



## Ore Reserves and Mineral Resources Statements as at 30 June 2016

- Successful drilling program extended Gwalia Ore Reserves below 1,800 metres below surface for the first time
- Total Ore Reserves maintained at 4.01 Moz of contained gold, despite production of 377 koz and sale of King of the Hills mine and Kailis resource during FY16

Successful drilling at Gwalia targeting orebody extensions below 1,800 metres below surface has created significant new resources and reserves which have increased mine life at Gwalia. The gross additions from deep drilling and design changes at Gwalia amounted to 490 koz to Ore Reserves and 938 koz to Mineral Resources. The extent of this addition to reserves has offset depletion across the group and reductions through the divestment of King of the Hills and Kailis, resulting in reserves being maintained at 4.01 Moz.

### Company Summary at 30 June 2016

> <b>Total Ore Reserves are estimated at:</b>	<b>37.0 Mt @ 3.4 g/t Au for</b>	<b>4.01 Moz of contained gold, comprising:</b>
> Leonora Operations:	9.4 Mt @ 7.0 g/t Au for	2.11 Moz of contained gold
> Simberi Operations:	27.7 Mt @ 2.1 g/t Au for	1.90 Moz of contained gold
> <b>Total Mineral Resources<sup>1</sup> are estimated at:</b>	<b>119.7 Mt @ 2.4 g/t Au for</b>	<b>9.08 Moz of contained gold, comprising:</b>
> Leonora Operations:	22.4 Mt @ 6.3 g/t Au for	4.52 Moz of contained gold
> Simberi Operations:	97.3 Mt @ 1.5 g/t Au for	4.56 Moz of contained gold

The 30 June 2016 Ore Reserves and Mineral Resources Statements are attached.

1 Mineral Resources are reported inclusive of Ore Reserves

## Overview

St Barbara's Mineral Resource and Ore Reserve position as at 30 June 2016 is summarised and compared with the 2015 statement in Table 1.

Project	2015 Ore Reserves			FY16 Production	2016 Ore Reserves		
	Tonnes ('000)	Grade (g/t)	Ounces ('000)	Ounces ('000)	Tonnes ('000)	Grade (g/t)	Ounces ('000)
Gwalia (WA)	5,290	9.4	1,594	267	6,795	8.3	1,808
Tower Hill (WA)	2,572	3.7	306	-	2,572	3.7	306
<b>Total Leonora</b>	<b>7,862</b>	<b>7.5</b>	<b>1,900</b>	<b>267</b>	<b>9,367</b>	<b>7.0</b>	<b>2,114</b>
Simberi (Oxide)	19,117	1.3	818	110	14,094	1.3	576
Simberi (Sulphide)	19,882	2.0	1,285		13,556	3.0	1,321
<b>Total Simberi</b>	<b>38,999</b>	<b>1.7</b>	<b>2,103</b>	<b>110</b>	<b>27,650</b>	<b>2.1</b>	<b>1,897</b>
<b>Grand Total</b>	<b>46,861</b>	<b>2.7</b>	<b>4,003</b>	<b>377</b>	<b>37,017</b>	<b>3.4</b>	<b>4,011</b>

Project	2015 Mineral Resources				2016 Mineral Resources		
	Tonnes ('000)	Grade (g/t)	Ounces ('000)		Tonnes ('000)	Grade (g/t)	Ounces ('000)
Gwalia (WA)	12,929	7.9	3,304		17,294	7.0	3,896
Tower Hill (WA)	5,093	3.8	625		5,093	3.8	625
King of the Hills (WA)	870	6.1	170		-	-	-
Kailis (WA)	1,027	3.1	104		-	-	-
<b>Total Leonora</b>	<b>19,919</b>	<b>6.6</b>	<b>4,203</b>		<b>22,387</b>	<b>6.3</b>	<b>4,521</b>
Simberi (Oxide)	43,979	1.0	1,413		29,428	1.0	951
Simberi (Sulphide)	76,914	1.5	3,607		67,850	1.7	3,607
<b>Total Simberi</b>	<b>120,893</b>	<b>1.3</b>	<b>5,020</b>		<b>97,278</b>	<b>1.5</b>	<b>4,558</b>
<b>Grand Total</b>	<b>140,812</b>	<b>2.0</b>	<b>9,223</b>		<b>119,665</b>	<b>2.4</b>	<b>9,079</b>

**Table 1: St Barbara 2015 and 2016 Ore Reserves and Mineral Resources Summary**

The Company's Ore Reserves are effectively unchanged as an increase in the Gwalia Ore Reserves resulting from successful surface drilling targeting mineralisation extensions below the 1800 has offset depletion from production (Figure 1).

The successful drilling at Gwalia has offset reductions in the Company's Mineral Resources inventory due to:

- > Production,
- > Sterilisation of non-recoverable resources at Gwalia,
- > Divestment of the King of the Hills and Kailis Projects, and
- > Revised optimal pit shell from US\$1,875 to US\$1,800 per ounce at Simberi (Figure 2).

Figure 1: Summary Movement in Ore Reserve between FY15 and FY16

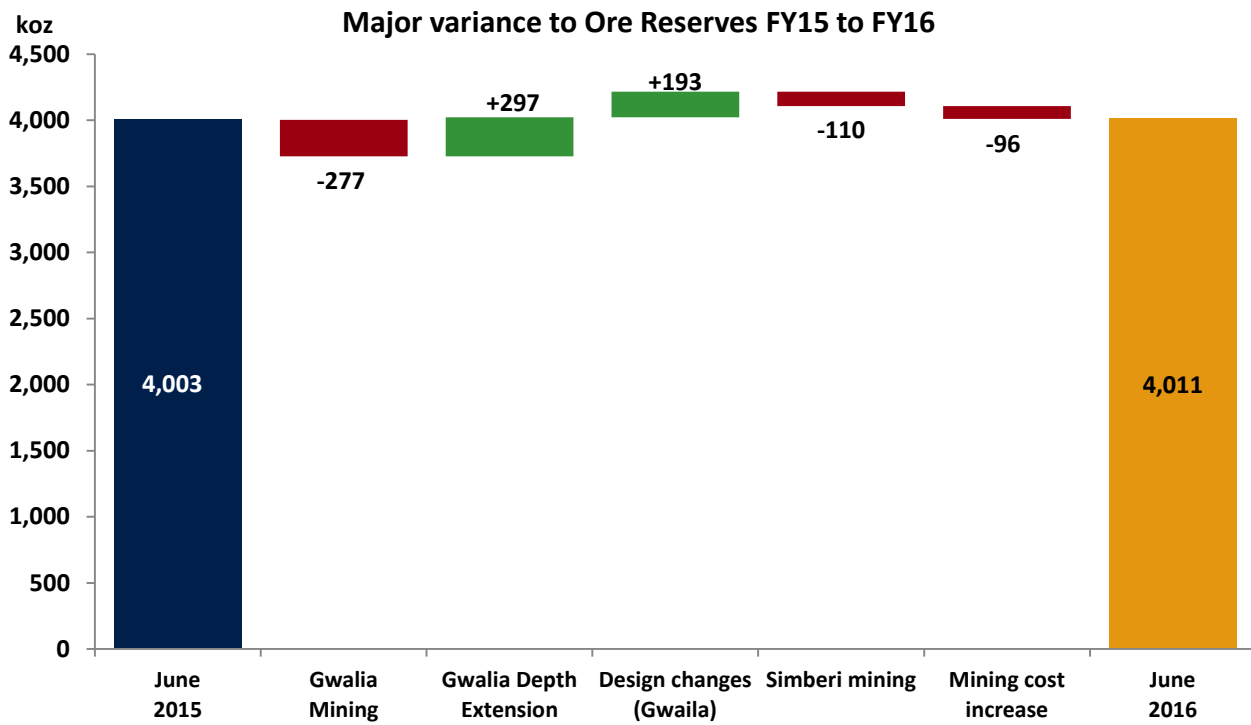
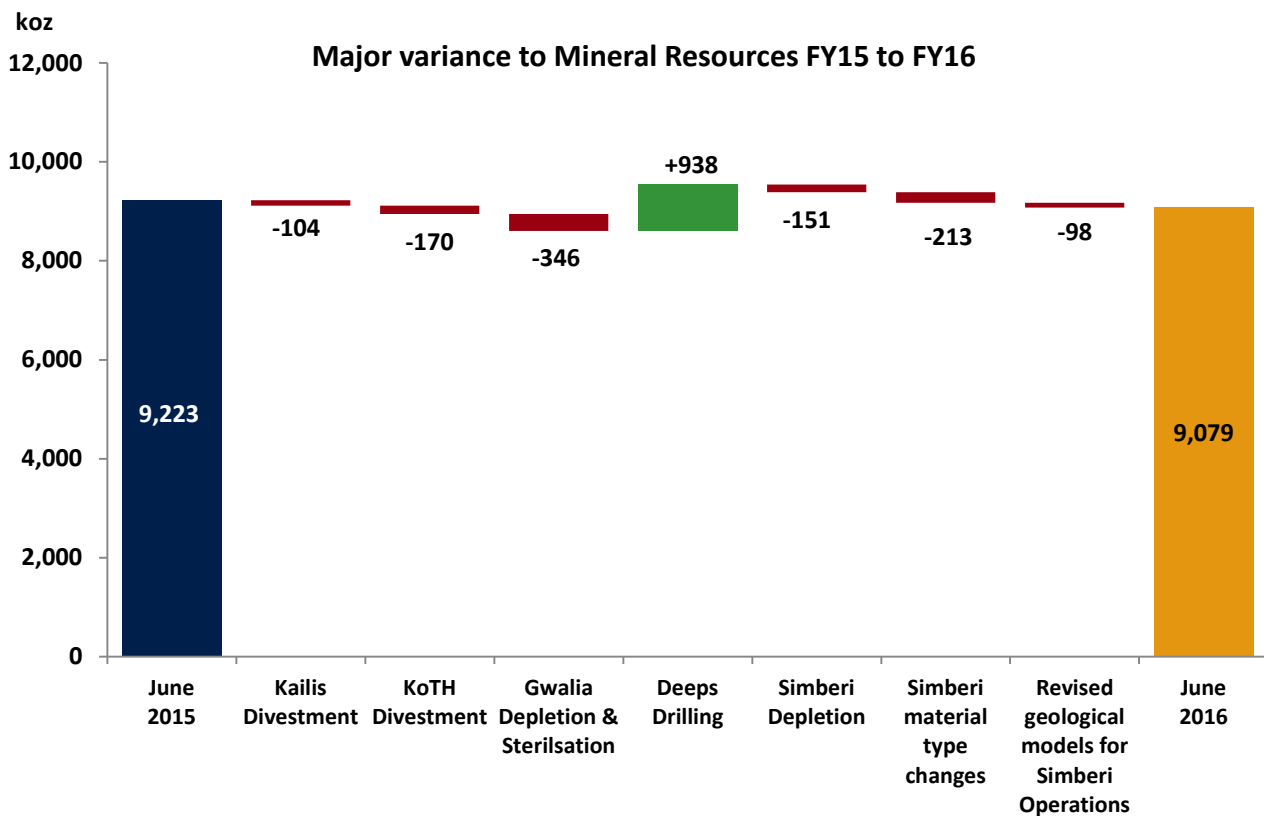


Figure 2: Summary Movement in Mineral Resource between FY15 and FY16



## Mineral Resource Revisions

### Gwalia (+592,000 ounces (net))

The Gwalia Mineral Resource has been updated following the completion of a surface drilling program targeting mineralisation below 1800 mbs and underground grade control and resource definition drilling completed from the 1540 level platform. The previous publicly reported Measured, Indicated and Inferred Mineral Resource Estimate reported at 30 June 2015 was 12,929 kt @ 7.9 g/t Au containing 3,304 koz of gold. This has increased by a net 592 koz of gold to 17,294 kt @ 7.0 g/t Au containing 3,896 koz of gold. Variances between the two estimates are primarily due to:

- > Depletion due to mining and sterilisation of non-recoverable resources, and
- > Resource extensions below 1800 mbs and changes to local geological models as a result of drilling.

### King of the Hills (-170,000 ounces)

The King of the Hills Project was sold in October 2015 to Saracen Metals Pty Ltd. The Company announced the sale of the King of the Hills mine and Kailis resource on 20 August 2015, refer to the corresponding ASX announcement for details.

### Kailis (-104,000 ounces)

The Kailis Project was sold in October 2015 to Saracen Metals Pty Ltd. The Company announced the sale of the King of the Hills mine and Kailis resource on 20 August 2015, refer to the corresponding ASX announcement for details.

### Simberi Oxide (-462,000 ounces)

A revised Mineral Resource estimate was completed for Simberi Oxide incorporating an updated base of oxidation model, based on sulphur assays and geological logging data. Previous models did not account for sulphur content. In addition, material that was previously classified as 'transitional' (partly oxidised) and reported as part of the oxide resource is now reported as part of the sulphide resource. The previous publicly reported Measured, Indicated and Inferred Oxide Mineral Resource Estimate reported at 30 June 2015 was 43,979 kt @ 1.0 g/t Au containing 1,413 koz of gold. This has decreased by 462 koz of gold to 29,428 kt @ 1.0 g/t Au containing 951 koz of gold. Variances between the two estimates are primarily due to depletion through mining and removal of transitional ore.

### Simberi Sulphide (0 ounces)

The Simberi Sulphide Mineral Resource estimate was updated incorporating a revised base of oxidation model and additional attributes necessary for the Simberi sulphide pre-feasibility study. The previous publicly reported Measured, Indicated and Inferred Sulphide Mineral Resource Estimate reported at 30 June 2015 was 76,914 kt @ 1.5 g/t Au containing 3,607 koz of gold. The revised model shows no net change in contained ounces and is now 67,850 kt @ 1.7 g/t Au containing 3,607 koz of gold. Variances between the two estimates are primarily due to the reclassification of transitional material as sulphide, depletion through mining and a change in gold price (from US\$1,875 to US\$1,800 per ounce) used to constrain the reporting of the sulphide Mineral Resource.

## Ore Reserve Revisions

### Gwalia (+214,000 ounces (net))

The previous publicly reported Proved and Probable Ore Reserve Estimate reported at 30 June 2015 was 5,290 kt @ 9.4 g/t Au containing 1,594 koz of gold. This has increased by a net 214 koz of gold to 6,795 kt @ 8.3 g/t Au containing 1,808 koz of gold. Variances between the two estimates are primarily due to:

- > Depletion due to mining,
- > Depth extension to the Mineral Resource as a consequence of surface drilling targeting resource extensions below 1800 mbs,
- > Design changes as a consequence of the revised Mineral Resource estimate, and
- > Removal of the 'mine call factor'.

A mine call factor has previously been applied to South West Branch (SWB) stopes greater than 8.0 g/t Au to address concerns that the Mineral Resource and, as a consequence, the Ore Reserve over-estimated grade in areas of limited or no grade control drilling. A review of factored areas subsequent to grade control drilling has shown that the un-factored grade is a more reliable estimate of grade.

### Simberi (oxide and sulphide combined: -206,000 ounces)

The previous publicly reported Proved and Probable Ore Reserve Estimate reported at 30 June 2015 was 38,999 kt @ 1.7 g/t Au containing 2,103 koz of gold. This has reduced by 206 koz of gold to 27,650 kt @ 2.1 g/t Au containing 1,897 koz of gold. The Simberi reserve combines the oxide reserve with 14,094 kt @ 1.3 g/t Au containing 576 koz of gold and the sulphide reserve with 13,556 kt @ 3.0 g/t Au containing 1,321 koz of gold.

The Simberi sulphide reserve profile variance from previous years predominately relates to changes in the sulphide resource model and an update to modifying factors as defined through the updated pre-feasibility study for sulphide treatment at Simberi.

## Ore Reserves Statement as at 30 June 2016

Project	Proved			Probable			Total		
	Tonnes ('000)	Gold (g/t)	Ounces ('000)	Tonnes ('000)	Gold (g/t)	Ounces ('000)	Tonnes ('000)	Gold (g/t)	Ounces ('000)
Gwalia, (WA)	2,286	9.6	702	4,510	7.6	1,105	6,795	8.3	1,808
Tower Hill, (WA)	-	-	-	2,572	3.7	306	2,572	3.7	306
Simberi Oxide, (PNG)	4,687	1.3	194	9,407	1.3	381	14,094	1.3	576
Simberi Sulphide, (PNG)	154	3.0	14	13,402	3.0	1,307	13,556	3.0	1,321
<b>Total All Projects</b>	<b>7,127</b>	<b>4.0</b>	<b>910</b>	<b>29,891</b>	<b>3.2</b>	<b>3,099</b>	<b>37,017</b>	<b>3.4</b>	<b>4,011</b>

### Notes

- Ore Reserves are based on a gold price of: Gwalia ( A\$1,350/oz), Tower Hill (A\$1,250/oz), Simberi (US\$1,200/oz).
- Mineral Resources are reported inclusive of Ore Reserves.
- Data is rounded to thousands of tonnes and thousands of ounces. Discrepancies in totals may occur due to rounding.
- Details relating to each of the estimates are contained in the 2016 Annual Mineral Resource and Ore Reserve Report at [www.stbarbara.com.au/exploration/Ore-Reserves-mineral-resources/](http://www.stbarbara.com.au/exploration/Ore-Reserves-mineral-resources/)

### JORC Code Compliance Statement

The information in this report that relates to Ore Reserves is based on information compiled by Mr. Glen Carthew and Mr. Tim Richards, who are Members of the Australasian Institute of Mining and Metallurgy. Glen Carthew and Tim Richards are full-time employees of St Barbara Ltd and have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are 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".

Competent Person Mr Tim Richards is entitled to participate in St Barbara's long term incentive plan, details of which are most included in the 2016 Financial Report released to the ASX on 23 August 2016. Increase in Ore Reserves was one of the performance measures under that plan until 30 June 2016. No incentive was paid in financial year 2016 under this performance measure.

Glen Carthew and Tim Richards consent to the inclusion in the statement of the matters based on their information in the form and context in which it appears.

## Mineral Resources Statement as at 30 June 2016

Project	Measured			Indicated			Inferred			Total		
	Tonnes ('000)	Gold (g/t)	Ounces ('000)	Tonnes ('000)	Gold (g/t)	Ounces ('000)	Tonnes ('000)	Gold (g/t)	Ounces ('000)	Tonnes ('000)	Gold (g/t)	Ounces ('000)
Gwalia	4,951	7.7	1,232	11,773	6.8	2,584	570	4.4	80	17,294	7.0	3,896
Tower Hill	-	-	-	4,604	3.9	574	489	3.3	51	5,093	3.8	625
Simberi Oxide	6,817	1.1	232	16,686	1.0	532	5,925	1.0	187	29,428	1.0	951
Simberi Sulphide	1,583	1.2	58	46,382	1.7	2,543	19,885	1.6	1,003	67,850	1.7	3,607
<b>Total All Projects</b>	<b>13,351</b>	<b>3.5</b>	<b>1,522</b>	<b>79,445</b>	<b>2.4</b>	<b>6,233</b>	<b>26,869</b>	<b>1.5</b>	<b>1,321</b>	<b>119,665</b>	<b>2.4</b>	<b>9,079</b>

### Notes

1. Mineral Resources are reported inclusive of Ore Reserves.
2. Cut-off Grades Leonora: Gwalia Deeps (2.5 g/t Au), Tower Hill (2.5 g/t Au), Simberi Oxide (0.4 g/t Au), Simberi Sulphide (0.6 g/t Au).
3. Simberi Mineral Resources are reported constrained by a \$US1,800 per ounce pit shell.
4. Data is rounded to thousands of tonnes and thousands of ounces. Discrepancies in totals may occur due to rounding.
5. Details relating to each of the estimates are contained in the 2016 Annual Mineral Resource and Ore Reserve Report at [www.stbarbara.com.au/exploration/Ore-Reserves-mineral-resources/](http://www.stbarbara.com.au/exploration/Ore-Reserves-mineral-resources/)

### JORC Code Compliance Statement

The information in this report that relates to Mineral Resources is based on information compiled by Ms. Jane Bateman and Mr Robert Love who are Fellows of the Australasian Institute of Mining and Metallurgy. Jane Bateman and Robert Love are full-time employees of St Barbara Ltd and have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves".

Jane Bateman and Robert Love consent to the inclusion in the statement of the matters based on their information in the form and context in which it appears.