuit will go through a carbon stripping process with gold desorbed from the carbon and the pregnant solution passed through electro winning cells with steel wool. The steel wool will be regularly removed and acid washed to dissolve the steel wool and leave a gold sludge that will be rinsed with water, filtered and dried. The dried gold concentrate will be smelted with fluxes in the existing furnace to produce gold dore bars. The processing plant layout is shown in Figure 11.

A tailings storage facility will be constructed adjacent the processing plant (refer Figure 12). Tailings and return water pipelines to be located in the same bunded corridor.

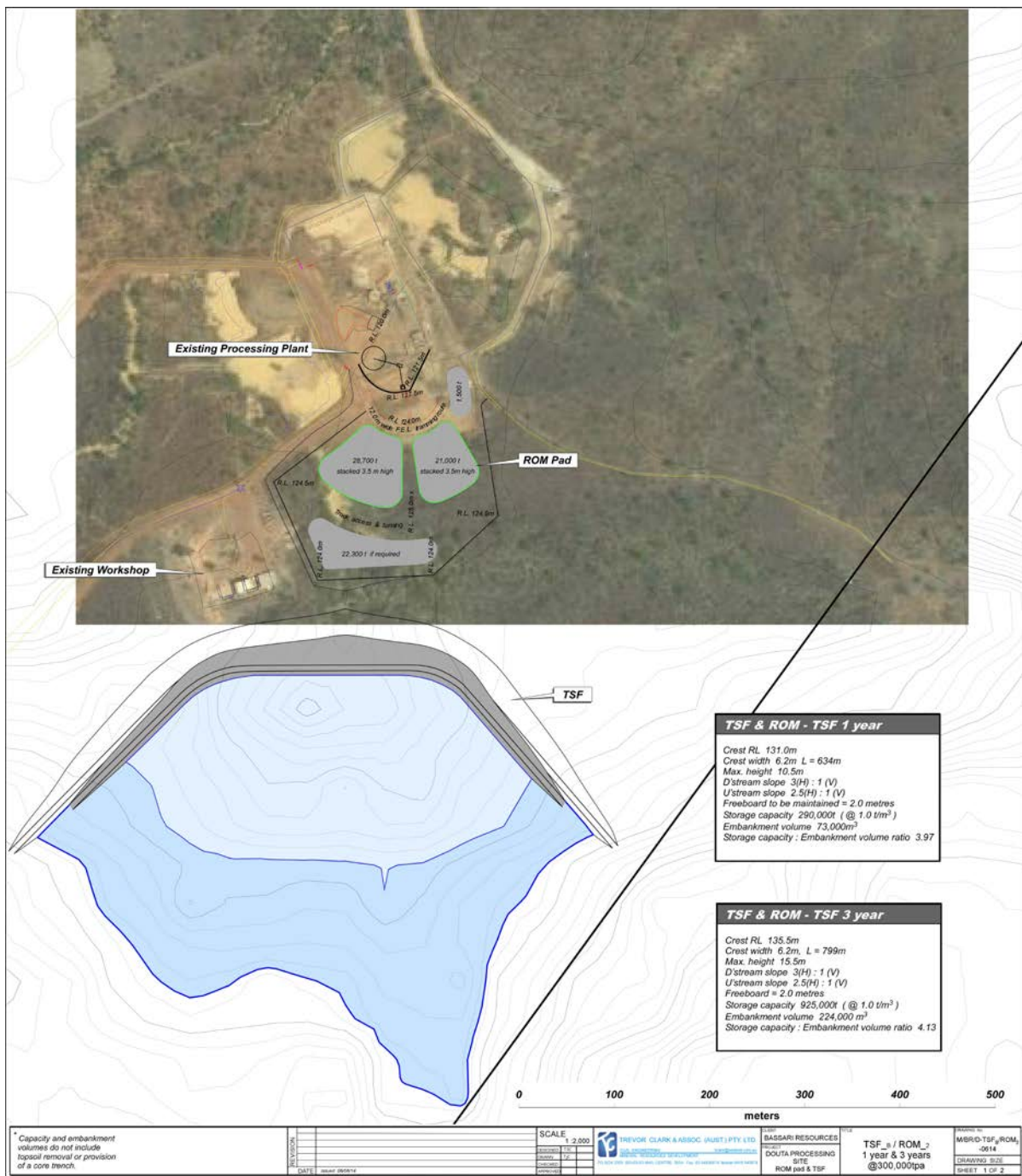
Processing staff numbers are in the order of approximately 37 people, consisting of 2 staff, 30 operators and 5 maintenance personnel.

Processing costs (inclusive of maintenance) have been estimated at \$US29.62 per tonne.



**Figure 11 – Processing Plant Layout**





**Figure 12 – Tailings Storage Facility & ROM Pad Layout**

## Existing Gravity Plant

Given the high gravity gold recovery the hard rock plant will incorporate the Company's existing gravity plant and associated infrastructure already established in Senegal. Utilising this plant, currently on care and maintenance reduces the capital cost considerably (refer Figure 13 & 14).



***Figure 13 - Gravity Plant Located at Douta***



***Figure 14 - View of gravity plant from 26 inch cyclone tower***



## Existing Infrastructure

Considerable infrastructure exists from previous operation of the gravity plant. Infrastructure used to support the hard rock operations are shown below:



**Figure 15 – Sections of the 120 person Douta Camp, which includes offices, kitchen/dining hall, laundry and ablution/shower block. Within the camp compound there is a core shed, core cutting facility, light vehicle maintenance workshop, water sterilisation plant, fuel storage facility and medical centre.**



**Figure 16 – Water storage dam (~500 Mega-litre) used for water supply to the processing plant.**



***Figure 17 – Douta Medical Centre within Douta Camp compound***



***Figure 18 – Heavy vehicle maintenance workshop used to service the heavy equipment mobile fleet.***





*Figure 19 – 85,000 litre diesel fuel farm within the Douta Camp.*



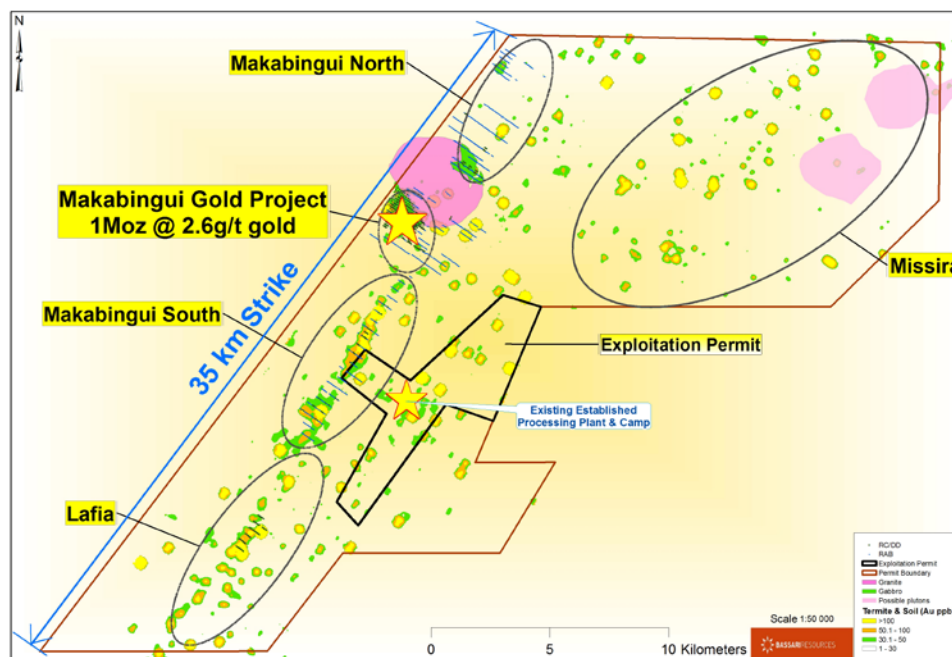
*Figure 20 - Two Wilson gensets (1 duty, 1 standby) providing power to the Douta Camp.*



**Figure 21 - Core shed within the Douta Camp compound.**

## MINING PERMIT APPLICATION

The application to convert Bassari's Sambarabougou exploration permit (see Figure 22) to a mining production permit (Exploitation Permit / Mining Concession) has been lodged with the government in accordance with the Senegal Mining Code. Government officials have indicated support for the application. Permits are expected to be obtained in a timely manner.



**Figure 22 – Sambarabougou Exploration Permit**

## **OPERATIONS MANAGEMENT – HUMAN RESOURCES**

The majority of the workforce required for both the plant upgrade construction and operational phases of the project will be sourced from within Senegal. The operation will be a drive-in/drive-out arrangement with the company providing a bus service between Dakar and site. The service will provide transport for employees from the local townships of Kedougou, Tambacounda and other regional towns on route. The majority of the workforce will be hired locally from the region where possible and local employees will meet their own accommodation requirements.

With people experienced in operating the gravity plant previously and the Sabodala Gold Mine having been in operation since 2009 it is expected that there will be skilled and experienced people within the region.

## **PROJECT FUNDING**

The Company is considering a number of options to fund the development of the Makabingui Gold Project. The robust economics demonstrated by the Feasibility Study improved the positive results from the Scoping Study.

The Makabingui Project, with its low capital cost, high grade and metallurgical recovery, strong cash flow and rapid capital payback presents a unique investment opportunity and has attracted interest from funding sources offering a range of options.

## **SENEGAL**

Senegal has established itself as an attractive country for gold exploration, having a stable, democratically elected government and highly prospective geology. Presidential elections held in March 2012 saw the election of a new president and effective change of government. Both the elections and the transition of power were managed seamlessly.

Senegal is located in the north and far west of Africa on the Atlantic coast, with neighbouring countries Mauritania to the north, Guinea to the south and Mali to the east (refer Figure 23). The small country of The Gambia is located through the southern part of Senegal from the coast. Senegal is a relatively small country, approximately the size of Victoria (Australia), and has a population of ~12 million. The capital of Senegal is Dakar situated at the western-most point on the coast.





**Figure 23 - Location of Senegal, West Africa**

Senegal gained its independence from France in 1960 after 75 years of French rule. Senegal is governed by a multiparty democracy based on the French civil law system. The official language of Senegal is French. For this reason, Senegal is the location of choice of many foreign embassies and international banks as the headquarters for the West African region.

## PROJECT LOCATION

Bassari holds a 70% interest in each of three contiguous exploration permits; Sambarabougou, Moura and Bounsankoba, covering approximately 850 km<sup>2</sup> in a central location of the highly prospective Birimian Kenieba Inlier (refer Figure 24). The permits are located approximately 750 km east of Senegal's capital city of Dakar and about 70km north east of the town of Kedougou, and span 80km strike length of parts of a major crustal shear zone, the Main Transcurrent Shear Zone (MTZ), a well-defined gold mineralised structural corridor. The Kenieba Inlier is host to several multi-million ounce gold deposits and extends into the bordering countries of Mali and Guinea (refer Figure 25).



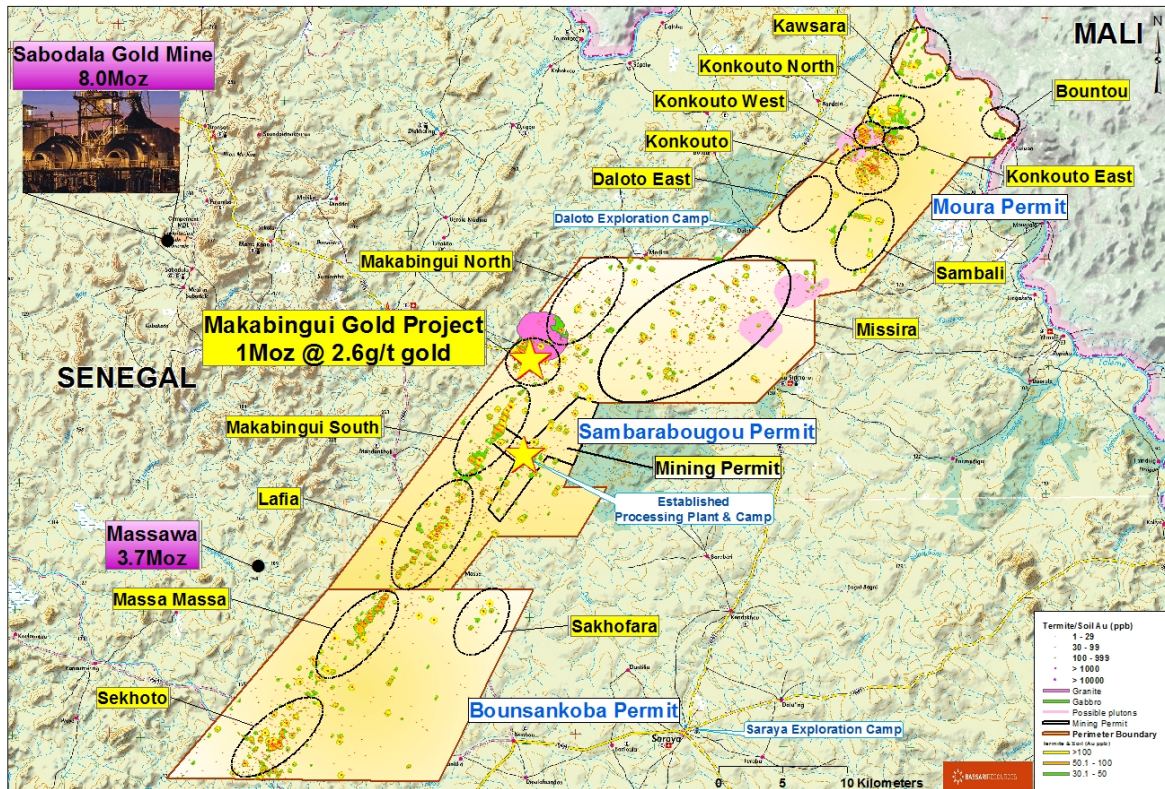


Figure 24 – Bassari's Permits with Project & Prospect Locations

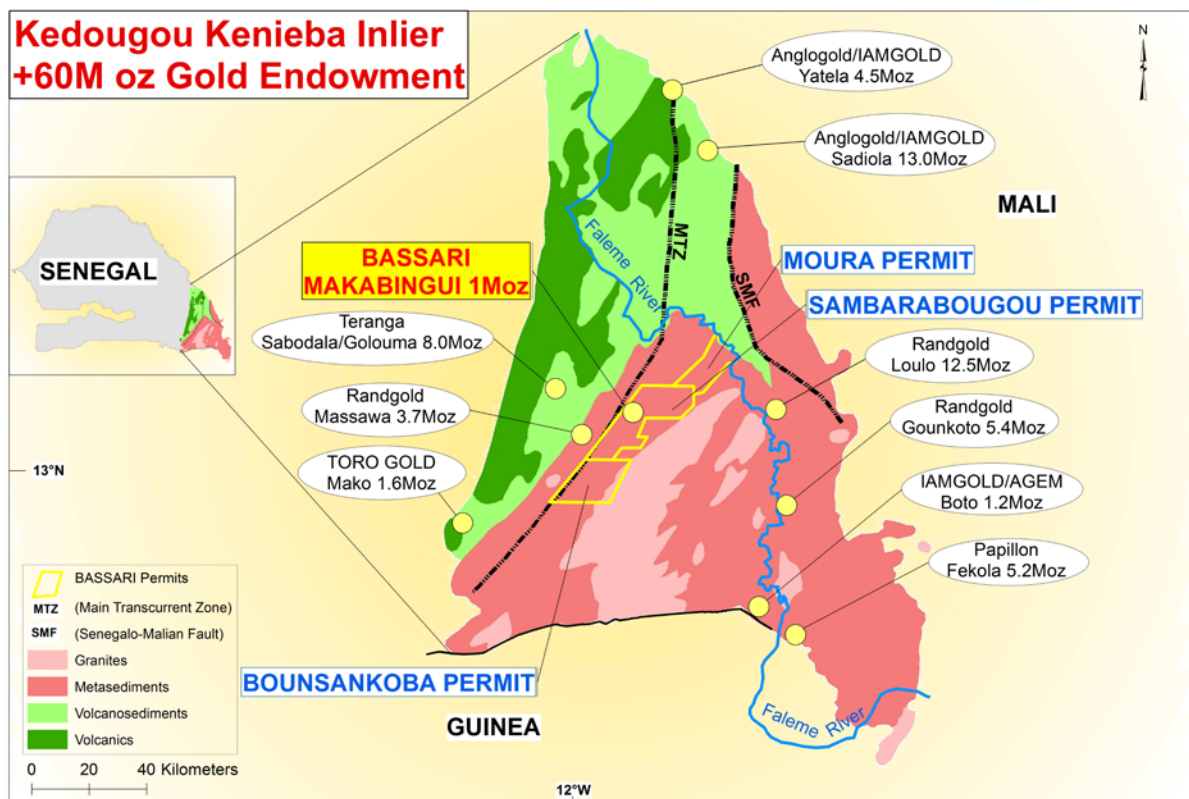


Figure 25 – Kedougou-Kenieba Inlier

## SENEGAL & MINING

Senegal is focused on attracting more investment in mining to support the growth of the country. At the World Economic Forum held in Davos, Switzerland on 24 January this year Senegalese President Macky SALL was quoted as saying: “Mining will be one of Senegal’s pillars of development. We’re committed to putting all the conditions in place to attract companies, have an adequate working environment, a renewed mining code.”

Senegal’s Gross Domestic Product (GDP) of ~\$14 billion is the largest economy after Ivory Coast in the eight-nation West African Economic & Monetary Union (a group of French speaking nations that use a common currency).

Senegal’s Mineral Policy Statement sets out the major objectives for the development of mineral resources in the country and promotes international principles necessary to encourage foreign investment inflows into the national economy. The Mineral Policy Statement provides for:

- Diversification of mineral production and beneficiation of mineral products ahead of encouraging exports
- Lawful rights and interests of investors guaranteed. Foreign investors to be treated no less favourably than similar domestic investors
- Sustainability of mining and protection of the environment
- Implementation of appropriate information management systems for management of mineral resources with other resources such as land, forest reserves and water, having regard for environmental and social issues.

Senegal established a Mining Code in 2003 aimed to attract and foster mineral resource investment and development in the country. There are three fundamental mineral rights, the exploration permit, the exploitation permit and the mining concession. Terms of the mineral rights under the Mining Code are shown in Appendix C.

The adoption of the Mining Code led to more extensive exploration activity. Also, the operation of the Country’s first large-scale gold mine at Sabodala is evidence of Senegal’s growing importance as a centre for gold exploration and production. The Sabodala Gold operation was commissioned in 2009 and is located approximately 25km from the Makabingui Gold Project. Access to Sabodala is via the same road links for transport of people, equipment and consumables that will be used to support the Makabingui Gold Project. The environment in Senegal is favourable, with accessible terrain, generally low growing Savannah style vegetation, and a subtropical-to-arid climate. Basic infrastructure has been established across the country. Bassari’s permit areas may be accessed by all-weather sealed road from Dakar via the regional centre of Tambacounda and the town of Kedougou for all but the final ~30km (refer Figure 26).



*Figure 26 – High Quality Sealed Road from Dakar*

## **ENVIRONMENTAL & COMMUNITY IMPACT**

Bassari has undertaken considerable community development initiatives in recognition and respect of the country's culture, values and traditions. Initiatives include constructing a school and medical clinic, providing fresh water pumps and a grain mill to the community (refer Figure 27). Other completed infrastructure projects include building of roads and bridges, provision of power and establishing water dams. People from the local region are employed with a strong focus on skills development and transfer of knowledge.

Previous environmental and community works related to operating the gravity circuit at Douta have involved:

- Hydrological Study
- Environmental and Social Impact Assessment
- Public Meetings.

The Environmental Study will focus on updating all previous studies undertaken to incorporate the Makabingui Gold Project. Based on a previous EIS it is not expected that the project presents a risk to the environment. The upgraded plant will be designed, constructed and operated to strict environmental standards.





*Water*



*School*



*Agriculture*

*Figure 27 – Community Support & Initiatives*

## GOVERNMENT AND COMMUNITY PARTNERSHIP

The Company works closely with the Senegalese Department of Mines & Geology and departments within the Ministry that are concerned with monitoring the progress of the project. Bassari is encouraged by the strong support shown for the development plans of the Makabingui Gold Project as evidenced by the special three year extension of the Sambarabougou Exploration Permit late last year (see ASX Announcement 5 September 2013).

Bassari, through its team in Senegal has established very strong local relationships with the communities. The Company has undertaken significant exploration activities across multiple prospects and projects, substantial resource drilling programs and previous operations of the gravity plant at Douta. Bassari's current in-country team is made up of 100% Senegalese nationals and joint venture partnerships are with local Senegalese companies. Supporting the social development initiatives of local communities is integral to the way Bassari operates in Senegal.

## MINERAL RESOURCE

The Makabingui Gold Project Mineral Resource of **1 million ounces** of gold in **11.9 million tonnes at 2.6 g/t gold**, at a cut-off grade of 0.5 g/t gold, was announced in December 2012 (Refer ASX Announcement 4 December 2012) following estimation by AMC Consultants Pty Ltd (AMC). This includes an Indicated Resource of **336,000 ounces** of gold in **2.6 million tonnes at 4.0 g/t gold** (prepared and disclosed under the JORC Code 2004 and remains unchanged) refer Appendix D.

Makabingui comprises a large number of generally shallow east dipping zones of gold mineralisation and quartz veins hosted by a gabbroic intrusive and contact metasediments. This mineralisation is associated with quartz veins and stockworks with silica, sericite, biotite and carbonate alteration together with variable amounts of the sulphides pyrite and arsenopyrite. Mineralised structures occupy an area of some 1,700m by 1,200m, to a depth of 370m below surface.

A Mineral Resource estimate for the Makabingui deposit was completed during November 2012 utilising a digital 3D block model estimation incorporating the assay results of 384 drillholes. The drillholes are a mixture of rotary air blast (RAB), reverse circulation (RC), RC with diamond drill core (DD) tails and DD. The RAB holes have been used in the geological interpretation but omitted from the block model estimation due to the possibility of sample contamination down hole. The average drill spacing across the deposit is 100m by 50m to a depth of 130m, with 100m by 100m near the edges. There are two central areas where the drill spacing is 25m by 25m.

The interpretation was completed on 1,074 drillholes using a sectional method and a cut-off grade 0.2 g/t gold. These sections were linked to form three dimensional shells which were then filled with parent block model cells of 5m by 25m by 5m in east, north and RL respectively. Grade domains representing either 0.2 g/t to 0.5 g/t gold, or >0.5 g/t gold were allocated to the block model. This was done by flagging the length weighted average mineralised intervals down the hole by domain and then using the nearest neighbour (NN) estimation method to assign a domain code to the block model.

A statistical review of the drillhole data was completed. A top cut at 100 g/t gold (99.5 percentile), was used. The samples were composited to 1m within each domain. The drill data was transformed using a normal score transformation to generate semi-variograms. The block model was estimated using parent cell estimation and Ordinary Kriging (OK). NN was used to estimate the grades in the block model not informed by the OK estimation. The input sample file used in the NN estimation was the estimated block model output from the OK estimation. Length weighted density was calculated for the oxide material and for the primary material based on 19,762 measured for density using the Archimedes Principle. A density of 1.7 t/m<sup>3</sup> was used for the oxide and 2.6 t/m<sup>3</sup> was used for the primary material.

The mineralisation exhibits geological and grade continuity at a 0.2 g/t gold cut-off grade and was classified according to the JORC Code 2004 based on domain and drillhole spacing. A drill density of 25m by 25m to a depth of 170m below surface for the >0.5 g/t gold domain was classified as Indicated. Additionally a drill density of 25m by 25m >0.2 g/t gold < 0.5 g/t gold above 80m below surface was also classified as Indicated. The 25m by 25m >0.2 g/t gold < 0.5 g/t gold below 80m from surface was classified as Inferred due to the higher risk associated with such low grade material. All mineralisation estimated on a drillhole spacing greater than 25m by 25m has been classified as Inferred.

Artisanal miners have been active at Makabingui across the deposit and have recently been removed by the Government.

## STRATEGIC EXPLORATION PACKAGE – PLENTY OF UPSIDE

Bassari is extremely positive of the much larger exploration potential that exists within close proximity to both the Makabingui Gold Project and also within the three contiguous permits.

Artisanal activity within the Makabingui Project area south of the existing resource has identified potential for multiple new areas of mineralisation within a significant NE trending shear zone, and further highlights the prospectivity of Makabingui (refer Figure 28). Previous broad spaced drilling (both RAB and RC) has returned significant gold intercepts which combined with the level of previous artisanal activity highlight the strong prospectivity.

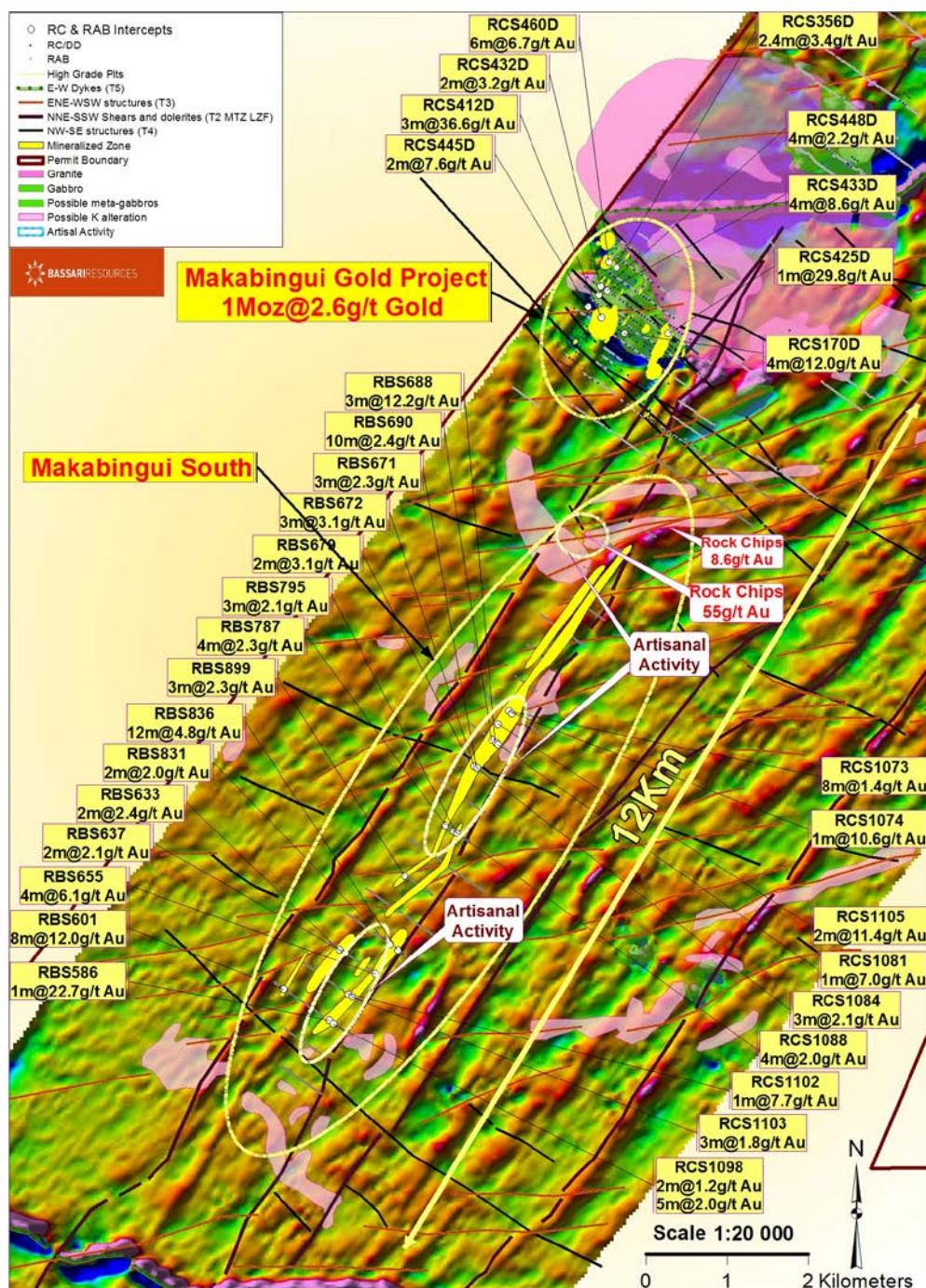


Figure 28 – Makabingui & NE Trending Mineralised Zone



**About Bassari**

Melbourne - based West African gold explorer Bassari Resources Limited (ASX:BSR) has a strategic portfolio of exploration permits focused on the Birimian Gold Belt in Senegal. The permits cover an area of 850 km<sup>2</sup> with 80 km of strike along the combined three contiguous permits. The permits are located within the Kenieba Inlier which is a +60M ounce gold region. Bassari's vision is to discover and delineate gold resources which can be developed into profitable operations.

**Forward-Looking Statement**

This release may include forward-looking statements which are based on assumptions and judgements of management regarding future events and results. Statements regarding Bassari Resources Limited plans with respect to future exploration and drilling are forward-looking statements. Forward-looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Bassari Resources Limited that could cause actual results to differ materially from such statements. Bassari Resources Limited makes no undertaking to subsequently update or revise the forward-looking statements made in this release to reflect events or circumstances after the date of this release.

**Competent Persons Statement**

The technical information in this report related to open cut designs has been sourced from Australian Mine Design and Development Pty Ltd (AMDAD) Rep1723\_140630 and reviewed by Mr John Wyche (author of the report).

The technical information in this report related to metallurgical test work and comminution test work has been sourced from ALS Metallurgy (New South Wales – Sydney) Report M2867 and AMML – Australian Minmet Metallurgical Laboratories Pty Ltd Report 0398-1.

The information in this announcement that relates to the Mineral Resources and Exploration Results has been reviewed and approved by Mr Chris Young who is a Member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Young is a non-executive director and consultant to Bassari Resources Limited and has over 40 years' experience in the industry and has more than five years' experience which is relevant to the style of mineralisation being reported upon and the activity being undertaken 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 Young consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

The Mineral Resource information referred to in the announcement was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not changed since it was last reported.

The pit optimisation study used a Mineral Resource made up of a combination of indicated and inferred resource blocks (refer Appendix B). There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised.

## Glossary of Terms

<b>AMDAD</b>	<i>Australian Mine Design and Development</i>
<b>ASX</b>	<i>Australian Securities Exchange</i>
<b>Au</b>	<i>Chemical symbol for gold</i>
<b>BSR</b>	<i>Bassari Resources Limited</i>
<b>CIL</b>	<i>Carbon In Leach</i>
<b>COG</b>	<i>Cut-off grade</i>
<b>C1</b>	<i>The costs of mining, milling and concentrating, onsite administration and general expenses, property and production royalties not related to revenues or profits, metal concentrate treatment charges, and freight and marketing costs less the net value of the by-product credits.</i>
<b>DCF</b>	<i>Discounted cash flow</i>
<b>DD Drilling</b>	<i>Diamond drilling</i>
<b>EIS</b>	<i>Environmental Impact Statement</i>
<b>ENE</b>	<i>East North East</i>
<b>FS</b>	<i>Feasibility Study</i>
<b>g/t</b>	<i>grams per tonne</i>
<b>GDP</b>	<i>Gross Domestic Product</i>
<b>IRR</b>	<i>Internal rate of return</i>
<b>JORC</b>	<i>Joint Ore Reserves Committee</i>
<b>JORC Code</b>	<i>Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves</i>
<b>k</b>	<i>Thousand</i>
<b>kg</b>	<i>kilogram</i>
<b>km<sup>2</sup></b>	<i>square kilometres</i>
<b>km</b>	<i>kilometres</i>
<b>ktpa</b>	<i>Thousand tonnes per annum</i>
<b>kva</b>	<i>kilovolt-ampere</i>
<b>m</b>	<i>metre</i>
<b>M</b>	<i>Million</i>
<b>Mt</b>	<i>Million tonnes</i>
<b>Mtpa</b>	<i>Million tonnes per annum</i>
<b>mm</b>	<i>millimetres</i>
<b>MTZ</b>	<i>Main Transcurrent Zone</i>
<b>Moz</b>	<i>Million ounces</i>
<b>NE</b>	<i>North East</i>
<b>NPV</b>	<i>Net Present Value</i>
<b>NW</b>	<i>North West</i>
<b>NNE</b>	<i>North North East</i>
<b>NN</b>	<i>Nearest neighbour – estimation method</i>
<b>OK</b>	<i>Ordinary Kriging – estimation method</i>
<b>Oz</b>	<i>Troy ounces (1 troy oz = 31.10348 grams)</i>
<b>ppb</b>	<i>parts per billion, e.g. 1000 ppb gold is 1 g/t gold</i>
<b>ppm</b>	<i>parts per million</i>
<b>p80</b>	<i>80% passing a specific material size</i>
<b>RAB Drilling</b>	<i>Rotary Air Blast drilling.</i>
<b>RC Drilling</b>	<i>Reverse Circulation drilling</i>
<b>RL</b>	<i>Reduced Level (Elevation in metres)</i>
<b>ROM</b>	<i>Run of mine (includes mining loss and dilution)</i>
<b>SE</b>	<i>South East</i>
<b>SSW</b>	<i>South South West</i>
<b>tph</b>	<i>tonnes per hour</i>
<b>tpa</b>	<i>tonnes per annum</i>
<b>t/m<sup>3</sup></b>	<i>tonnes per cubic metre</i>
<b>US\$</b>	<i>United States dollars</i>
<b>3D</b>	<i>Three dimensional</i>
<b>24/7</b>	<i>24 hour operation, 7 days a week</i>

## Appendix A

### Study Consultants

The Feasibility Study has been managed by Bassari with segments completed by independent consultants.

Consultant	Activity
<b>Australian Mine Design &amp; Development Pty Ltd</b>	Whittle Optimisations, Open Pit Mine Designs & First Principles Mining Operating Costs
<b>Xstract Mining Consultants</b>	Mining Geotechnical Study
<b>Trevor Clark &amp; Associates (Aust.) Pty Ltd</b>	Tailings Storage Facility Design
<b>Timora Pty Ltd</b>	Processing Plant Flowsheet, Plant Layout, Capital Cost Estimate
<b>Binks Metallurgical &amp; Environmental Resources</b>	Processing Operating Costs Estimates
<b>Devlure Pty Ltd</b>	Metallurgical & Processing Peer Review
<b>Australian Minmet Metallurgical Laboratories Pty Ltd</b>	Metallurgical Test Work



## Appendix B

The Feasibility study used a Mineral Resource made up of a combination of indicated and inferred resource blocks (12%). Inclusion of inferred resource blocks and information pending to meet the requirements of Table 1 of the JORC Code 2012 (such as a site visit by the Competent Person) mean that the pit quantities and grades cannot yet be regarded as an Ore Reserve. The total ounces and split between classifications is detailed in the table below.

Pit	Classification	Tonnes	Grade Au g/t	Ounces Au
1	Indicated	455,000	7.3	107,000
	Inferred	7,000	19.7	4,000
	<b>Sub Total</b>	<b>462,000</b>	<b>8.10</b>	<b>111,000</b>
2	Indicated	412,000	3.8	51,000
	Inferred	2,000	1.7	0
	<b>Sub Total</b>	<b>414,000</b>	<b>3.8</b>	<b>51,000</b>
3	Indicated	0	0.0	0
	Inferred	50,000	3.1	5,000
	<b>Sub Total</b>	<b>50,000</b>	<b>3.1</b>	<b>5,000</b>
4	Indicated	0	0.00	0
	Inferred	67,000	5.9	13,000
	<b>Sub Total</b>	<b>46,892</b>	<b>7.41</b>	<b>11,173</b>
<b>Total</b>	Indicated	866,000	5.7	158,000
	Inferred	126,000	5.5	22,000
	<b>Total</b>	<b>992,000</b>	<b>5.6</b>	<b>180,000</b>

## Appendix C

### Tenement Terms under the Mining Code

Description	Reconnaissance Permit	Exploration Permit	Exploitation Permit	Mining Concession
Fee	Free	Prescribed	Prescribed	Prescribed
Maximum size (sq km)	Not stipulated	Not stipulated	Boundaries of the deposit	Boundaries of the deposit
Duration (Renewable)	6 months	3 years	≤ 7 years	5-25 years
Renewal	1 x 6 months	2 x 3 years	≤ 7-year periods	≤ 25-year periods
Relinquish areas	Not stipulated	25%	N/A	N/A
Minimum spending	According to program	According to program	According to program	According to program
Rights	No pre-emptive right	Moveable, Transferable, Transmissible Retention permit (2 years)	Moveable, Transferable, Transmissible Retention permit (2 years)	Moveable, Transferable, Transmissible Retention permit (2 years)
Restrictions	Not exclusive, not transferable, no customs or tax privileges	Indivisible	Some	Some

#### Modelling assumptions:

- Mining Royalty of 3%
- Import duties and taxes – exempt
- Property tax – exempt
- Turnover tax – exempt
- Value added taxes – exempt
- Export taxes – exempt
- Corporate income tax - tax free period of 7 years
- Tax on fuel – exempt

## Appendix D

### Makabingui Mineral Resources

Classification	Material	Cut-Off-Grade Au g/t	Tonnes Mt	Grade Au g/t	Ounces Au
<b>Total Indicated</b>	Oxide	0.5	0.2	3.0	<b>25,000</b>
<b>Total Indicated</b>	Primary	0.5	2.4	4.1	<b>311,000</b>
<b>Total Indicated Resources</b>		0.5	2.6	4.0	<b>336,000</b>
<b>Total Inferred</b>	Oxide	0.5	0.7	1.6	<b>33,000</b>
<b>Total Inferred</b>	Primary	0.5	8.6	2.3	<b>636,000</b>
<b>Total Inferred Resources</b>		0.5	9.3	2.2	<b>669,000</b>
<b>Total Resources</b>		0.5	11.9	2.6	<b>1,005,000</b>

- The Mineral Resource is reported in accordance with the JORC Code 2004 and remains unchanged
- All tonnages are rounded to the nearest 100,000t. Rounding may affect totals
- All ounces are rounded to the nearest 1,000. Rounding may affect totals
- Top-cap / Top-cut of 100 g/t gold has been used
- Average base of Indicated Mineral Resource is 170m below surface