



## Presentation to PNG Mining and Petroleum Conference

Bob Vassie, Managing Director and CEO, will present to the PNG Mining and Petroleum Conference in Port Moresby today, hosted by the PNG Chamber of Mines and Petroleum. A copy of the presentation is attached.

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# Simberi Turnaround

**PNG Chamber of Mines & Petroleum**

**PNG Mining and Petroleum Conference, Port Moresby**



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The Company estimates its reserves and resources in accordance with the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves 2012 Edition (“JORC Code”), which governs such disclosures by companies listed on the Australian Securities Exchange.

*Financial figures are in Australian dollars unless otherwise noted.*

*Financial year is 1 July to 30 June.*

As at 19 Nov 2015: AUD \$1.00 = USD \$0.72, USD \$1.00 = AUD \$1.39  
AUD \$1.00 = PGK \$2.13, PGK 1.00 = AUD \$0.47  
[www.rba.gov.au](http://www.rba.gov.au)

## Contents

- > St Barbara Ltd
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- > Simberi
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  - > PNG Contribution
- > Future Opportunities
  - > Sulphides Project
  - > Exploration
- > Gold Ridge Divestment



# Overview of operations

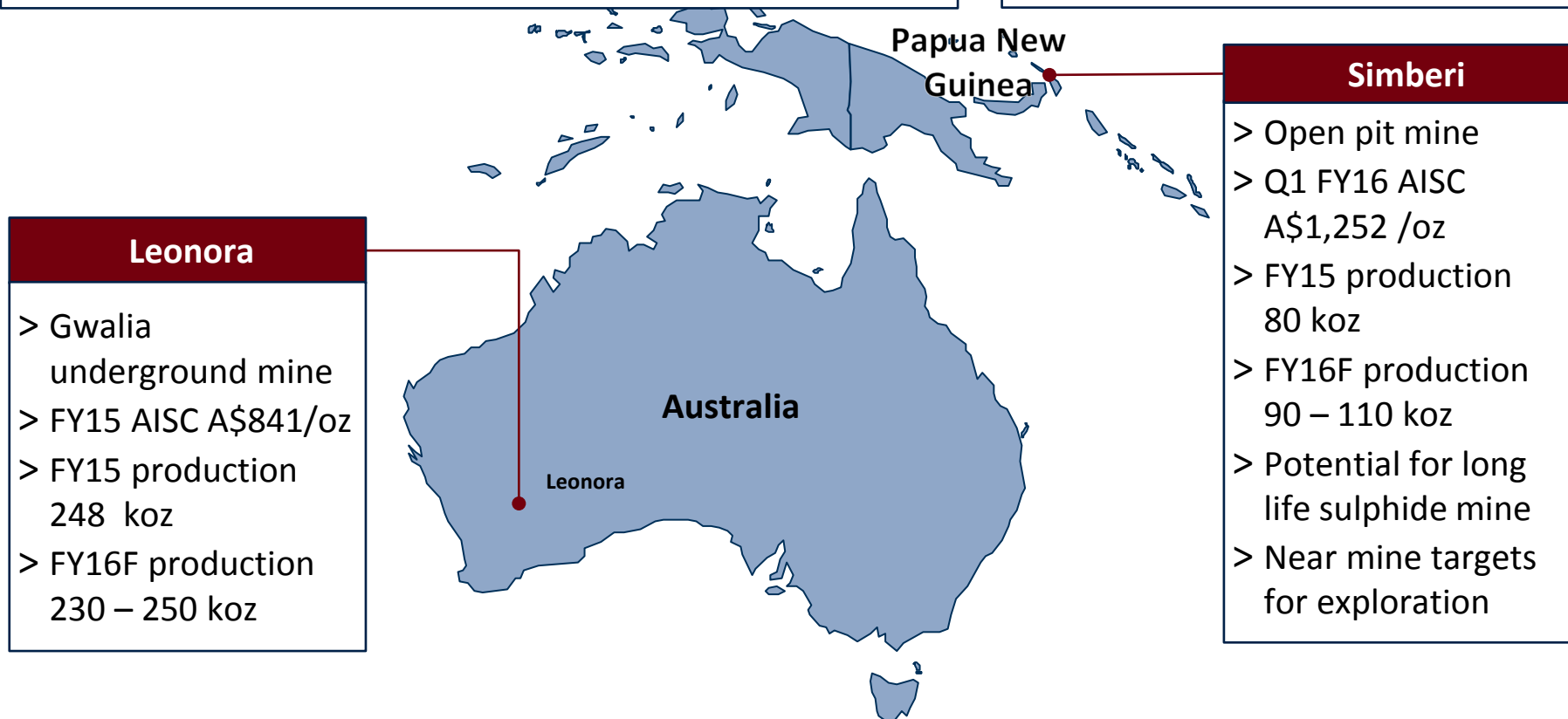


## ASX 300 listed Company (SBM), founded 1969

> Shares on issue	495 M
> Market Cap <sup>2</sup>	A\$636 M
> Ore Reserves 30 June 2015	4.0 Moz <sup>1</sup>
> Mineral Resources 30 June 2015	9.2 Moz <sup>1</sup>
> ADR OTC code	STBMY

## Consolidated

> FY15A	377 koz
	@ AISC A\$1,007/oz
> FY16F <sup>3</sup>	349 koz
	@ AISC A\$1,033/oz



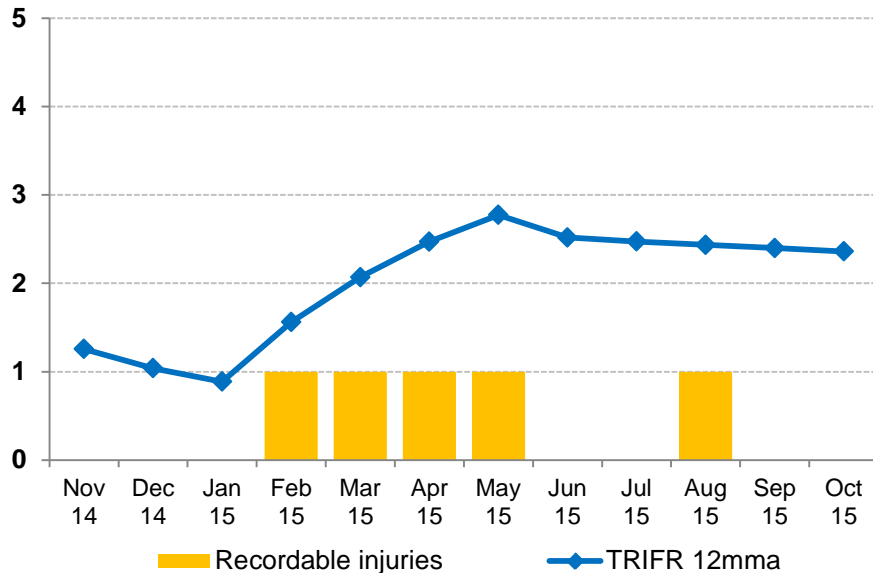
## Leonora

- > Gwalia underground mine
- > FY15 AISC A\$841/oz
- > FY15 production 248 koz
- > FY16F production 230 – 250 koz

## Simberi

- > Open pit mine
- > Q1 FY16 AISC A\$1,252 /oz
- > FY15 production 80 koz
- > FY16F production 90 – 110 koz
- > Potential for long life sulphide mine
- > Near mine targets for exploration

## Simberi Total Recordable Injury Frequency Rate<sup>1</sup>



### Latest initiatives:

- > Crisis drills held in October
- > Nutrition and hydration awareness sessions

## Strong improvement in audit results



- > Regulatory audits
- > 6 monthly external audits
- > Strong team commitment

National Mines Rescue Challenge held over 4 days in Madang,  
Papua New Guinea, August 2015



Winners in 4 categories , including ‘Multi-Casualty Event’ and ‘Most Improved’





## Objective

## Result

### Guidance

Gwalia	– production and AISC <sup>1</sup>	<b>Exceeded</b>
Simberi	– production and AISC <sup>1</sup>	<b>Achieved</b>
	– 100 koz p.a. run rate	<b>Achieved</b>
	– cash flow positive by June 2015 Quarter <sup>2</sup>	<b>Exceeded</b>

### Corporate

Cost reduction		<b>Achieved</b>
Board renewal		<b>Achieved</b>
Gold Ridge - divestment		<b>Achieved</b>

### New objectives

Debt reduction		<b>Commenced</b>
Future St Barbara	– Gwalia shaft PFS	<b>Commenced</b>
	– Simberi sulphide PFS	<b>Commenced</b>
King of the Hills - divestment		<b>Achieved</b>

## ASX:SBM

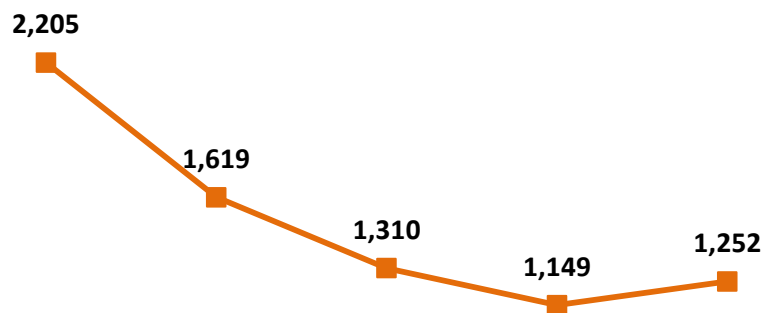


- > Decision to persevere
  - > Care & Maintenance was considered
  - > Capital had been invested in the plant expansion
- > New, very capable leadership team
- > Existing capable Island and National workforce
- > Realisation the new SAG mill would not deliver the required throughput
  - > Recommission old ball mill circuit at low cost
  - > Volume through the 2 mills turned the mine cash flow positive
- > Focus could then shift to improving mining and ore delivery
- > Cost reduction focus
  - > Procurement Project
  - > Change to HFO from Diesel in Power Station
  - > Efficiencies across the operation

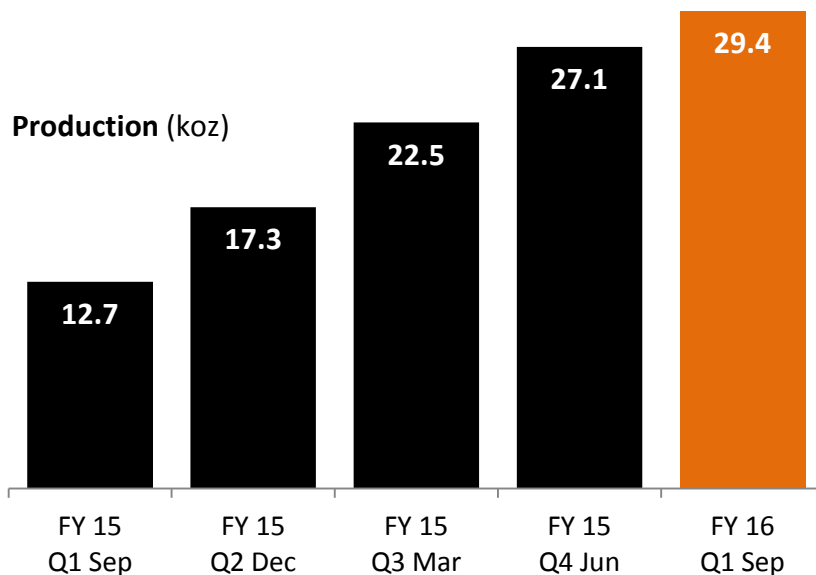
# Simberi: Record production in 4 consecutive quarters



AISC<sup>1</sup> (A\$/oz)



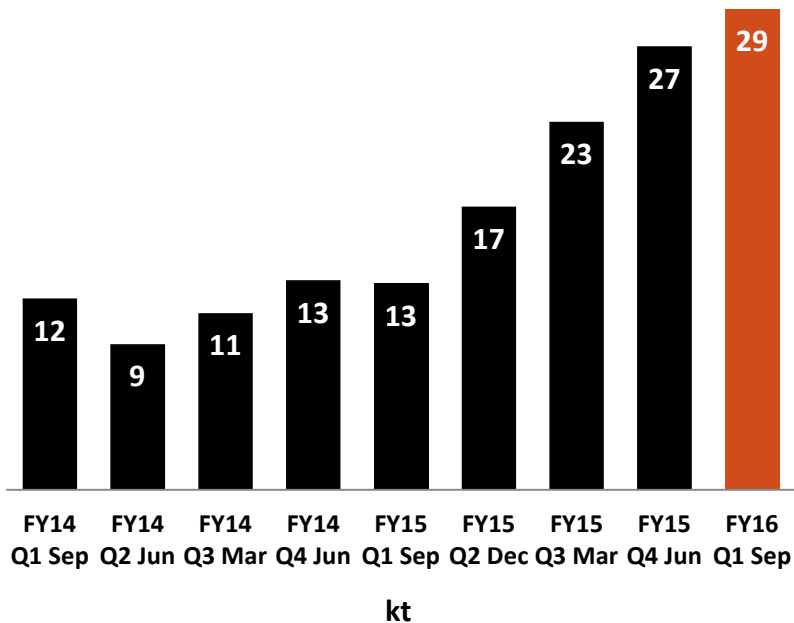
Production (koz)



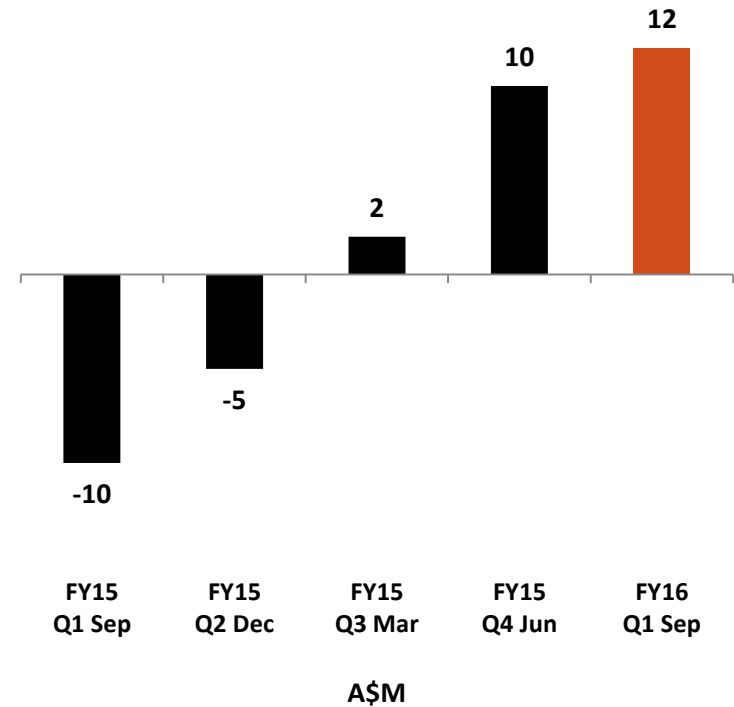
## Q1 September FY16 Quarter:

- > Record production for Q1 FY16 of 29,359 oz (Q4 FY15: 27,137 oz)
- > Gold production for the quarter comfortably exceeded the 100,000 oz p.a. target run rate
- > Mill achieved 3.4 Mtpa in Q1 and 3.5 Mtpa in the month of September
- > Operation generated record A\$12 million cash in Q1 (Q4: A\$10 million)
- > AISC<sup>1</sup> increase partly due to depreciation of A\$ against US\$
- > FY 16 Guidance:
  - > 90 – 110 koz
  - > AISC A\$1,275 – A\$1,400/oz
  - > Capex A\$8M – A\$12M

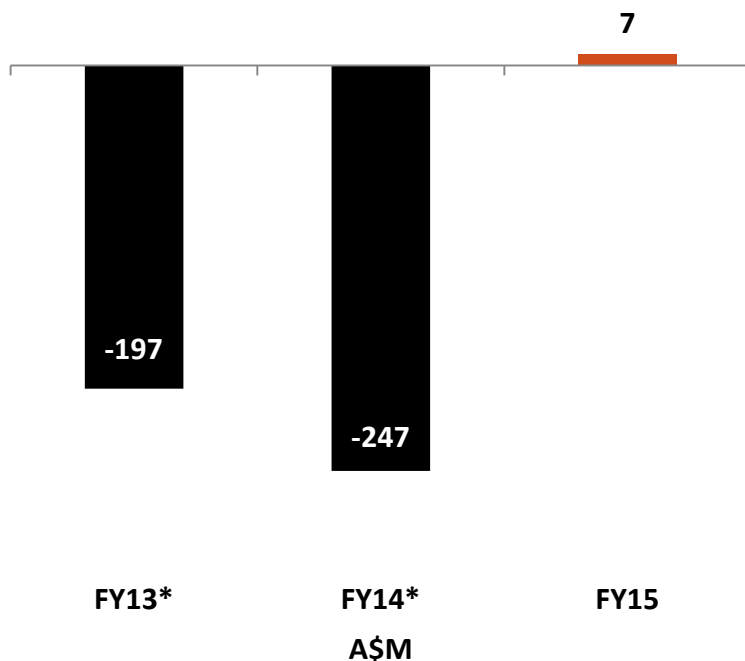
## Gold production FY14 & FY15



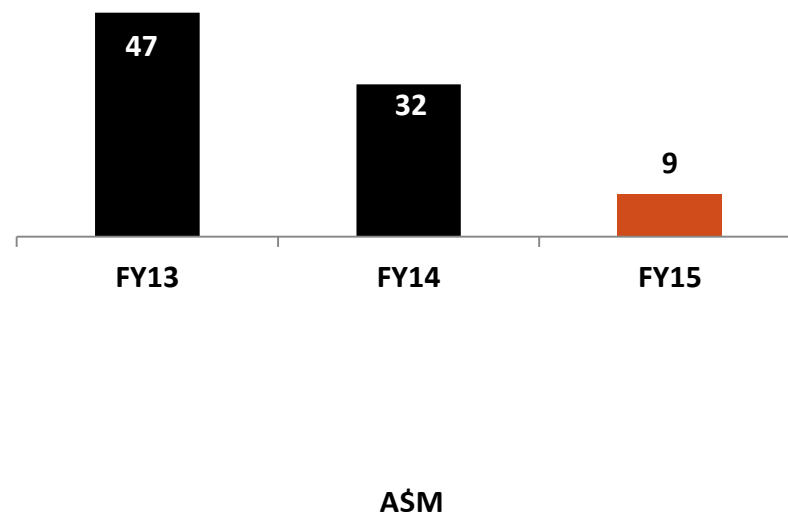
## Simberi Cash Contribution FY15



## Simberi - segment EBIT<sup>1</sup> FY13 – FY15



## Simberi - capex FY13 – FY15



\*Includes impairment losses comprising  
FY13: A\$200M FY14:A\$215M

1. Non- IFRS measure. Refer appendix  
Source – St Barbara Ltd Financial Reports FY13- FY15, Note 5, Segment information. Only includes period of St Barbara ownership





## MALARIA AWARENESS



**St Barbara**  
**Simberi Operations**



PNG | MALARIA FREE | BY 2050





# Simberi Operations Economic Contribution FY15



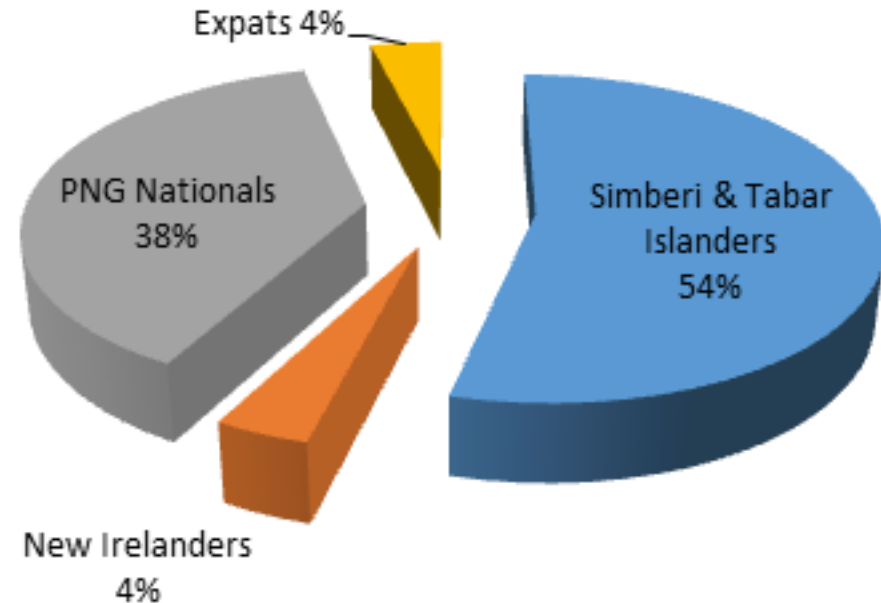
Salaries	PGK million	
	FY15	FY14
Island Residents	10	12
Nationals	19	22
<b>Total</b>	<b>29</b>	<b>34</b>
<b>Purchases within PNG (food and materials)</b>	<b>51</b>	<b>61</b>
Local Area compensation payments and support	0.8	0.4
Royalties (2.0% of gold revenue)	4.8	2.7
MRA Levy (0.25% of gold revenue)	0.6	0.3
PAYG	10.4	9.6
Withholding Taxes	0.7	1.7

## Providing jobs and training

The Company directly employs approximately 600 PNG Nationals covering a diverse range of employment & training opportunities including:

- > National Manager Exploration
- > Supervisors & Superintendents
- > Engineers & Geologists
- > Maintenance
- > Community Relations

## Total Simberi Employees



Simberi employees: 54% are from local island group

## Landowner contractors:

- > There are over 21 Landowner businesses providing civil and mining/ore haulage, camp services
- > annual spend exceeds 12 million kina

Right: Landowner contractors completing church meeting room

Below: landowner contractors repairing flood damage to Simberi road



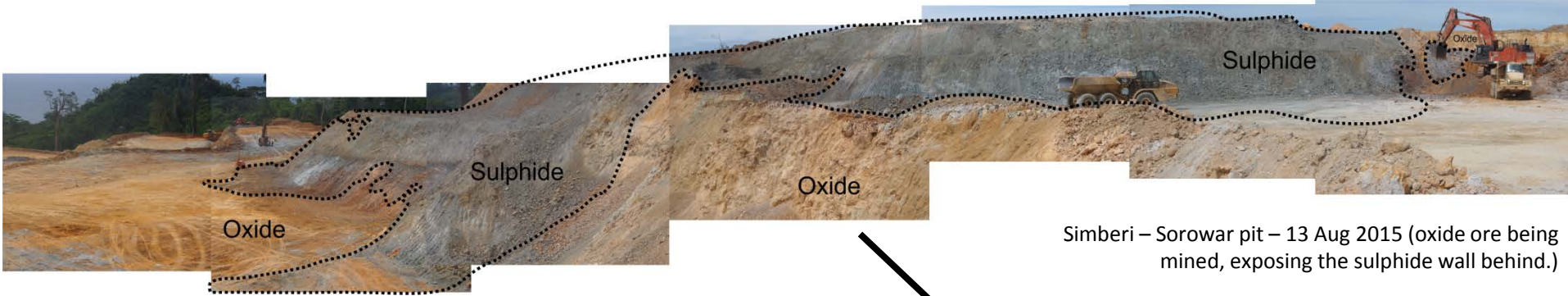
Long term community programs funded by the Company include:

- > Healthcare & medivac
- > Primary schooling
- > Adult education & scholarships
- > Roads
- > Logistical support for local police
- > Drinking water & shower blocks in villages

In a small Island environment, Simberi can and does have a significant positive influence on health and well-being, including:

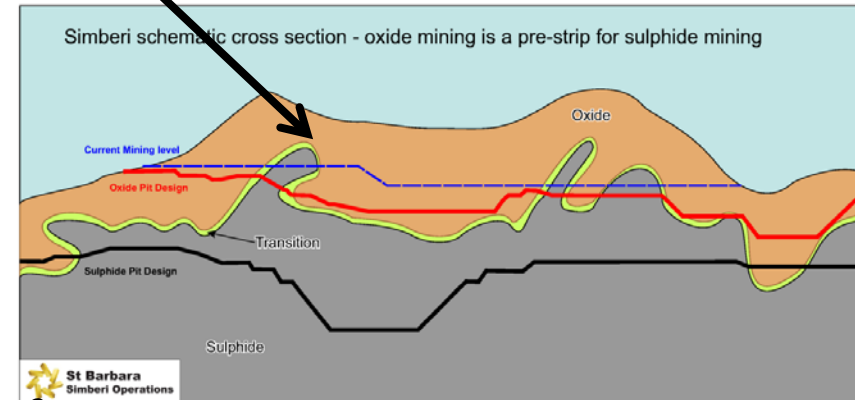
- > First PNG Anti Malaria program (PIMI)
- > Complete measles vaccination program
- > Australian Doctors International tour
- > Boating safety
- > Future initiative in reducing domestic violence
- > El Nino assistance to employee families





Simberi – Sorowar pit – 13 Aug 2015 (oxide ore being mined, exposing the sulphide wall behind.)

- > Sulphide mining at Simberi potentially extends life (15 years +) based on existing reserve, open at depth<sup>1</sup>
  - > Simberi oxide mine life ~4 years<sup>1</sup>
  - > Oxide mining pre-strips for sulphide mining
- > Reserves of 19.9 Mt @ 2.0 g/t Au for 1.3 Moz<sup>2</sup> contained gold with further drilling planned.
- > Processing options being considered, favouring a low capex flotation circuit, with export of a concentrate
  - > Pre-Feasibility Study due in March Quarter

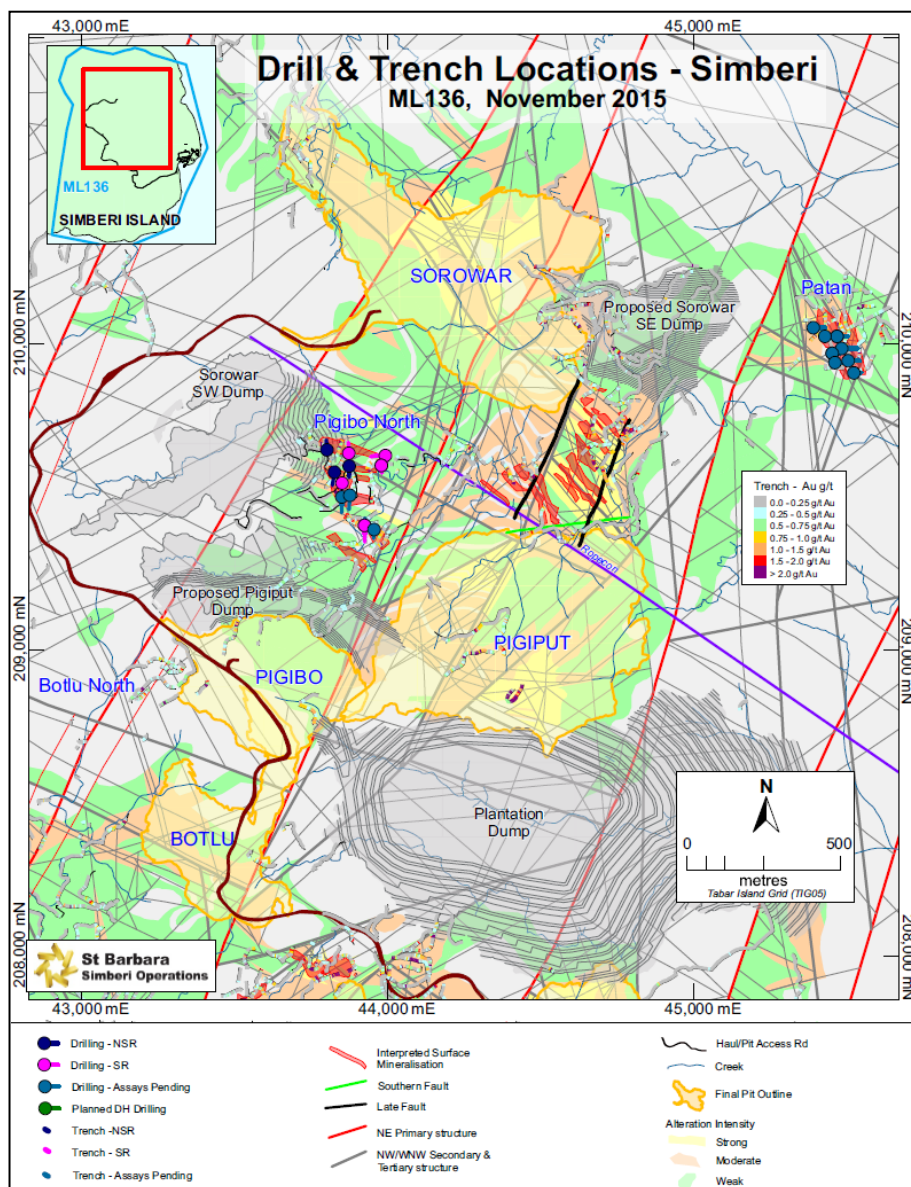


Schematic showing a theoretical oxide/sulphide pit design

1. Refer ASX announcement 20 Oct 2015 "Quarterly Report 30 September 2015"
2. Refer ASX announcement released 25 August 2015 titled 'Ore Reserves and Mineral Resources Statements 30 June 2015'.

- > A prefeasibility study (PFS) to process sulphide ore is underway.
  - > The plan indicates that a phased cut over to sulphide processing, including a period of processing both sulphides and oxides would be optimal. This is due to areas of oxide reserves lying within the deeper sulphide pit shells.
  - > Modelling work and strategy has identified manufacture of a concentrate for export as the best value path for exploiting sulphide reserves
  - > Current work includes review of plant layout, logistics options for concentrate export and review of mine life modelling.
- > Development of the optimised mine plan with subsequent evaluation of project economics indicate completion of the PFS in the March 2016 quarter.





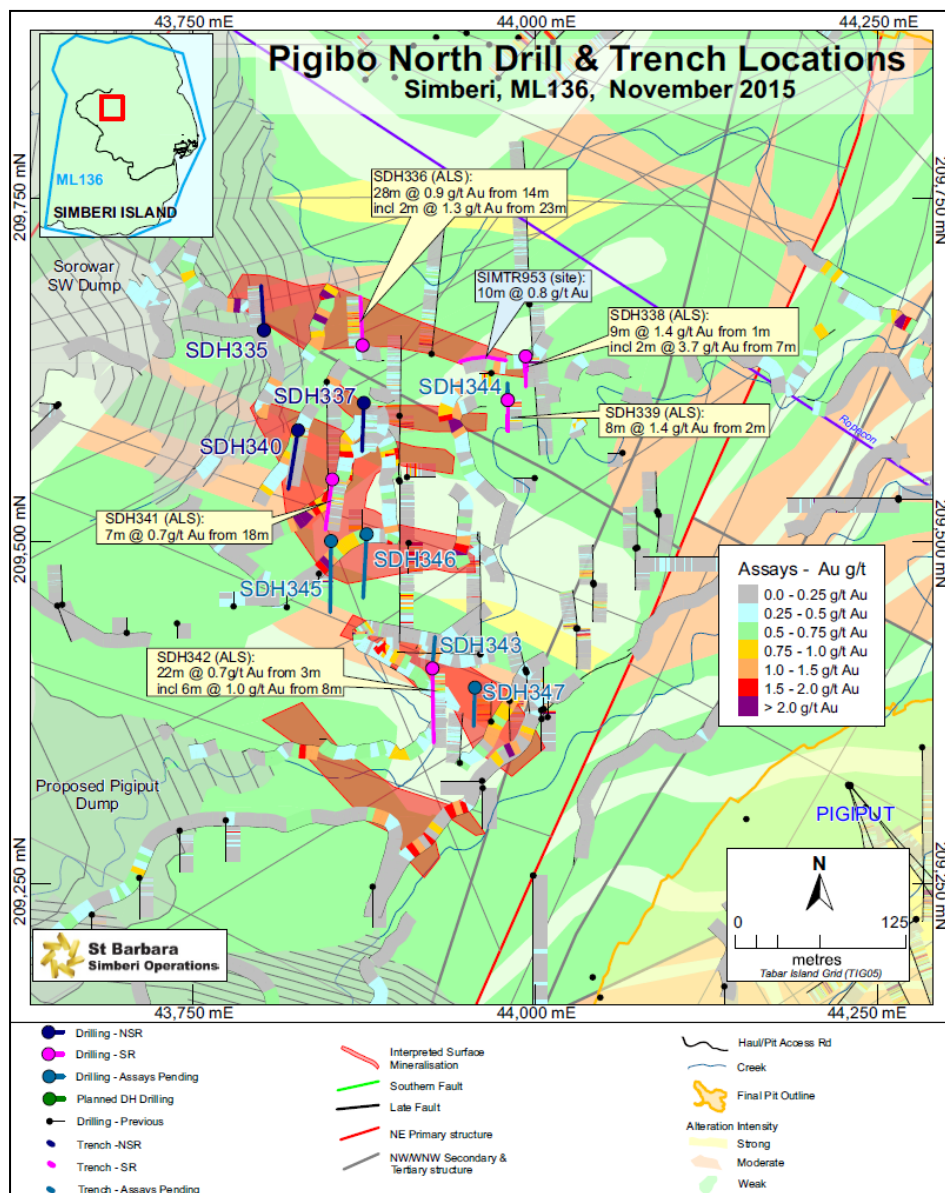
Diamond drilling completed at Pigibo North on 20<sup>th</sup> October

## Pigibo North:

- 13 holes (SDH335 to SDH347) completed for 779.3m; results returned for first 7 holes; significant intercepts include<sup>1</sup>:
- **SDH336: 28m @ 0.9 g/t Au**, from 14m
- **SDH339: 8m @ 1.4 g/t Au**, from 2m
- **SDH341: 7m @ 0.7 g/t Au**, from 18m
- **SDH342: 22m @ 0.7 g/t Au**, from 3m
- Remaining results expected late November

1. New results since September 2015 Quarterly Report. Refer to attached JORC tables for details.



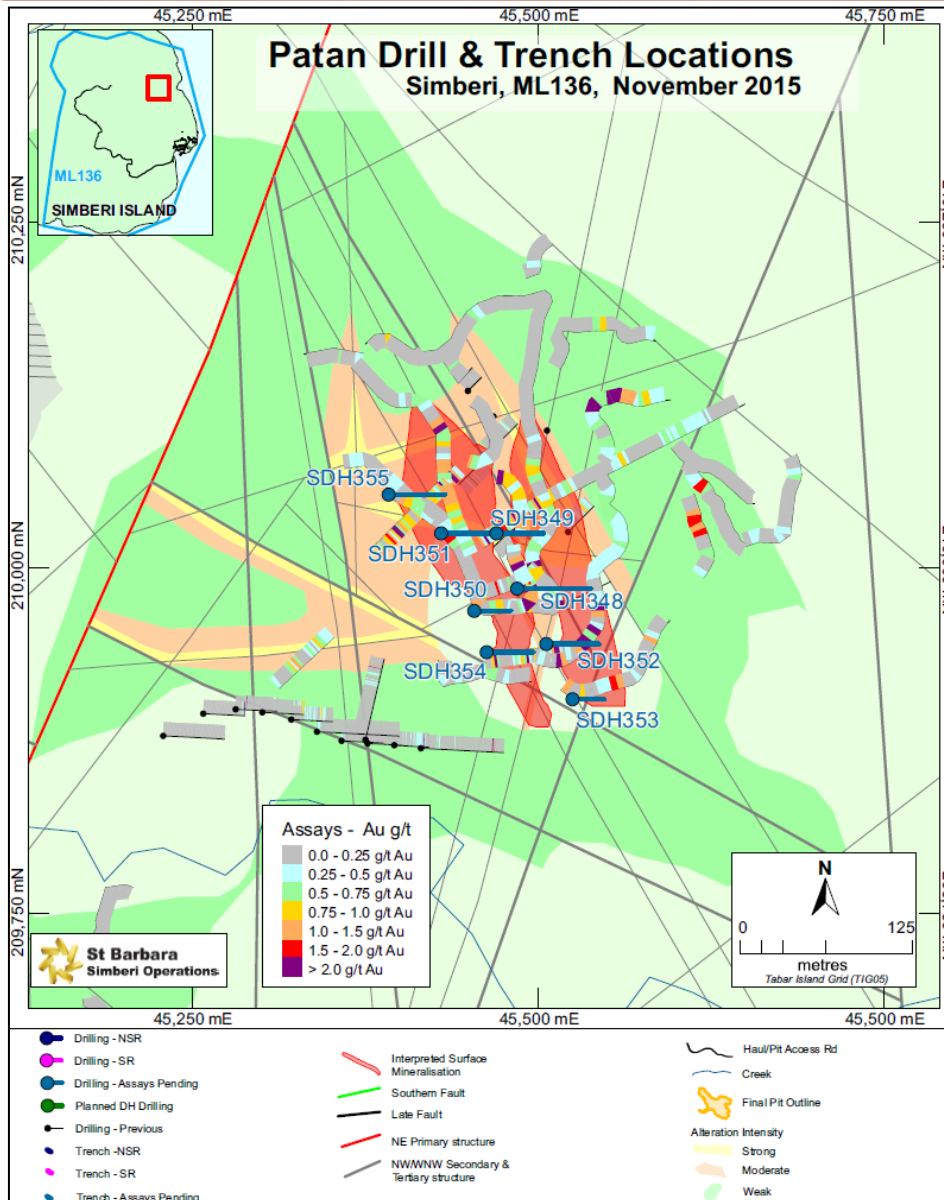


Trenching finished at Pigibo North in late October

## Pigibo North:

- Final trench (SIMTR953) completed for 7 samples covering 35m; significant results include:
- SIMTR953: 10m @ 0.8 g/t Au<sup>1</sup>

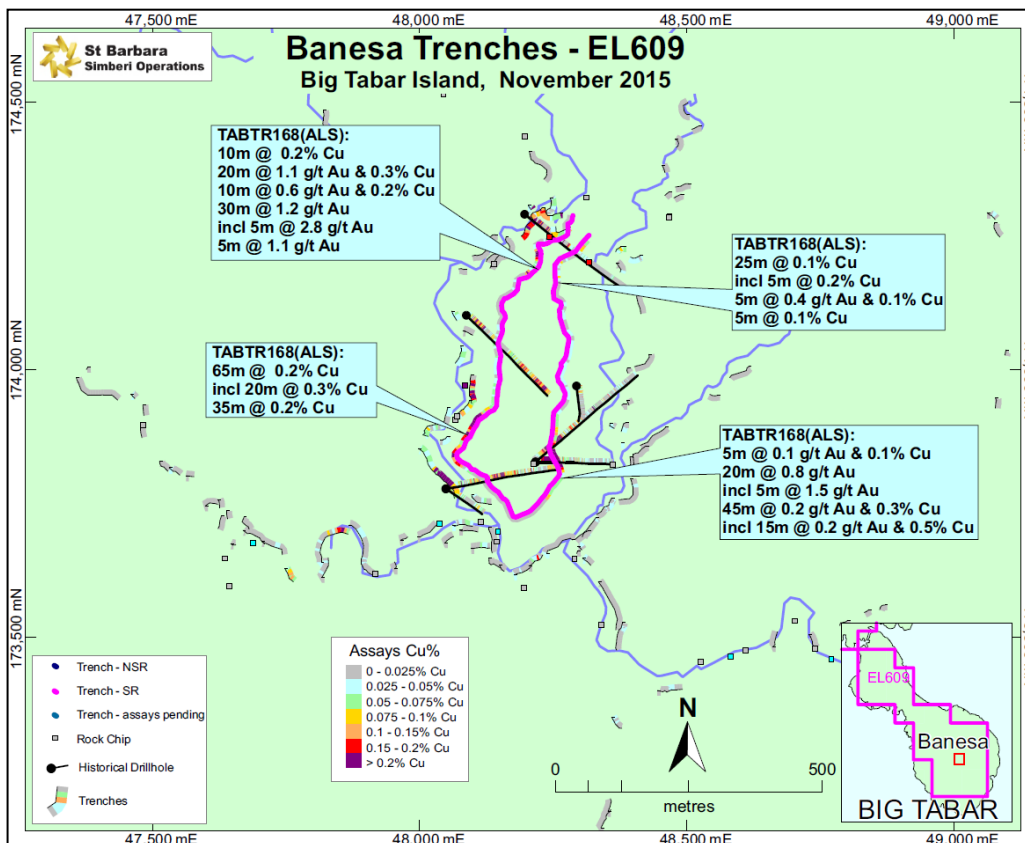
1. New results since September 2015 Quarterly Report. Refer to attached JORC tables for details.



Diamond drilling completed at Patan on 6<sup>th</sup> November

## Patan:

- 8 Holes (SDH348 to SDH355) completed for 503.5m; depth of weathering varies between 12m and 36m down hole
- Assay results expected mid December

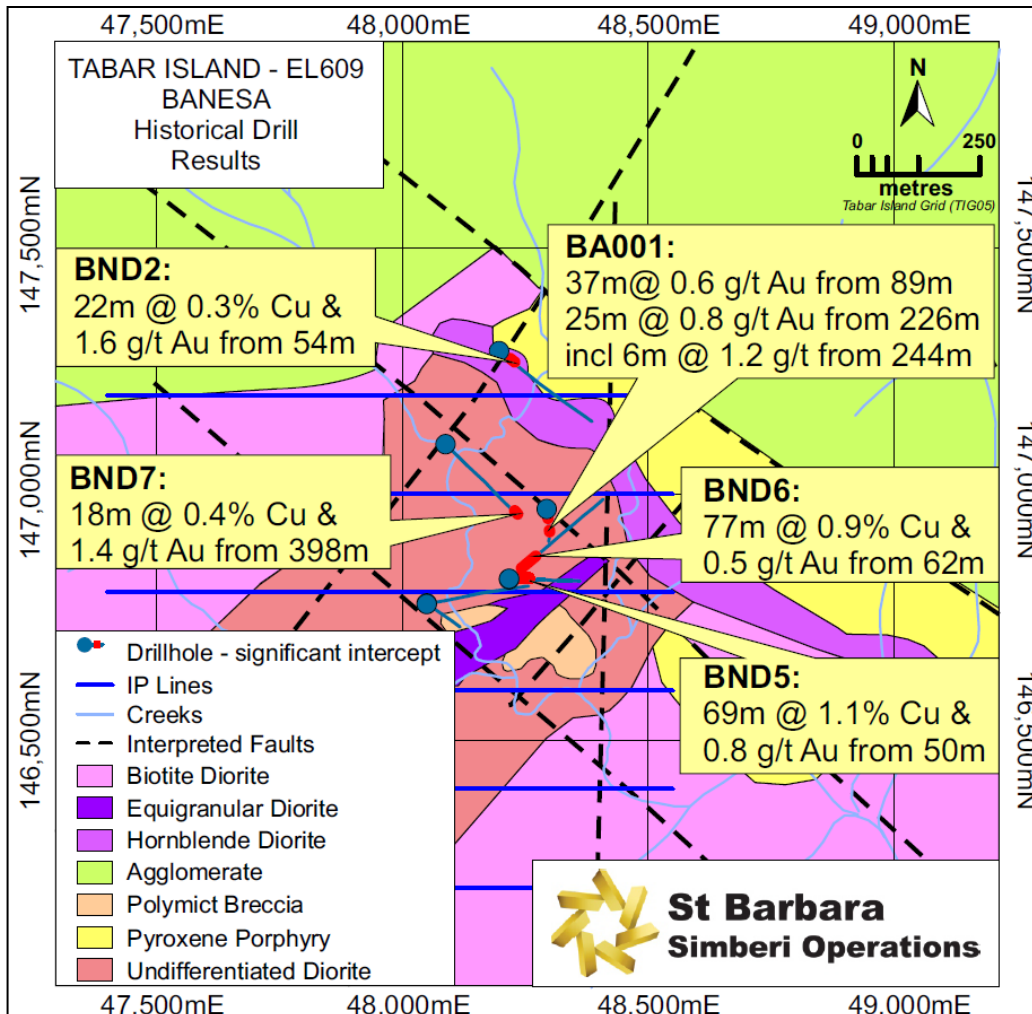


Significant Au-Cu results displayed in trench & historical drilling.

## Banesa Porphyry Au-Cu Project:

- ~9 line km of mapping completed; trenching and mapping to be finalised in early December
- To date 108 trenches (TABTR064 to TABTR174) completed
- TABTR168 significant results<sup>1</sup> include:
  - **30m @ 1.2 g/t Au**
  - **20m @ 1.1 g/t Au & 0.3% Cu**
- Awaiting results of TABTR169 to 174
- PNG Au-Cu porphyry specialist Dr Peter Pollard to review the project in December
- Large mining company has entered into a confidentiality agreement to review the EL609 exploration data, including the Banesa Porphyry target

1. New results since September 2015 Quarterly Report. Refer to attached JORC tables for details.



## Banesa Porphyry Au-Cu Project:

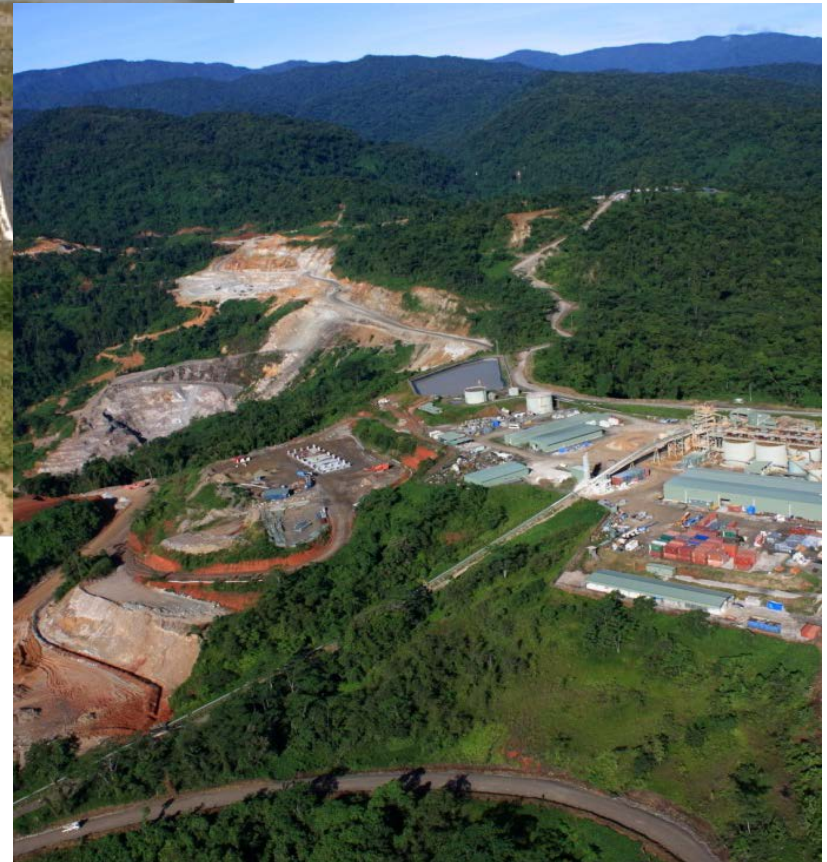
- 1996 – Nord completed 1 diamond hole BA001 for 384m<sup>1</sup>
- 2009 - Barrick Gold completed 6 diamond holes (BND2 to BND7) for 2,625m<sup>1</sup>
- Intersected Au-Cu alkaline porphyry style mineralisation
- Best Intersection: **69m at 0.8g/t gold and 1.1% copper** from 50m in BND5<sup>2</sup>
- 2013 – IP geophysics survey
- June to November 2015 - extensive (~9 line km) mapping, trenching and 3D modelling in preparation for potential drilling

1. Allied Gold Limited Prospectus, 20 June 2011

2. Allied Gold Annual Report 2009

- > **Cash generating gold operation**
- > Very strong improvement year on year across the whole operation
  - > Processing throughput
  - > Mining rate
  - > Costs drastically reduced, still with room to improve
- > Strong loyalty to the local community
  - > Community programs in education, infrastructure and medicine
  - > Employment
  - > Local contractors
  - > Purchasing
- > Pre-feasibility study nearing completion for economic mining of significant sulphide ore reserve<sup>1</sup>
- > Highly prospective exploration tenements

# Gold Ridge (Solomon Islands) Divestment







Near shore sedimentation sampling at Simberi

Photo: George Samson



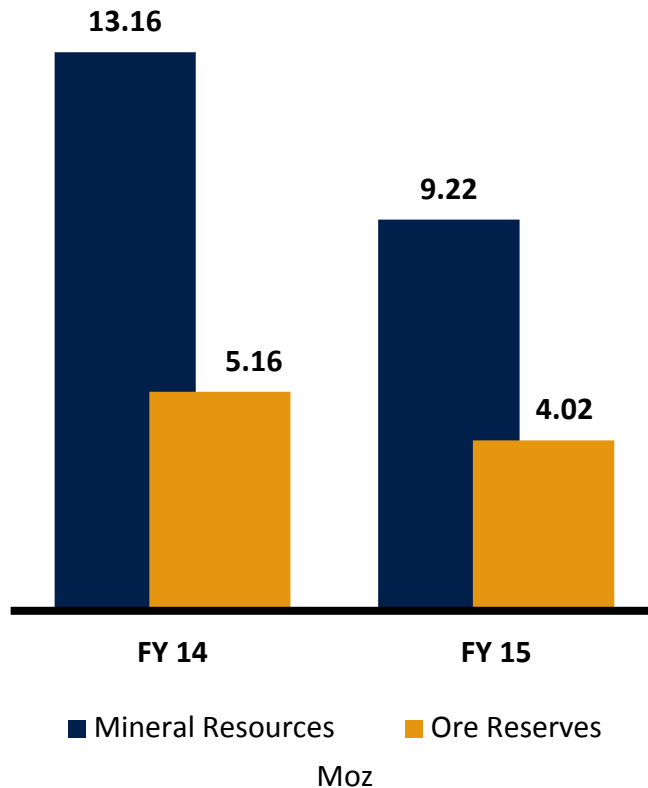
# Simberi production summary (\$AUD)



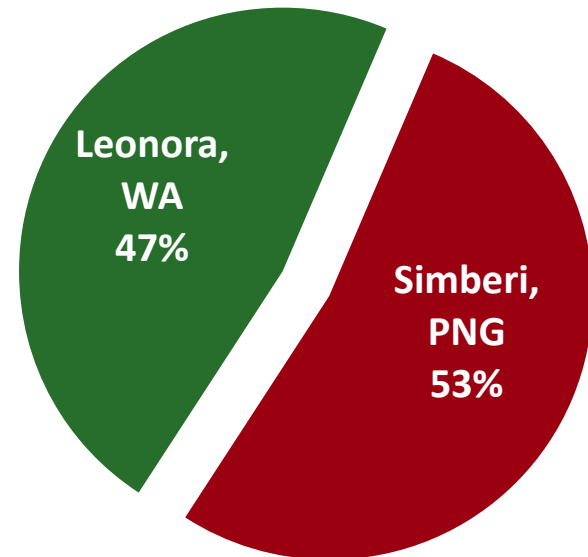
Production Summary Simberi		Q3 Mar FY15	Q4 Jun FY15	Q1 Sep FY16
Total ore & waste mined	kt	1,618	1,882	2,606
Ore mined	kt	460	725	896
Grade	g/t	1.38	1.28	1.22
Ore milled	kt	750	768	859
Grade	g/t	1.1	1.3	1.3
Recovery	%	83	86	84
<b>Gold production</b>	<b>oz</b>	<b>22,498</b>	<b>27,137</b>	<b>29,539</b>
<b>All-In Sustaining Cost</b> <sup>[1]</sup>		\$ per ounce		
Mining		316	345	351
Processing		473	394	448
Site services		361	245	273
Stripping and ore inventory adjustments		-	-	-
		<b>1,150</b>	<b>984</b>	<b>1,072</b>
By-product credits		-	-	-
Third party refining & transport		13	14	10
Royalties		30	37	37
<b>Total cash operating costs</b>		<b>1,193</b>	<b>1,035</b>	<b>1,119</b>
Corporate and administration		33	36	40
Corporate royalty		-	-	-
Rehabilitation		21	17	14
On-site exploration		-	-	-
Capitalised mine & op development		-	-	-
Sustaining capital expenditure		63	61	79
<b>All-In Sustaining Cost (AISC)</b>		<b>1,310</b>	<b>1,149</b>	<b>1,252</b>

> Ore Reserves at Simberi are 53% of St Barbara total

## Ore Reserves and Mineral Resources <sup>1</sup>



## % of Ore Reserves <sup>1</sup>



1. Refer ASX announcement released 25 August 2015 titled 'Ore Reserves and Mineral Resources Statements 30 June 2015'. Resources include 274 koz relating to King of the Hills & Kailis subject to sale agreement (refer ASX announcement 20 August 2015). Mineral Resources are reported inclusive of Ore Reserves.

## Exploration Results

The information in this presentation that relates to Exploration Results for Simberi and Pinjin is based on information compiled by Dr Roger Mustard, who is a Member of The Australasian Institute of Mining and Metallurgy. Dr Mustard is a full-time employee of St Barbara and has sufficient experience 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'. Dr Mustard consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this presentation that relates to Exploration Results for Gwalia and the Leonora region is based on information compiled by Mr Robert Love, who is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Love is a full-time employee of St Barbara and has sufficient experience 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 Love consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## Mineral Resource and Ore Reserve Estimates

The information in this presentation that relates to Mineral Resources or Ore Reserves is extracted from the report titled 'Ore Reserves and Mineral Resources Statements 30 June 2015' released to the Australian Securities Exchange (ASX) on 25 August 2015 and available to view at [www.stbarbara.com.au](http://www.stbarbara.com.au) and for which Competent Persons' consents were obtained. Each Competent Person's consent remain in place for subsequent releases by the Company of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original ASX announcement released on 25 August 2015 and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the original ASX 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 ASX announcement.

Competent Persons Dr Mustard and Mr John de Vries (prior to his resignation from St Barbara in July 2015) are entitled to participate in St Barbara's long term incentive plan, details of which are most recently included in the 2015 Annual Report and Notice of 2015 Annual General Meeting released to the ASX on 20 October 2015. In 2012 and 2013 increase in Ore Reserves was one of the performance measures under that plan.

*Full details are contained in the ASX release dated 25 August 2015 'Ore Reserves and Mineral Resources Statements 30 June 2015' available at [www.stbarbara.com.au](http://www.stbarbara.com.au).*

We supplement our financial information reporting determined under International Financial Reporting Standards (IFRS) with certain non-IFRS financial measures, including cash operating costs. We believe that these measures provide meaningful information to assist management, investors and analysts in understanding our financial results and assessing our prospects for future performance.

- Cash operating costs** > Calculated according to common mining industry practice using The Gold Institute (USA) Production Cost Standard (1999 revision).  
Refer most recent quarterly report available at [www.stbarbara.com.au](http://www.stbarbara.com.au) for example
- All-In Sustaining Cost** > All-In Sustaining Cost is based on Cash Operating Costs, and adds items relevant to sustaining production. It includes some, but not all, of the components identified in World Gold Council's Guidance Note on Non-GAAP Metrics - All-In Sustaining Costs and All-In Costs (June 2013).  
Refer most recent quarterly report available at [www.stbarbara.com.au](http://www.stbarbara.com.au) for example
- EBIT** > EBIT is earnings before interest revenue, finance costs and income tax expense.

Rowan Cole

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ASX: SBM

**Table 1: Significant Intercepts – Pigibo North, ML136 - Simberi Island, Papua New Guinea**

Hole Id	North	East	RL	Dip/ Azimuth	Total Depth	Lode	Down-hole Mineralised Intersection		
							From m	Interval m	Gold grade g/t Au
<b>SDH335</b>	209654	43802	189.0	-56.5/356.5	59.3		no significant intercepts		
<b>SDH336</b>	209643	43874	174.0	-53.5/357.5	60.0	OX,TR,SU	14	28	0.9
<i>Including</i>						TR	23	2	1.3
<b>SDH337</b>	209601	43875	192.0	-54.3/182.1	60.8		no significant intercepts		
<b>SDH338</b>	209635	43992	180.0	-55.9/179.5	40.0	OX	1	9	1.4
<i>Including</i>						OX	7	2	3.7
<b>SDH339</b>	209601	43952	167.0	-55.7 / 179.5	39.7	OX,TR	2	8	1.4
<b>SDH340</b>	209584	43825	167.0	-53.8 / 189.4	74.1		no significant intercepts		
<b>SDH341</b>	209545	43852	205.0	-55.0 / 187.8	64.8	OX	18	7	0.7
<b>SDH342</b>	209403	43924	208.0	-55.0 / 178.9	94.8	OX,TR,SU	3	22	0.7
<i>Including</i>						TR,SU	8	6	1.0

## NOTES:

The reported intercepts are all down hole lengths.

## SIMBERI - JORC Code, 2012 Edition – Table 1

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Drilling:	Section 1 Sampling Techniques and Data Section 2 Reporting of Exploration Results
Trenching:	Section 1 Sampling Techniques and Data Section 2 Reporting of Exploration Results

### Drilling - Section 1 Sampling Techniques and Data

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

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li>Diamond Drilling - Sampled using PQ (85mm), HQ (63.5mm) or HQ3 (61.1mm) and on occasion NQ2 (50.5mm) or NQ3 (45mm) sized core using standard triple tubes. Half core was sampled on nominal 1-metre intervals with the upper or left - hand side of the core prepped on-site to produce a 200gm pulp sample. A 50gm charge was then extracted from the 200gm pulp for Au fire assay and ICP - AES base metal analysis.</li> </ul>
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li>Diamond Drilling comprised PQ (85mm), HQ (63.5mm) or HQ3 (61.1mm) and on occasion NQ2 (50.5mm) or NQ3 (45mm) core recovered using 1.5m to 3m barrels. When ground conditions permit, an ACT Digital Core Orientation Instrument was used by the contractor to orientate the core.</li> </ul>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li>Diamond drilling recovery percentages were measured by comparing actual meters recovered per drill run versus meters measured on the core blocks. Recoveries averaged over &gt;90% with increased core loss present in fault zones and zones of strong alteration. No relationship exists between sample recovery and grade.</li> </ul>
<i>Logging</i>	<ul style="list-style-type: none"> <li>Diamond holes are qualitatively geologically logged for lithology, structure and alteration and qualitatively and quantitatively logged for veining and sulphides. Diamond holes are geotechnically logged with the following attributes qualitatively recorded - strength, infill material, weathering and shape. Whole core together with half core, were photographed when wet.</li> <li>All holes are fully logged</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>Diamond core was sampled largely on 1 metre intervals. Core was cut with the upper or left-hand side of the core routinely submitted for total pulverisation (85% passing 75 µm). Quality control of sub-sampling consisted of insertion of blank control samples and coarse reject duplicates, both at a ratio of 1:20 samples. The samples were fully prepared at the company's on-site sample preparation facility on Simberi Island with 200g pulps sent to ALS Laboratory in Townsville.</li> <li>Pulp residues are stored in Townsville for future re-assay if required.</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <li>Half Core samples were analysed for gold using fire assay with a 50g charge and analysis by flame atomic absorption spectrometry. Base metals were analysed by Aqua Regia digestion using Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES). QC included insertion of certified reference material (1 in 20); insertion of in-house blank control material (1 in 20); and the insertion of reject residues (1 in 20). QAQC results were assessed as each laboratory batch was received and again on a quarterly basis. Results indicate that pulveriser bowls were adequately cleaned between samples. Overall, the analysis of gold was sound.</li> </ul>
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>Sampling data is recorded electronically which ensures only valid non-overlapping data can be recorded. Assay and downhole survey data are subsequently merged electronically. All drill data is stored in a SQL database on secure company server. No twin holes have been completed.</li> </ul>

Criteria	Commentary
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>All Simberi Island collars were surveyed by in-house surveyors using DGPS using Tabar Island Grid (TIG) which is based on WGS84 ellipsoid and is GPS compatible (RC holes reported in this period are still pending pickup by dGPS). Tatau and Tabar Island collars were surveyed by hand held GPS. All holes were downhole surveyed using either a Reflex or Ranger single shot camera with the first reading at about 15m and then approximately every 30m increments to the bottom-of-the hole.</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>Drilling data is not yet sufficient to establish continuity of the lodes and therefore the drill spacing is irregular and broad spaced.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>Where surface mapping and sampling has contributed to understanding of outcropping geological structures, drilling and sampling has been undertaken orthogonal to the mapped structure. However, in many of the areas the lode orientation is not fully understood and hence the optimal drill direction has not yet been firmly established.</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>Only company personnel or approved contractors are allowed on drill sites; drill core is only removed from drill site to secure core logging/processing facility within the gated exploration core yard; core is promptly logged, cut and prepped on site. The 200gm pulps are then consigned to ALS in Townsville for Au-base metal analysis.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>No audits or reviews of sampling protocols have been completed.</li> </ul>

### **Drilling - Section 2 Reporting of Exploration Results**

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

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>SBM has 100% ownership of the two tenements over the Simberi Islands; ML136 on Simberi Island, and EL609 which covers the remaining area of Simberi Island, as well as Tatau Island and Big Tabar Island.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>CRA, BHP, Tabar JV (Kennecott, Nord Australer and Niugini Mining), Nord Pacific, Barrick and Allied Gold have all previously worked in this area. Nord Pacific followed by Allied Gold were instrumental in the discovery and delineation of the 5 main oxide and sulphide deposits at Simberi.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>The Simberi gold deposits are low sulphidation, intrusion related adularia-sericite epithermal gold deposits. The dominant host rocks for mineralisation are andesites, volcanoclastics and lesser porphyries. Gold mineralisation is generally associated with sulphides or iron oxides occurring within a variety of fractures, such as simple fracture in-fills, single vein coatings and crackle brecciation in the more competent andesite units, along andesite/polymict breccia contact margins as well as sulphide disseminations. On Tatau and Big Tabar Islands, located immediately south of Simberi, potential also exists for porphyry Cu-Au, epithermal quartz Au-Ag and carbonate-base metal Au mineralisation.</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>Drill hole information is included in intercept table outlining collar position obtained by DGPS pickup, hole dip and azimuth acquired from a downhole surveying camera as discussed in section 1, composited mineralized intercepts lengths and depth as well as hole depth.</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>Broad down hole intercepts are reported as length weighted averages using a cut-off of 0.5 g/t Au and a minimum grade*length of 5gmpt. Such intercepts may include material below cut-off but no more than 5 sequential meters of such material and except where the average drops below the cut-off. Salvage is only included where its average grade exceeds 0.5 g/t Au.</li> <li>Using the same criteria for included sub-grade, supplementary cut-offs, of 2.5g/t Au, 5.0g/t Au and 10g/t Au, may be used to highlight higher grade zones and spikes within the broader aggregated interval. Single assays intervals are reported only where <math>\geq 5.0\text{g/t Au}</math> and <math>\geq 1\text{m}</math> down hole. In core holes, core loss is assigned zero grade. No high grade cut is applied.</li> <li>No metal equivalent values are used for reporting exploration results.</li> </ul>



Criteria	Commentary
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>Down hole length is reported for all holes; true width is not known as the orientation of the orebody is not fully understood.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>Diagrams show all drill holes material and immaterial to Exploration Results.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>Details of all holes material to Exploration Results have been reported in the intercept table, and all other drill holes drilled during the reporting period are highlighted on diagrams included in the report.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>Included in the body of the report. Core holes are routinely measured for bulk density determinations to be used for future resource modelling.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>Included in the body of the report.</li> </ul>

### **Trenching - Section 1 Sampling Techniques and Data**

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

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li>Sampling of trenches was done over measured intervals of between 1 and 5 meters dependent on geology. A geo-pick was used to collect a continuous channel sample from the trench faces across the designated interval with the samples collected in calico bags. Samples (3 to 5kg) were prepped on-site (jaw crushed, disk mill pulverised and then split) to produce a 200g pulp sample. A 25g charge was then extracted from the pulp for Au analyses by Aqua Regia digestion followed by an Atomic Absorption Spectroscopy (AAS) instrument finish.</li> </ul>
<i>Trenching/Benching techniques</i>	<ul style="list-style-type: none"> <li>Trenches were created by both hand and mechanical techniques. Hand trenches were dug using spades, crowbars and shovels to depths of between 1 and 2 meters. Creek channel sampling is conducted in the same manner as trenches, where continuous exposure of bedrock is made by hand clearing of vegetation and cover. Mechanised trenches were dug by an excavator or dozer exposing up to 5 meters of trench wall.</li> </ul>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
<i>Logging / Mapping</i>	<ul style="list-style-type: none"> <li>All trenches were qualitatively geologically mapped for lithology, structure and alteration.</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>Samples are routinely submitted for total pulverisation (85% passing &lt;75 µm) at the company onsite sample preparation facility on Simberi Island.</li> <li>200g pulps are sent to St Barbara's Simberi Laboratory where a 25g sub-sample is taken.</li> <li>For Banesa trench samples, the 200g pulps were sent to ALS, Townsville for analysis.</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <li>The Mine Lease samples were analysed for gold at the Simberi Lab using Aqua Regia digestion with a 25g charge and analysis by Atomic Absorption Spectrometry.</li> <li>The West Simberi and Banesa samples were analysed for gold at ALS (Townsville) via 50g fire assay and AAS finish (Method Au26). At Banesa, Cu, Ag, As, Fe, Mo, Pb, S, Sb and Zn were analysed via Nitric Aqua Regia Digestion and ICP-AES Finish (Method ME-ICP41).</li> <li>QC included the insertion of two in house blanks at the start of each batch of trench samples, the insertion of certified copper-gold standards (1:100) as well as the collection of field duplicates (1:100).</li> </ul>
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>Sampling data is recorded electronically which ensures only valid non-overlapping data can be recorded. Assay and trench survey data are subsequently merged electronically. All data is stored in a SQL database on secure company server.</li> </ul>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>All trenches were initially surveyed by a handheld GPS to capture the trench start point. The GPS used the Tabar Island Grid (TIG) which is based on WGS84 ellipsoid. The path of the trench from the initial start point to the end was surveyed by Tape &amp; Compass method. Trench interval coordinates were then generated using basic trigonometry.</li> </ul>

Criteria	Commentary
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>Trench data spacing is irregular and broad spaced.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>Where preceding surface mapping and sampling of trenches has contributed to understanding of outcropping geological structures, trenching and sampling has been undertaken to extend the strike length of the mapped structure. However, in many of the areas the lode orientation is poorly understood.</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>Only company personnel or approved contractors are allowed on drill sites; drill core is only removed from drill site to secure core logging/processing facility within the gated exploration core yard; core is promptly logged, cut and prepped on site. The 200gm pulps are then consigned to ALS in Townsville for Au-base metal analysis.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>No audits or reviews of sampling protocols have been completed.</li> </ul>

### **Trenching - Section 2 Reporting of Exploration Results**

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

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>SBM has 100% ownership of the two tenements over the Simberi Islands; ML136 on Simberi Island, and EL609 which covers the remaining area of Simberi Island, as well as Tatau Island and Big Tabar Island.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>CRA, BHP, Tabar JV (Kennecott, Nord Australex and Niugini Mining), Nord Pacific, Barrick and Allied Gold have all previously worked in this area. Nord Pacific followed by Allied Gold was instrumental in the discovery and delineation of the 5 main oxide and sulphide deposits at Simberi.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>The Simberi gold deposits are low sulphidation, intrusion related adularia-sericite epithermal gold deposits. The dominant host rocks for mineralisation are andesites, volcanoclastics and lesser porphyries. Gold mineralisation is generally associated with sulphides or iron oxides occurring within a variety of fractures, such as simple fracture in-fills, single vein coatings and crackle brecciation in the more competent andesite units, along andesite/polymict breccia contact margins as well as sulphide disseminations. On Tatau and Big Tabar Islands, located immediately south of Simberi, potential also exists for porphyry Cu-Au, epithermal quartz Au-Ag and carbonate-base metal Au mineralisation.</li> </ul>
<i>Trench/Bench Information</i>	<ul style="list-style-type: none"> <li>Included in the report text and annotated on diagrams.</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>Broad trench intercepts are spikes within the broader aggregated interval using a cut-off of 0.5 g/t Au and a minimum grade*length of 5gmpt. Such intercepts may include material below cut-off but no more than 5 sequential meters of such material and except where the average drops below the cut-off. Salvage is only included where its average grade exceeds 0.5 g/t Au.</li> <li>Using the same criteria for included sub-grade, supplementary cut-offs, of 2.5g/t Au, 5.0g/t Au and 10g/t Au, may be used to highlight higher grade zones and spikes within the broader aggregated interval. Single assays intervals are reported only where <math>\geq 1.0\text{g/t}</math> and <math>\geq 5\text{m}</math> trench length is intercepted. No high grade cut is applied.</li> <li>At Banesa, the same method is applied to aggregate gold grades using a 0.5 g/t cut-off grade and minimum grade*length of 5gmpt with no more than 5m of internal dilution and similar salvage restrictions. Within the corresponding Au intercept, Cu grades are reported if above 0.1% Cu. For defining copper intercepts a minimum of 0.1% Cu cut-off grade over 5m is used to define copper aggregated intervals with the corresponding gold grade reported where it is above 0.1g/t Au. Gold grades below this are not reported. Such intercepts may include material below cut-off but no more than 10 sequential meters of such material and except where the average drops below the cut-off. Salvage is only included where its average grade exceeds 0.1%Cu. Supplementary copper grades above 0.2% Cu and/or 0.5 g/t Au are used to highlight higher gold or copper grade zones within the broad zone. No high grade cut is applied.</li> <li>No metal equivalent values are used for reporting exploration results.</li> </ul>

Criteria	Commentary
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>Trench intercepts are sampled along the length of the trench and are reported for all trenches; true width is not reported.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>Diagrams show all trenches material and immaterial to Exploration Results.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>Details of all trenches material to Exploration Results have been reported in the text, and all other trenches dug during the reporting period are highlighted on diagrams included in the report.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>Included in the body of the report.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>Included in the body of the report.</li> </ul>