



## Ore Reserves and Mineral Resources Statements as at 30 June 2017

- Successful drilling program extended Gwalia Ore Reserves to 2,140 metres below surface (mbs) and Mineral Resources to 2,200 mbs
- Additional reserves at Simberi offset depletion allowing mine life to extend a further year
- Group Ore Reserves increased from 4.01 Moz of contained gold to 4.31 Moz, net after depletion

### Company Summary at 30 June 2017

- **Total Ore Reserves are estimated at:** **34.6 Mt @ 3.9 g/t Au for 4.31 Moz of contained gold, comprising:**
  - Leonora Operations: 11.1 Mt @ 6.8 g/t Au for 2.44 Moz of contained gold
  - Simberi Operations: 23.4 Mt @ 2.5 g/t Au for 1.90 Moz of contained gold
- **Total Mineral Resources<sup>1</sup> are estimated at: 104.6 Mt @ 2.9 g/t Au for 9.63 Moz of contained gold, comprising:**
  - Leonora Operations: 28.8 Mt @ 6.2 g/t Au for 5.71 Moz of contained gold
  - Simberi Operations: 75.8 Mt @ 1.6 g/t Au for 3.92 Moz of contained gold

The 30 June 2017 Ore Reserves and Mineral Resources Statements are attached.

1 Mineral Resources are reported inclusive of Ore Reserves

## Overview

St Barbara's Mineral Resources and Ore Reserves position as at 30 June 2017 is summarised and compared with the 2016 statement in Table 1.

**Table 1: St Barbara 2016 and 2017 Ore Reserves and Mineral Resources Summary**

Project	2016 Ore Reserves			2017 Production	2017 Ore Reserves		
	Tonnes ('000)	Grade (g/t)	Ounces ('000)	Ounces ('000)	Tonnes ('000)	Grade (g/t)	Ounces ('000)
Gwalia (WA)	6,795	8.3	1,808	265	8,556	7.8	2,133
Tower Hill (WA)	2,572	3.7	306	-	2,572	3.7	306
<b>Total Leonora</b>	<b>9,367</b>	<b>7.0</b>	<b>2,114</b>	<b>265</b>	<b>11,128</b>	<b>6.8</b>	<b>2,439</b>
Simberi (Oxide)	14,094	1.3	576	116	10,907	1.3	472
Simberi (Sulphide)	13,556	3.0	1,321	-	12,537	3.5	1,402
<b>Total Simberi</b>	<b>27,650</b>	<b>2.1</b>	<b>1,897</b>	<b>116</b>	<b>23,444</b>	<b>2.5</b>	<b>1,873</b>
<b>Grand Total</b>	<b>37,017</b>	<b>3.4</b>	<b>4,011</b>	<b>381</b>	<b>34,572</b>	<b>3.9</b>	<b>4,312</b>

Project	2016 Mineral Resources				2017 Mineral Resources		
	Tonnes ('000)	Grade (g/t)	Ounces ('000)		Tonnes ('000)	Grade (g/t)	Ounces ('000)
Gwalia (WA)	17,294	7.0	3,896		23,753	6.7	5,087
Tower Hill (WA)	5,093	3.8	625		5,093	3.8	625
<b>Total Leonora</b>	<b>22,387</b>	<b>6.3</b>	<b>4,521</b>		<b>28,846</b>	<b>6.2</b>	<b>5,712</b>
Simberi (Oxide)	29,428	1.0	951		21,288	1.1	744
Simberi (Sulphide)	67,850	1.7	3,607		54,517	1.8	3,179
<b>Total Simberi</b>	<b>97,278</b>	<b>1.5</b>	<b>4,558</b>		<b>75,805</b>	<b>1.6</b>	<b>3,923</b>
<b>Grand Total</b>	<b>119,665</b>	<b>2.4</b>	<b>9,079</b>		<b>104,651</b>	<b>2.9</b>	<b>9,635</b>

Data is rounded to thousands of tonnes and thousands of ounces. Discrepancies in totals may occur due to rounding.

The Company's Ore Reserves and Mineral Resources have increased above net depletion primarily as a consequence of resource extension drilling at Gwalia (Figures 2 & 3). Extension drilling is continuing and the additional reserves will be included in an updated Life of Mine plan that is anticipated to increase mine life past 2024. The outcome of this planning work will be available in FY18 Q2. At Simberi, Ore Reserves have reduced marginally after mining depletion, however, a reduction in operating costs benefitted reserve estimation for this cycle. The additional oxide reserves allow Simberi's oxide operation to extend a further year. A review of the Simberi geology model has resulted in an overall reduction of Mineral Resources for this operation, but this has largely impacted Inferred sulphide resources.

Figure 1: Ore Reserves and Mineral Resource FY16 and FY17

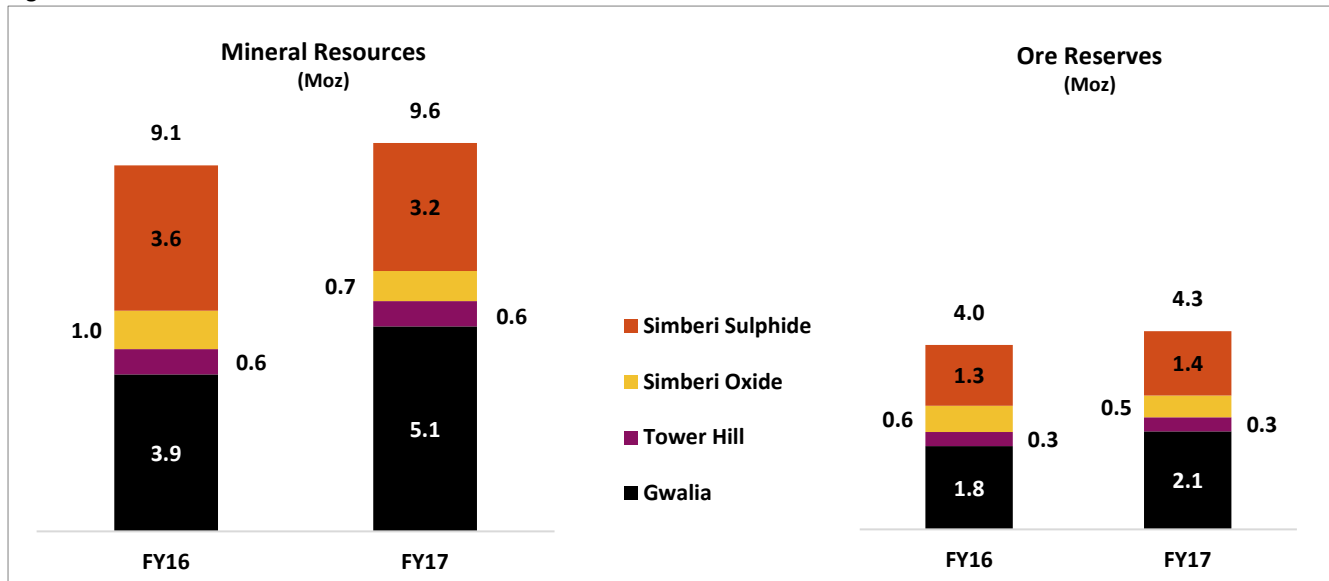


Figure 2: Summary Movement in Ore Reserves between FY16 and FY17

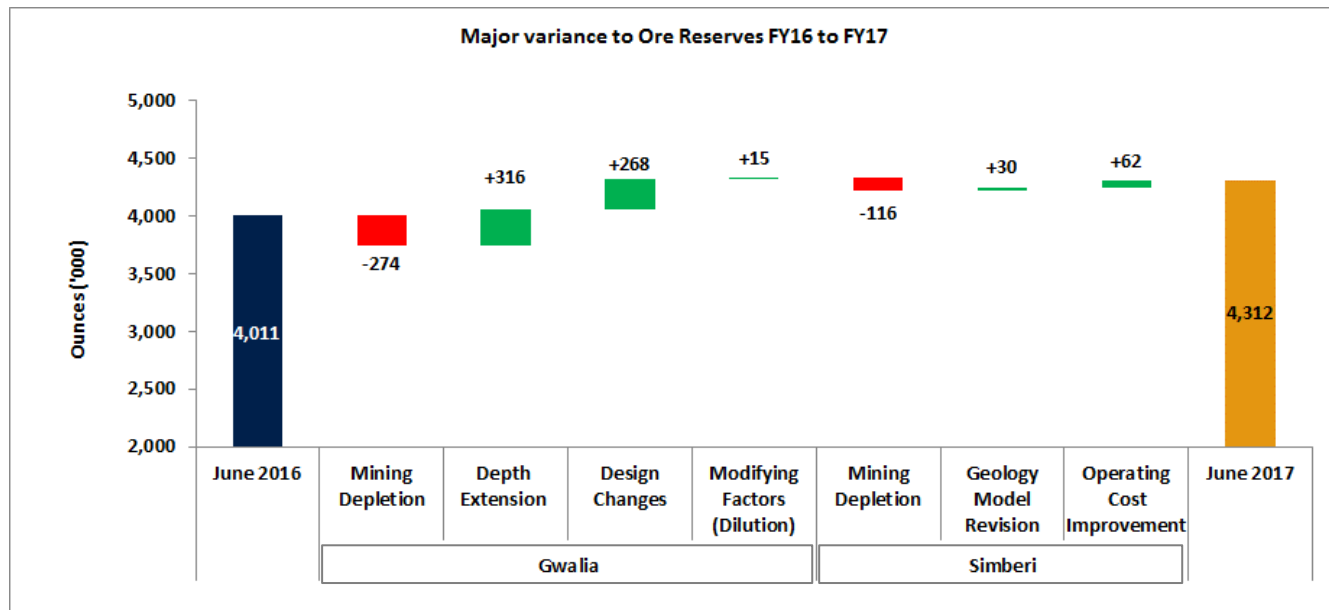
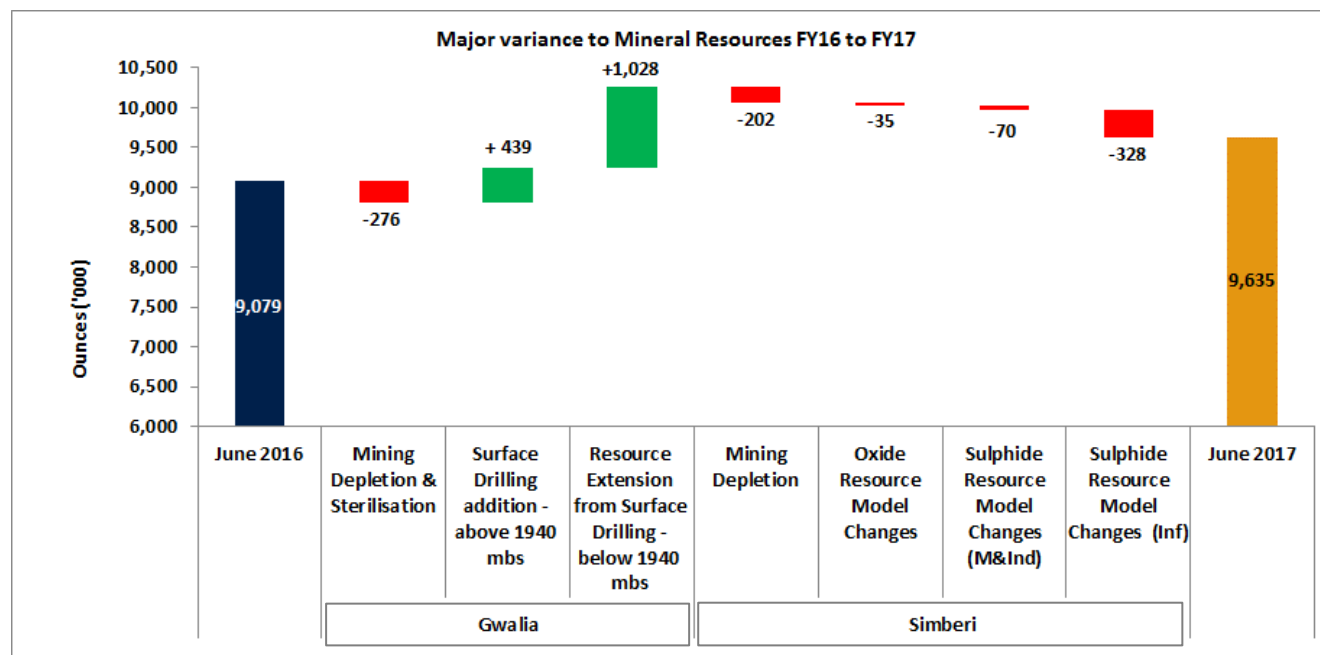


Figure 3: Summary Movement in Mineral Resources between FY16 and FY17



## Mineral Resources Revisions

### Gwalia (+1,191,000 ounces)

The Gwalia Mineral Resource has been updated following the completion of a surface drilling program targeting extensions to all lodes down to 2,200 mbs and underground grade control and resource definition drilling targeting mineralisation between 1,420 mbs and 1,800 mbs. The previous Measured, Indicated and Inferred Mineral Resource Estimate reported at 30 June 2016 was 17,294 kt @ 7.0 g/t Au containing 3,896 koz of gold. This has increased by 1,191 koz of gold to 23,753 kt @ 6.7 g/t Au containing 5,087 koz of gold; the increase before depletion and sterilisation was 1,467 koz. Variances between the two estimates are primarily due to:

- Resource extensions down to 2,200 mbs due to surface drilling and changes to local geological models as a result of underground drilling; and
- Depletion through mining and sterilisation of non-recoverable resources.

### Simberi Oxide (-207,000 ounces)

A revised Mineral Resource estimate was completed for Simberi Oxide using improved geological models that incorporated grade control drilling and mapping data. The previous publicly reported Measured, Indicated and Inferred Oxide Mineral Resource Estimate reported at 30 June 2016 was 29,428 kt @ 1.0 g/t Au containing 951 koz of gold. This has decreased by 207 koz of gold to 21,288 kt @ 1.1 g/t Au containing 744 koz of gold. Variances between the two estimates are primarily due to depletion through mining and changes to geological models.

### Simberi Sulphide (-428,000 ounces)

The Simberi Sulphide Mineral Resource estimate was updated with revised geological models. The previous Measured, Indicated and Inferred Sulphide Mineral Resource Estimate reported at 30 June 2016 was 67,850 kt @ 1.7 g/t Au containing 3,607 koz of gold. This has decreased by 428 koz of gold to 54,517 kt @ 1.8 g/t Au containing 3,179 koz of gold. The changes to geological models have primarily impacted Inferred Mineral Resources.

## Ore Reserve Revisions

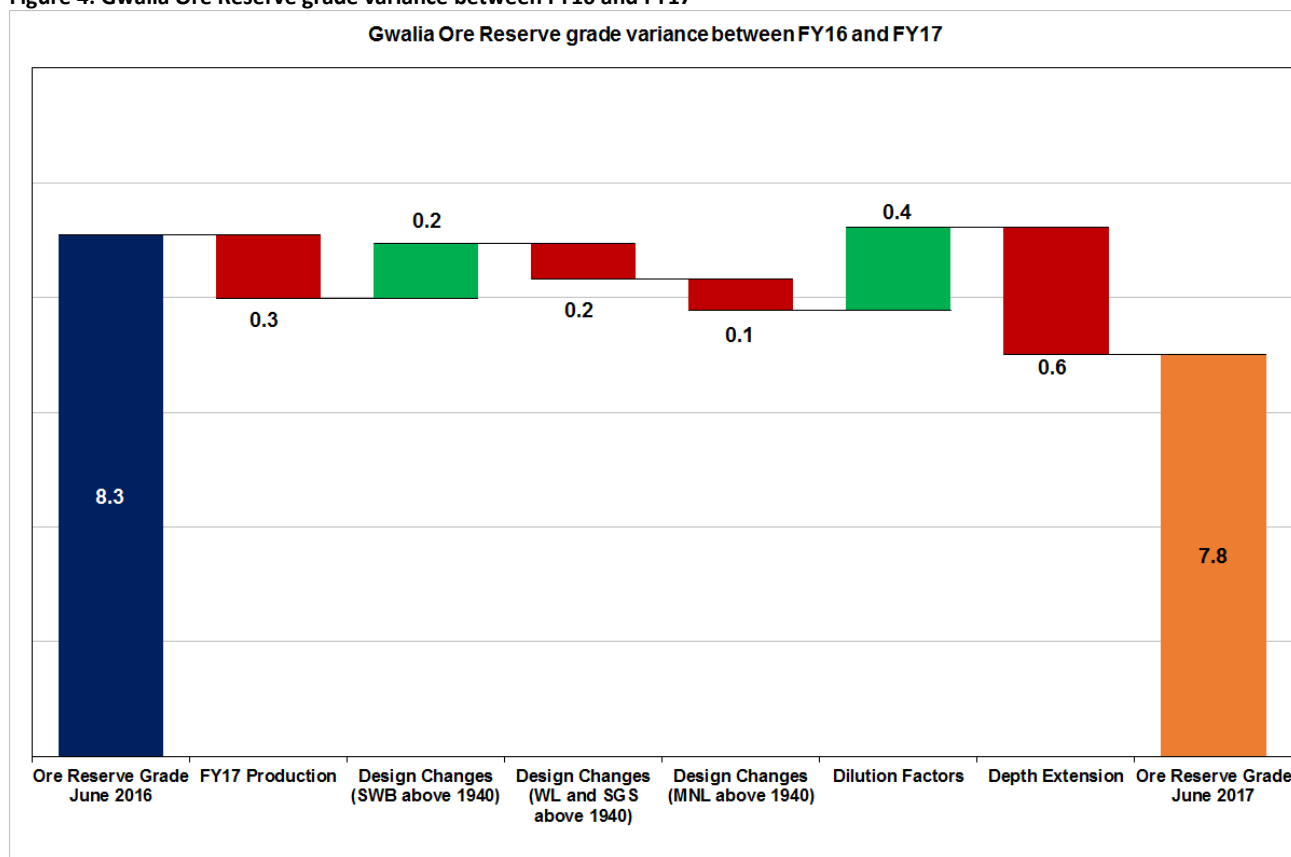
### Gwalia (+325,000 ounces)

The previous Proved and Probable Ore Reserve Estimate reported at 30 June 2016 was 6,795 kt @ 8.3 g/t Au containing 1,808 koz of gold. This has increased by a net 325 koz of gold to 8,556 kt @ 7.8 g/t Au containing 2,133 koz of gold. Variances between the two estimates are due to:

- Depletion through mining (274 koz);
- Reserve extensions down to 2,140 mbs as a result of surface drilling (316 koz of reserves), and Geology and design changes primarily driven by additional drill hole data which increased the existing Mineral Resources between 1,660 mbs and 1,940 mbs (+268 koz in reserves); and
- 15 koz modifying factors (dilution).

Gwalia Reserve grade has decreased from 8.3 g/t Au at 30 June 2016 to 7.8 g/t Au at 30 June 2017, due to FY17 mined grade averaging 10.3 g/t Au, and reserves added from depth extension below 1,940 mbs averaging less than the 30 June 2016 Reserve grade.

Figure 4: Gwalia Ore Reserve grade variance between FY16 and FY17



Data is rounded to the nearest 0.1 g/t Au. Discrepancies in totals may occur due to rounding.

### Simberi (oxide and sulphide combined: -24,000 ounces)

The previous Proved and Probable Ore Reserve Estimate reported at 30 June 2016 was 27,650 kt @ 2.1 g/t Au containing 1,897 koz of gold. This has reduced by 24 koz of gold to 23,444 kt @ 2.49 g/t Au containing 1,873 koz of gold. Variances between the two estimates are primarily due to:

- Depletion through mining;
- Changes in the resource model; and
- Reduced operating costs as mill throughput and mine output has increased.

## Ore Reserves Statement as at 30 June 2017

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)	2,308	9.8	725	6,248	7.0	1,408	8,556	7.8	2,133
Tower Hill, (WA)	-	-	-	2,572	3.7	306	2,572	3.7	306
Simberi Oxide, (PNG)	3,294	1.4	153	7,613	1.3	319	10,907	1.3	472
Simberi Sulphide, (PNG)	245	3.2	25	12,291	3.5	1,307	12,537	3.5	1,402
<b>Total All Projects</b>	<b>5,847</b>	<b>4.8</b>	<b>903</b>	<b>28,724</b>	<b>3.6</b>	<b>3,340</b>	<b>34,572</b>	<b>3.9</b>	<b>4,312</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).
- Cut-off Grades Gwalia (4.0 g/t Au), Tower Hill (2.8 g/t Au), Simberi Oxide (0.5 g/t Au), Simberi Sulphide (1.1 g/t Au)
- 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 2017 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 respectively a Members and a Fellow 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".

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 2017

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, (WA)	5,045	7.8	1,265	14,877	6.4	3,042	3,831	6.3	780	23,753	6.7	5,087
Tower Hill, (WA)	-	-	-	4,604	3.9	574	489	3.3	51	5,093	3.8	625
Simberi Oxide, (PNG)	4,056	1.3	164	12,313	1.1	427	4,919	1.0	152	21,288	1.1	744
Simberi Sulphide, (PNG)	836	1.7	45	41,005	1.9	2,471	12,676	1.6	663	54,517	1.8	3,179
<b>Total All Projects</b>	<b>9,937</b>	<b>4.6</b>	<b>1,474</b>	<b>72,799</b>	<b>2.8</b>	<b>6,514</b>	<b>21,915</b>	<b>2.3</b>	<b>1,646</b>	<b>104,651</b>	<b>2.9</b>	<b>9,635</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 US\$1,800 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 2017 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/)

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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.