



# St Barbara LIMITED

St Barbara Limited ACN 009 165 066  
Level 10, 432 St Kilda Road, Melbourne VIC 3004  
Locked Bag 9, Collins Street East, Melbourne VIC 8003  
Tel +61 3 8660 1900 Fax +61 3 8660 1999  
[www.stbarbara.com.au](http://www.stbarbara.com.au)



## Gwalia Ore Reserves at 30 June 2012: 6.9 Mt @ 8.7 g/t Au for 1.93 million ounces of contained gold

- Gwalia Ore Reserves are estimated at 6.9 million tonnes (Mt) @ 8.7 grams per tonne of gold (g/t Au) for 1.93 million ounces (Moz) of contained gold (previously 1.97 Moz); representing an indicative mine life of 9 or more years.
- Gwalia Deeps Mineral Resources as at 30 June 2012 remained essentially unchanged at 15.3 Mt @ 8.0 g/t Au for 3.9 Moz of contained gold, and Indicated Resources increased from 2.3 Moz to 2.7 Moz. Surface drilling added approximately 240,000 oz to Mineral Resources.
- The Gwalia ore body remains open at depth, particularly South West Branch lode, with potential within the planned mining interval to add to Mineral Resources and Ore Reserves in both the South Gwalia Series and Main Lodes.
- Ore Reserves at King of the Hills and Marvel Loch have fallen in line with mining depletion and new mine plans. Mineral Resources have been added at Frasers project at Southern Cross.

### Company summary

- Total Ore Reserves at 30 June 2012 are estimated at 12.0 million tonnes @ 6.6 g/t Au for 2.5 Moz of contained gold.
- Total Mineral Resources at 30 June 2012 are estimated at 47.3 million tonnes @ 5.0 g/t Au for 7.6 Moz of contained gold.

Details of Ore Reserves and Mineral Resources as at 30 June 2012 are attached.

**Tim Lehany**  
Managing Director and CEO  
23 August 2012

### Mineral Resources Statement as at 30 June 2012

The Company's total Measured, Indicated and Inferred Mineral Resources as at 30 June 2012 are **47.31 million tonnes @ 5.0 grams per tonne of gold (g/t Au) containing 7.61 million ounces (Moz) of gold** (Table 1). The previous publicly reported Mineral Resources estimate at 30 June 2011 totalled 46.85 million tonnes @ 5.1 g/t Au containing 7.64 Moz of gold. This represents a small decrease in the total Mineral Resource Inventory of 24,000 oz (<1%).

Compilation of the 2012 Mineral Resource Report is complete with work having been performed on the following projects during the 2012 financial year (FY12):

- Gwalia Deeps;
- Gwalia Intermediates;
- King of the Hills;
- Marvel Loch;
- Frasers;
- Nevoria;
- Edwards Find.

Each of the projects that has a revised or new estimate of Mineral Resources has been compiled in accordance with St Barbara's Mineral Resource Estimation System. This system provides a framework for the timely and reliable estimation and reporting of St Barbara's Mineral Resources in accordance with the JORC Code. St Barbara's Mineral Resources are inclusive of Ore Reserves.

Mineral Resource Estimate revisions have been completed for Gwalia Deeps, Gwalia Intermediates, King of The Hills, Marvel Loch, Nevoria, Frasers and Edwards Find over the year, and have resulted in additions to Mineral Resources for Gwalia Deeps, Frasers and Edwards Find that have effectively balanced out Mineral Resource reductions due primarily to mining and non-recoverable Mineral Resource depletion (Figure 1). The Frasers Mineral Resource update is a new resource since FY11 following the completion of a three-phase diamond drill program.

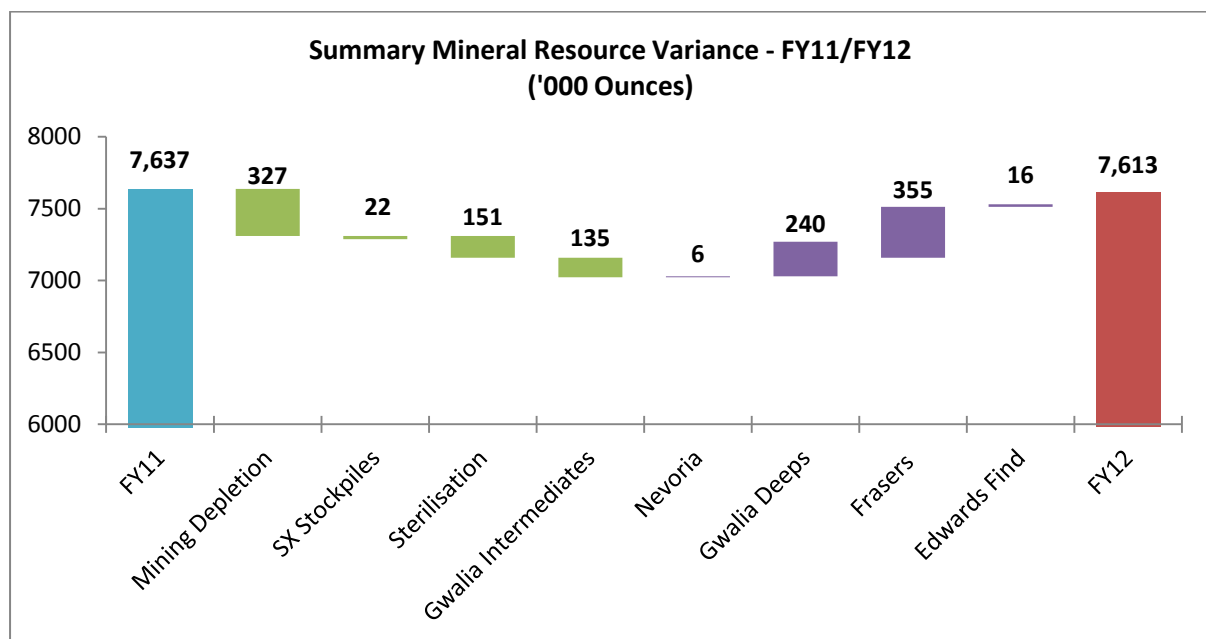


Figure 1: Major variances to Mineral Resource Inventory between FY11 and FY12

## **Leonora**

- **Gwalia Mineral Resources**

The following drill programs were completed over the year:

- Surface drilling of the Gwalia Lode system, targeting extensions to South West Branch (SWB) and South Gwalia Series (SGS) between approximately 1600 and 1800 vertical metres below surface (mbs); and
- Grade control drilling targeting SWB and SGS between approximately 1260mbs and 1420mbs, and Main Lode (ML) between 1160mbs and 1300mbs.

This drilling resulted in a number of key changes to the Gwalia geological model:

### **1. Gwalia Deeps**

Surface drilling of the Gwalia Lode system, targeting extensions to South West Branch (SWB) and South Gwalia Series (SGS) between approximately 1600 and 1800mbs, and grade control drilling targeting SWB and SGS between approximately 1260mbs and 1420mbs and ML between 1160mbs and 1300mbs was completed over the year. This drilling resulted in a number of key changes to the Gwalia geological model, which are summarised below. The surface drilling is estimated to have added approximately 240,000 oz to the Mineral Resource inventory and upgraded approximately 390,000 oz from Inferred to Indicated Resource, resulting in a total Mineral Resource estimate of 15.25 Mt @ 8.0 g/t Au containing 3.93 Moz Au (refer to Table 1).

### **2. SWB Hanging-wall position (South)**

As a result of Grade Control (GC) drilling, the hanging-wall position of the southern portion of SWB was revised to be further west than previously modelled and resulted in a reduction of the Mineral Resource in this area of 94,000 oz. The initial estimate was based on widely spaced (>100m) drilling on the southern margins of the lode and highlights the importance of infill resource definition drilling well ahead of grade control drilling.

### **3. Revision of SWB and SGS Model below 1600mbs**

The previous Mineral Resource update completed for FY11 resulted in modelling of an additional South Gwalia Series lode (SG3). The further surface drilling completed this year has shown that this lode is actually part of SWB rather than an additional SGS lode. The geological model has been revised accordingly and has resulted in a reduction to the Inferred SGS Mineral Resource, but an overall increase in the SWB Indicated Resource. The surface drilling also identified some small Mineral Resource extensions at the southern margins of SGS, which remain open and will need to be closed out by underground drilling.

### **4. Main Lode Mineral Resource extensions**

Surface and GC drilling have contributed to a revised interpretation of ML, extending this lode further south than previously modelled, and an increase in this Mineral Resource.

## 5. Gwalia Intermediates

The locations of remnant pillars that form the basis for reporting of the Gwalia Intermediates Mineral Resource were reviewed. A number of remnant pillars particularly toward the base of old workings were identified as being covered by the Gwalia Deeps model, or to have been tested with grade control drilling. These have been removed from the mineral inventory and have resulted in a reduction of this Mineral Resource of 135,000 oz.

Depletion due to mining further reduced the Gwalia Mineral Resource by 184,000 oz.

As a result of the geological model changes, Mineral Resource extensions and mining depletion the Gwalia Mineral Resource Inventory has been reduced by 9,000 oz (-0.3%).

### ***Southern Cross***

- **Marvel Loch Underground**

The Marvel Loch Mineral Resource was updated during the year following the completion of fifty five grade control and resource definition holes. Small down dip Mineral Resource extensions were identified for the Firelight, Exhibition and Main Lode Mineral Resources, contributing approximately 52,000 oz. Overall, however the Mineral Resource has been reduced by 173,000 oz primarily due to mining or non-recoverable depletion.

- **Nevoria**

The Mineral Resource for the Nevoria Project was updated in February following the completion of eleven holes aimed at improving confidence in the Mineral Resource below the Silver and Nevoria East open pits. This model was subsequently optimised and a two stage pit design completed. The 2012 Mineral Resource consists of an open pit Mineral Resource constrained by the design pit at a 0.6 g/t Au cut-off and an underground resource at a 2.0 g/t Au cut-off below the design pit allowing for a 20 metre sill pillar at the base of the design pit.

The drilling resulted in an upgrade in Mineral Resource classification from Inferred to Indicated for a portion of the Nevoria Deposit and overall the total Mineral Resource has increased by 6,000 oz primarily due to the lower cut-off used in reporting the open pit portion of the resource.

- **Frasers**

The Frasers Mineral Resource estimate was compiled in May 2012 following the completion of three phases of diamond drilling testing the down-plunge and southern strike extensions to the mineralisation. This is the first Mineral Resource estimate for Frasers since mining was suspended in 1997, and added a total of 355,000 ounces to the Company's Mineral Resources. The Frasers Mineral Resource is open down plunge and at depth and is awaiting a review of mining options.

- **Edwards Find**

The previous Edwards Find Mineral Resource was estimated in 2008. The model was updated in March 2012 inclusive of drilling completed subsequent to the previous estimate. This has resulted in a small increase in the total Mineral Resource of 16,000 oz.

### ***Depletion***

- **Mining Depletion**

A total of 327,000 oz of gold have been depleted from the Company's Operations - 184,000 oz from Gwalia, 60,000 oz from King of the Hills and 83,000 oz from Marvel Loch.

- **Non-Recoverable Depletion**

Non-recoverable Mineral Resource depletion has accounted for a reduction of 151,000 oz of gold, primarily from the Marvel Loch Mine (142,000 oz). The depletion has been defined collaboratively by the Marvel Loch Geology and Technical Services Teams and is due largely to greater sterilisation applied around East Lode & Mazza Lode in the southern portion of the mine.

- **Southern Cross Stockpiles**

A total of 22,000 oz of gold have been depleted from a number of stockpiles in and around the Marvel Loch Mine following the cessation of mining activities.

**Table 1: Mineral Resource Summary June 2012**

Category		Measured			Indicated			Inferred			Total		
Region	Project	Tonnes (k)	Au g/t	koz	Tonnes (k)	Au g/t	koz	Tonnes (k)	Au g/t	koz	Tonnes (k)	Au g/t	koz
Leonora	Gwalia Deeps	4,684	5.6	842	8,965	9.5	2,727	1,601	7.0	360	15,250	8.0	3,930
	Gwalia Intermediates & West Lode	0	0.0	0	14	4.4	2	557	6.4	114	571	6.3	116
	King of The Hills	0	0.0	0	1,530	5.5	273	480	4.8	74	2,010	5.4	347
	Tower Hill	0	0.0	0	2,779	4.6	411	207	3.9	26	2,986	4.6	437
	Harbour Lights	0	0.0	0	0	0.0	0	2,580	3.3	274	2,580	3.3	274
	Other (5)	991	1.0	33	2,277	1.0	70	49	0.6	1	3,317	1.0	104
<b>Total Leonora</b>		<b>5,675</b>	<b>4.8</b>	<b>875</b>	<b>15,565</b>	<b>7.0</b>	<b>3,483</b>	<b>5,474</b>	<b>4.8</b>	<b>849</b>	<b>26,714</b>	<b>6.1</b>	<b>5,208</b>
Southern Cross	Marvel Loch	287	3.1	29	2,929	3.2	299	1,400	2.5	112	4,616	3.0	440
	Nevoria	0	0.0	0	3,732	3.4	407	328	4.0	42	4,060	3.4	449
	Transvaal	0	0.0	0	1,634	4.7	249	1,802	4.9	286	3,436	4.8	535
	Jaccolletti	0	0.0	0	0.0	4.6	0.0	715	5.5	126	715	5.5	126
	Axehandle	0	0.0	0	0	0.0	0	2,082	2.0	131	2,082	2.0	131
	Cornishman	0	0.0	0	119	4.4	17	0	0.0	0	119	4.4	17
	Edwards Find, EFN & Tamarin	0	0.0	0	381	3.1	38	363	2.6	30	744	2.8	68
	Frasers	0	0.0	0	336	5.5	59	1,786	5.2	296	2,122	5.2	355
	Yilgarn Star	0	0.0	0	385	6.6	82	0	0.0	0	385	6.6	82
	Other (5)	367	1.0	12	1,605	2.7	140	345	4.5	50	2,317	2.7	202
<b>Total Southern Cross</b>		<b>654</b>	<b>1.9</b>	<b>41</b>	<b>11,121</b>	<b>3.6</b>	<b>1,291</b>	<b>8,821</b>	<b>3.8</b>	<b>1,073</b>	<b>20,596</b>	<b>3.6</b>	<b>2,405</b>
<b>Total All Regions</b>		<b>6,329</b>	<b>4.5</b>	<b>916</b>	<b>26,686</b>	<b>5.6</b>	<b>4,774</b>	<b>14,295</b>	<b>4.2</b>	<b>1,922</b>	<b>47,310</b>	<b>5.0</b>	<b>7,613</b>

Notes to this table appear on the following page.

**Table 2: Mineral Resource Summary June 2012 (continued)**

1. Mineral Resources are reported inclusive of Ore Reserves.
2. Cut-off Grades Leonora: Gwalia Deeps (2.5 g/t Au), King of The Hills (3.0 g/t Au), Tower Hill (3.2 g/t Au), Harbour Lights (2.0 g/t Au).
3. Gwalia Intermediates & West Lode: For this combined Mineral Resource the Gwalia Intermediates Mineral Resource is constrained to remnant pillars and accounts for 93% of Mineral Resource ounces. West Lode cut-off = 1.0 g/t Au.
4. Leonora (Other 5) is comprised of McGraths (23%), Rainbow (36%), Royal Arthur Bore (12%), Tarmoola Low Grade Stockpile (28%), Tower Hill Low Grade Stockpile (1%) by Mineral Resource ounces.
5. Cut-off Grades Southern Cross: Marvel Loch (2.1 g/t Au), Jaccoletti (2.6 g/t Au), Axehandle ( 0.7 g/t Au) , Cornishman (0.8 g/t Au), Edwards Find Group (0.7 g/t Au & 0.8 g/t Au) , Frasers (2.5 g/t Au), Yilgarn Star (4.0 g/t Au).
6. Southern Cross (Nevoria): Cut-off Grade for open pit and underground Mineral Resources are 0.6 g/t and 2.0 g/t respectively. 58% of Nevoria Mineral Resource ounces are open pit and 42% are underground.
7. Southern Cross (Transvaal): Cut-off grades for open pit Mineral Resources are variable (1.0 g/t Au to 1.7 g/t Au) dependent on lode and material type. Underground Mineral Resources are reported at a 2.6 g/t Au cut-off and account for 98% of the Transvaal Mineral Resource ounces.
8. Southern Cross (Other 5) is comprised of GVG Sulphide (49%), GVG Open Pit (6%), New Zealand Gully (12%), Ruapehu (27%), Stockpiles (6%) by Mineral Resource ounces.
9. Data is rounded to thousands of tonnes and thousands of ounces. Discrepancies in totals may occur due to rounding.

**Competent Persons Statement:**

The information in this report that relates to Mineral Resources is based on information compiled by Mr. Phillip Uttley, who is a Fellow of The Australasian Institute of Mining and Metallurgy. Phillip Uttley is a full-time employee of St Barbara Ltd 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 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code).

Mr. Uttley consents to the inclusion in the statement of the matters based on his information in the form and context in which it appears.

## **Ore Reserves Statement as at 30 June 2012**

The Company's Total Ore Reserves estimates as at 30 June 2012 totalled **11.97 million tonnes at 6.6 grams per tonne of gold (g/t Au), containing 2.53 million ounces (Moz)** (2011 Reserve: 14.68 million tonnes @ 5.8 g/t Au containing 2.76 Moz). Ore Reserves are located at Gwalia, King of the Hills, Tower Hill and the Southern Cross Region. These Ore Reserves are tabulated in Table 2.

The 2012 Ore Reserve estimates are based on the following assumptions:

- A gold price of A\$1,250 per ounce has been used for Gwalia, King of the Hills and Tower Hill. An average of A\$1,400 has been used for Marvel Loch Underground. Residual surface stockpiles at Southern Cross have been estimated at a historical price of A\$1,075 per ounce.
- Gwalia and King of the Hills have had updated Life of Mine plans which have been used in this estimate.
- Tower Hill has been carried over from the 2011 estimate.
- Marvel Loch's estimate is based on the remaining Life of Mine with current Ore Reserves to be depleted before end of 2012 calendar year.
- Nevoria has been subject to further studies and its Ore Reserve status has been confirmed.

The net depletion for the 2012 financial year of 229 koz, in the context of gold production for the fiscal year of 339 koz, is attributable to:

- 353 koz from mining activities (184 koz at Gwalia, 60 koz at King of the Hills and 83 koz at Southern Cross, with an additional 26 koz from stockpiles).
- 152 koz of additions at Gwalia and King of the Hills as an outcome of additional Ore Resource and remodelling.
- 20 koz depletion at King of the Hills due to redesign of pillars associated with the open pit exclusion zone.
- 30 koz additional depletion at Southern Cross in response to changed mining plans.

### **Gwalia**

The overall Gwalia Ore Reserve estimate as at 30 June 2012 has reduced by a net 48 koz, after 184 koz of gold production. The Ore Reserve grade has reduced slightly to 8.7 g/t Au (2011: 8.9 g/t Au). Increased confidence in reconciliation and modelling work has been used to update extraction and grade factor, which have been applied to the 2012 Mineral Resource model to estimate Ore Reserves. The Ore Reserve estimate comprises a depleted Grade Control model to 1,420 metres below surface (mbs), with the 2012 model from 1,420 to 1,800mbs (2011: 1,780mbs). As at 30 June 2012, based on Ore Reserves and the Life of Mine plan, the Gwalia mine is expected to have a 9+ year mine life.

### **King of the Hills**

The Definitive Mining Study for the King of the Hills mine has been reviewed and updated in response to infill drilling in both the Eastern and Western Flank Ore bodies. This revised mine plan includes a 20 koz depletion for pillars associated with the exclusion zone beneath the historical open pit as well as an additional 16 koz arising from infill drilling conducted during the period under review.

**TABLE 2: SUMMARY OF PROVED AND PROBABLE ORE RESERVES AS AT 30 JUNE 2012**

Category		Proved			Probable			Total		
Region	Project	Tonnes (k)	Au g/t	koz	Tonnes (k)	Au g/t	koz	Tonnes (k)	Au g/t	koz
Leonora	Gwalia Deeps	1,279	8.5	348	5,601	8.8	1,577	6,880	8.7	1,925
	<i>Tower Hill*</i>				2,699	3.8	329	2,699	3.8	329
	King of the Hills				955	5.0	153	955	5.0	153
Total Leonora		1,279	8.5	348	9,255	6.9	2,060	10,534	7.1	2,407
Southern Cross	Marvel Loch	6	4.9	1	349	2.4	26	355	2.4	27
	<i>Nevoria Underground*</i>				713	4.0	80	713	3.5	80
	Other (SXO Stock Piles)	367	1.0	12				367	1.0	12
Total Southern Cross		373	1.1	13	1,062	3.1	107	1,435	2.6	120
<b>Total All Regions</b>		<b>1,652</b>	<b>6.8</b>	<b>361</b>	<b>10,317</b>	<b>6.5</b>	<b>2,166</b>	<b>11,969</b>	<b>6.6</b>	<b>2,527</b>

**Notes:**

- 1) Ore Reserves are based on a gold price of A\$1,250/oz for Gwalia, King of the Hills, Tower Hill and Nevoria; A\$1,400 average for Marvel Loch Underground.
- 2) Mineral Resources are reported as inclusive of Ore Reserves.
- 3) All data is rounded to two significant figures. Discrepancies in summations will occur due to rounding.
- 4) Other relates to surface stockpiles valued at A\$1,075/oz.
- 5) \* Items in Italics are carried forward from June 2011 Ore Reserve.

**Competent Persons Statement:**

The information in this report that relates to Ore Reserves is based on information compiled by Mr. John de Vries, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr. de Vries is a full-time employee of St Barbara Ltd 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 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code). Mr. de Vries consents to the inclusion in the statement of the matters based on his information in the form and context in which it appears.

**TABLE 3: ORE RESERVE CHANGES FROM 2011 TO 2012**

	2011 koz	Depletion koz	Addition koz	2012 koz	Variance koz	Comment
<b>LEONORA</b>						
Gwalia Deeps	1,973	-184	136	1,925	-48	Mining Depletion was partially offset by ounces added to the Reserve during the year.
		-184			-184	Mining depletion.
			136		136	Re modelling Gwalia deeps from additional drilling 1420-1800mbs.
Tower Hill	329	0	0	329	0	No Change carried forward
King of the Hills	221	-80	12	153	-68	Mining depletion and revised mine design.
		-60			-60	Mining depletion.
		-20			-20	Revised mining plan resulting in sterilisation of Eastern Flank Crown Pit Pillar by mining activities completed.
			12		12	Additions from design revision based on new drilling.
<b>Total Leonora</b>	<b>2,523</b>	<b>-264</b>	<b>148</b>	<b>2,407</b>	<b>-116</b>	
<b>SOUTHERN CROSS</b>						
Marvel Loch	119	-93	0	27	-93	Mining depletion and depletion of reserve beyond Mine life.
		-83			-83	Mining depletion.
		-10			-10	Uneconomic depletion of reserve beyond Mine life.
Nevoria Underground	80	0	0	80	0	No Change carried forward.
Other	34	-26	4	12	-22	Marvel Loch Open Pit surface stockpile.
<b>Total Southern Cross</b>	<b>233</b>	<b>-119</b>	<b>4</b>	<b>120</b>	<b>-115</b>	
<b>Total All Regions</b>	<b>2,756</b>	<b>-383</b>	<b>152</b>	<b>2,526</b>	<b>-231</b>	