



Presentation to 16th PNG Mining and Petroleum Investment Conference

Tim Richards, General Manager Simberi Operations, will present to the 16th Papua New Guinea Mining and Petroleum Investment Conference in Port Moresby, on Wednesday 4 December 2019.

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PNG Mining & Petroleum Investment Conference



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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.

This presentation published 4 December 2019.

As at 30 Jun 2019: AUD \$1.00 = USD \$0.70, USD \$1.00 = AUD \$1.42
AUD \$1.00 = PGK \$2.37, PGK 1.00 = AUD \$0.40
www.rba.gov.au

Overview

Simberi operations

Exploration & Growth

People & Community



Leonora (Gwalia mine)

- Gwalia underground mine
- FY 20F production 175-190 koz
- 2.1 Moz Ore Reserve (open at depth)
- Mine plan to FY 2031

Simberi

- Open pit mine
- FY 20F production 110-125 koz
- 0.3 Moz oxide and 1.4 Moz sulphide Ore Reserve (sulphide open at depth)
- Mine plan to FY 2021
- Mining Lease extended to December 2028

Atlantic Gold

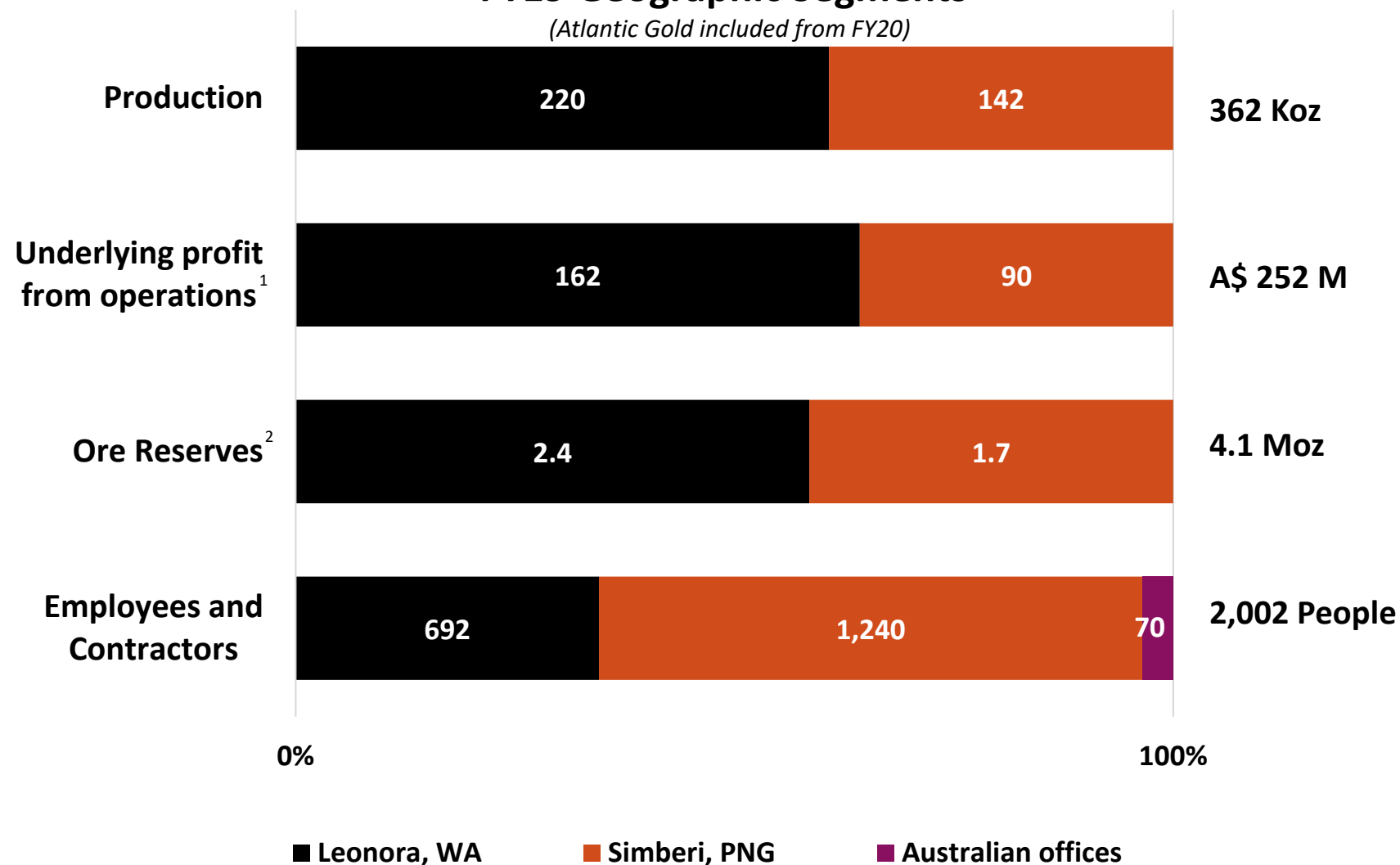
- Open pit mine
- FY 20F production 95–105 koz
- 1.9 Moz Ore Reserve (open at depth)
- Four open pits planned to FY 2030

Papua
New Guinea

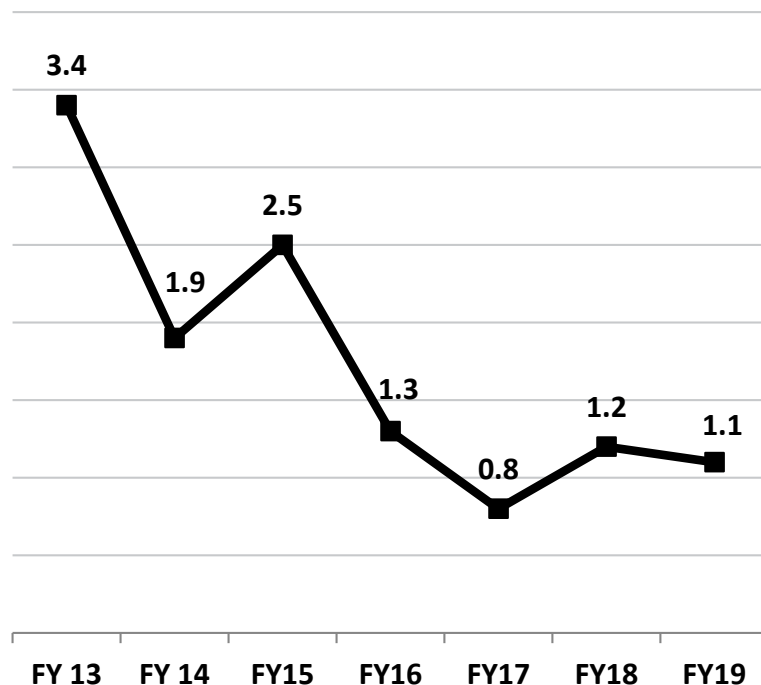


FY19 Geographic Segments

(Atlantic Gold included from FY20)



Total Recordable Injury Frequency Rate¹

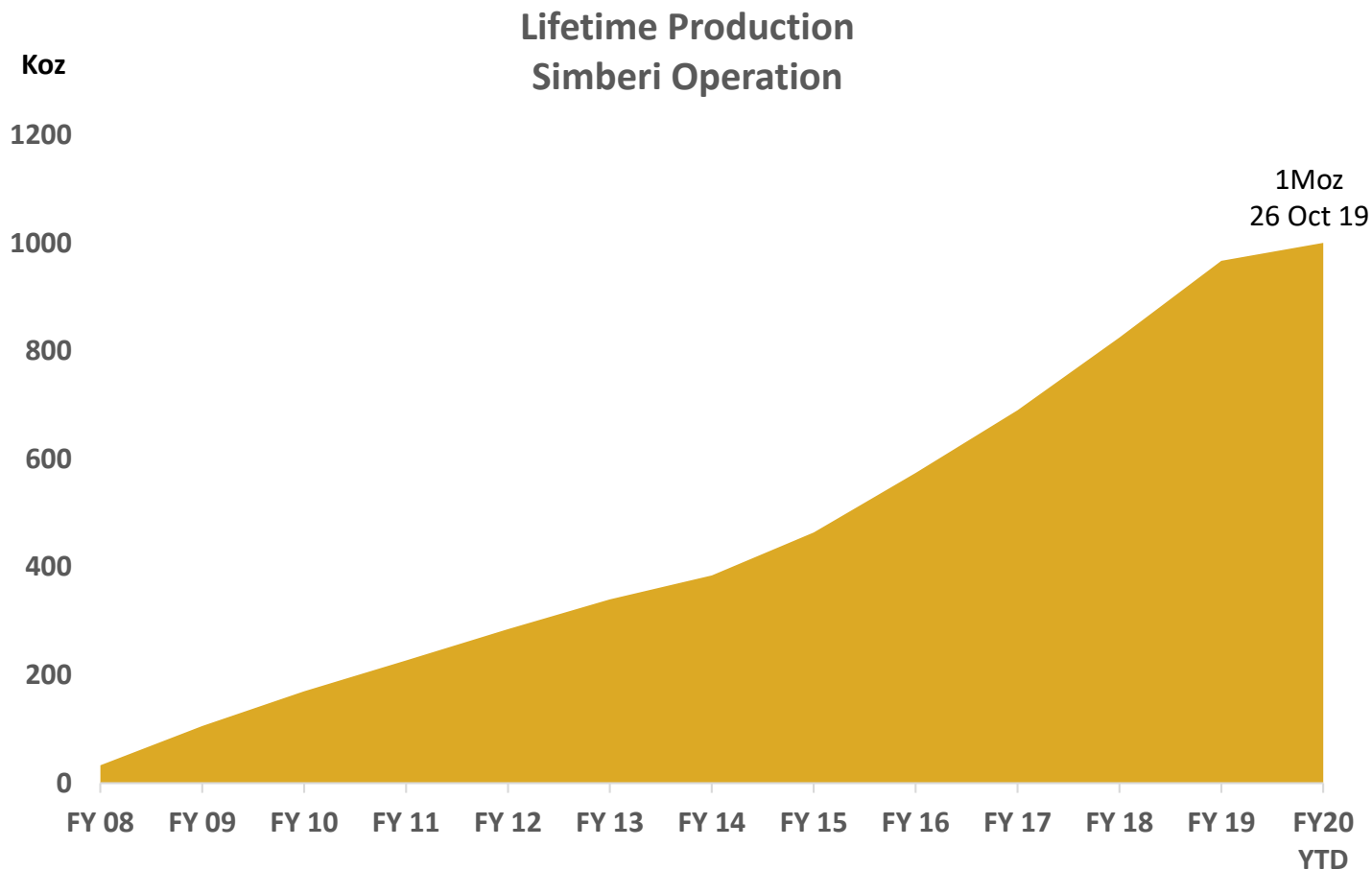


- TRIFR corresponds to 3 low range injuries in last 12 months
- Corresponding LTIFR (lost time/ 'serious' injury frequency rate) of 0.7 to 30 June 2019

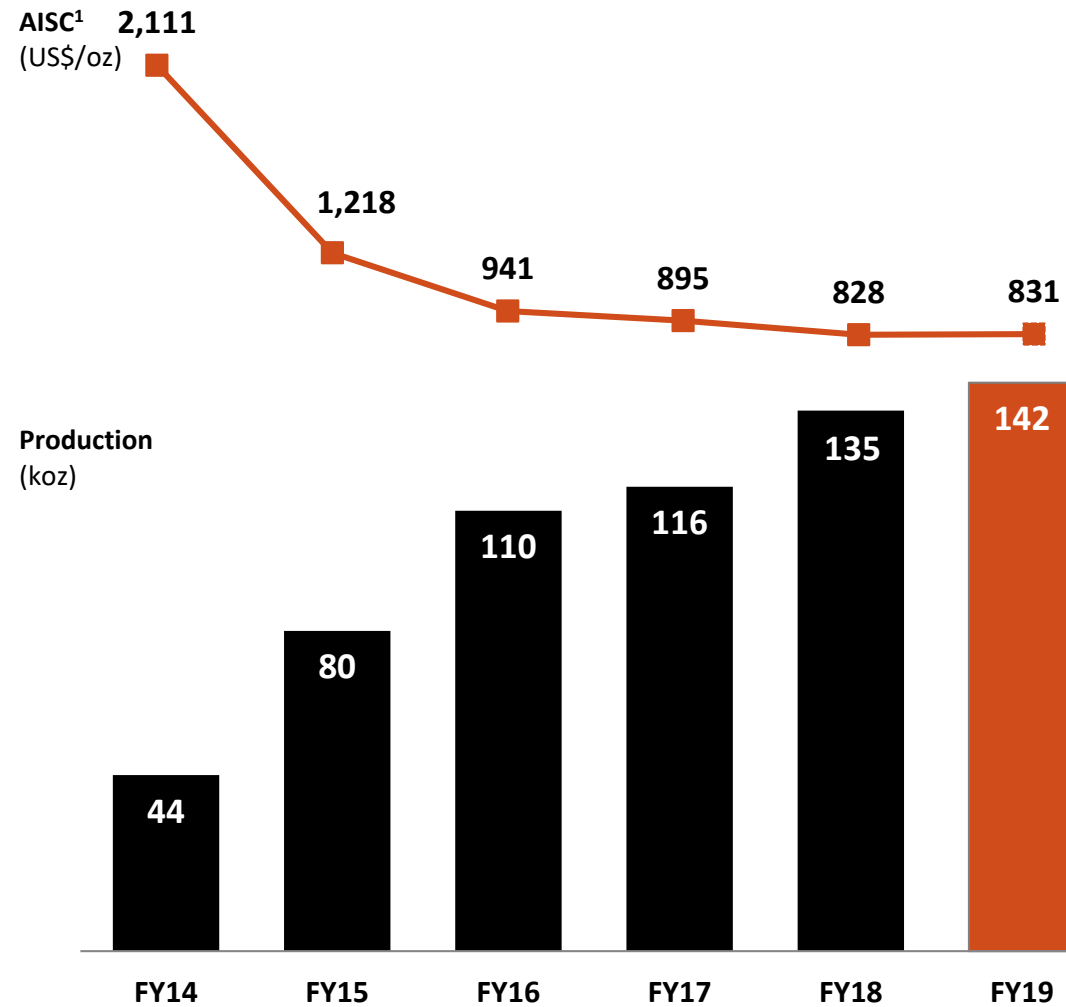


Members of the Simberi Operations Emergency Response Team training

Simberi Operations reached a significant milestone this year, producing its one millionth ounce of gold since the first gold pour in February 2008.



Simberi Production and Cost Profile







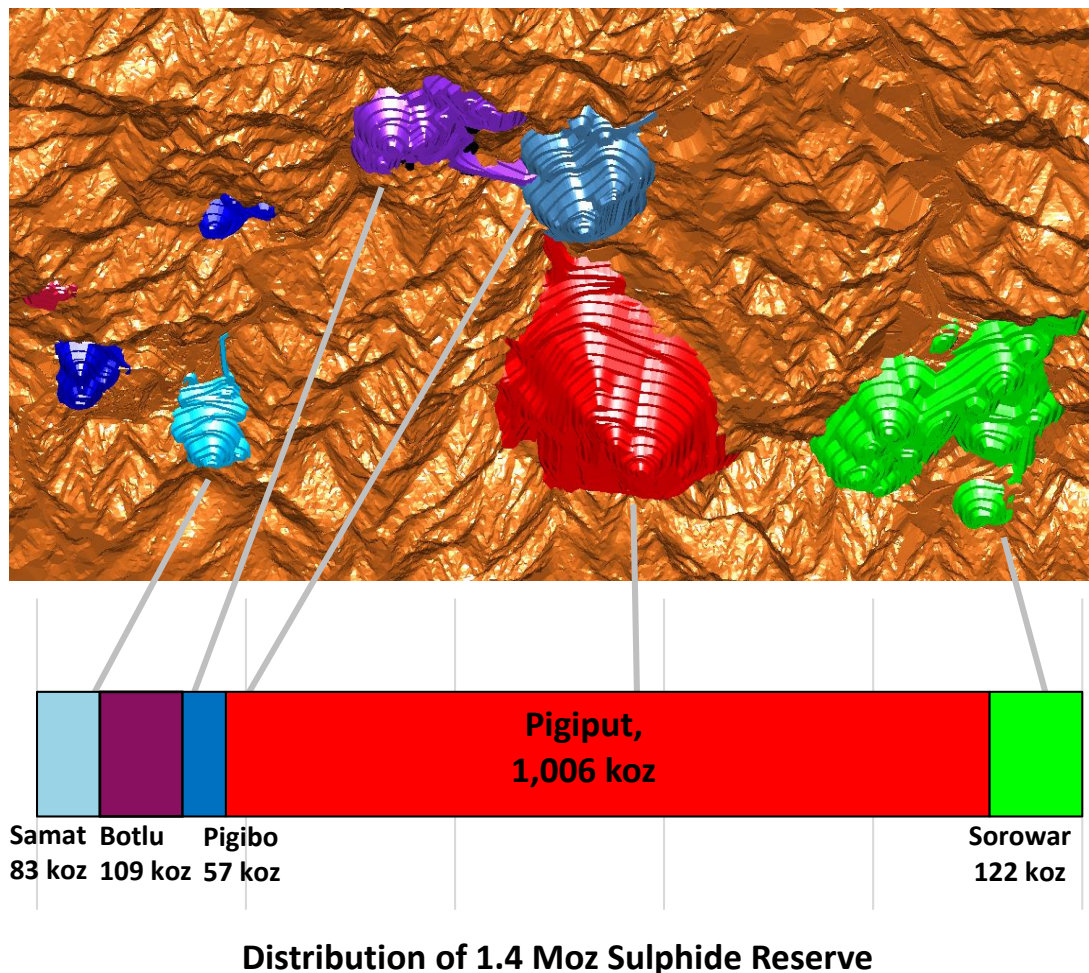
Simberi Island

- Sulphide drilling beneath Sorowar pit has been completed
- Testing for copper-gold porphyry deposits at depth below Pigiput pit

Tatau and Big Tabar Islands

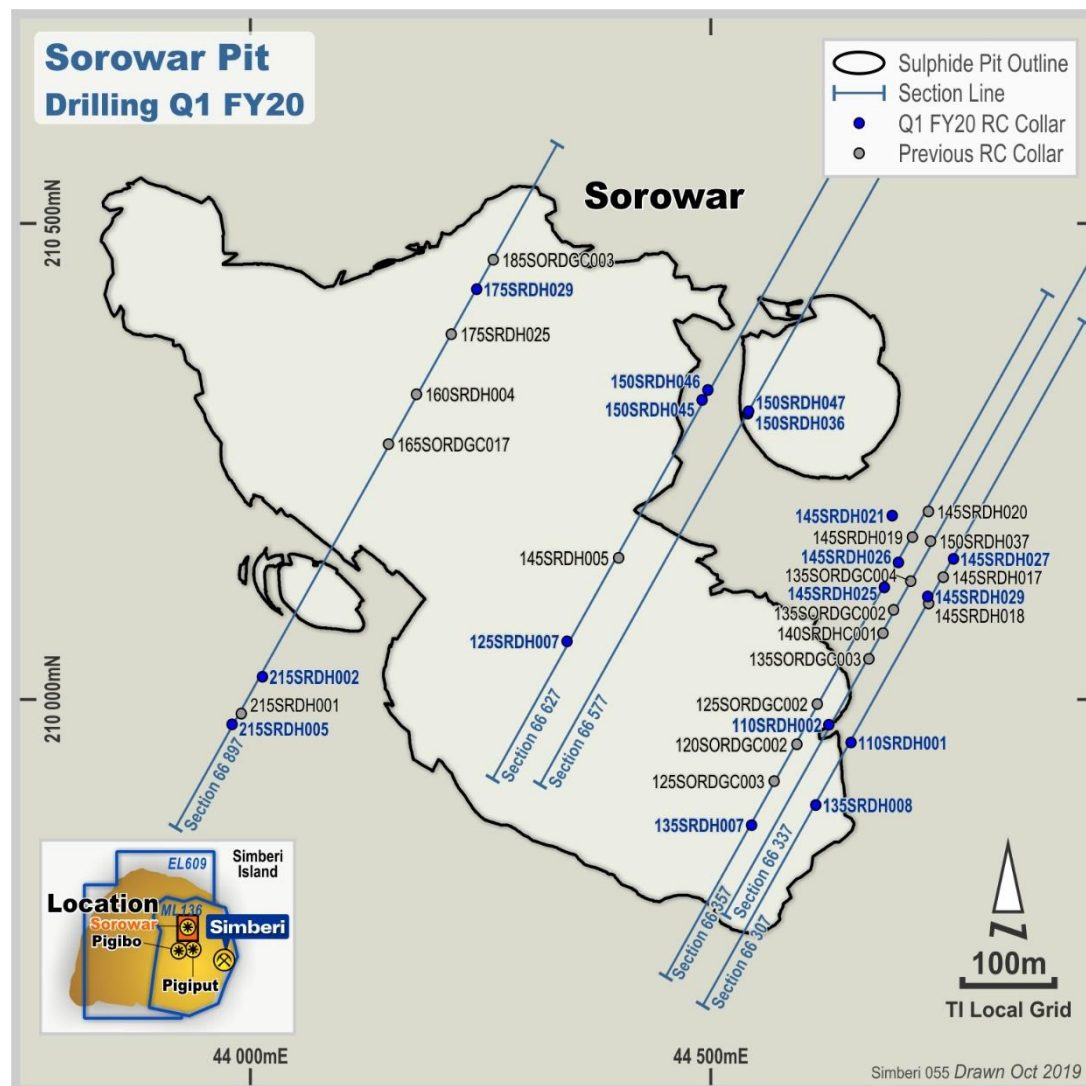
- Continued drilling at the Banesa copper – gold porphyry prospect on Big Tabar
- Results of soil sampling on Tatau highlighted a copper anomaly, with assays pending on rock chip sampling at Tatau North target
- A drill hole is planned to test the Mt Tiro gold sulphide target on Tatau Island

Modelled ultimate pit shells¹ with associated sulphide reserves



1.4 Moz Sulphide Reserve @ 2.4 g/t Au,
3.3 Moz Sulphide Resource @ 1.6 g/t Au ²

- Focused exploration for sulphide ore underway to improve project economics
- Sorowar not drilled at depth previously
- Drilling results to date indicate significant additional sulphide and oxide mineralisation
- Sorowar drill program completed, with over 55,000 m drilled
- Updated Reserves and Resources planned for Q3 March FY20



Sorowar Pit

Best intersections include
(all results downhole):

110SRDH002:

11 m at 8.62 g/t Au from 21 m

150SRDH045:

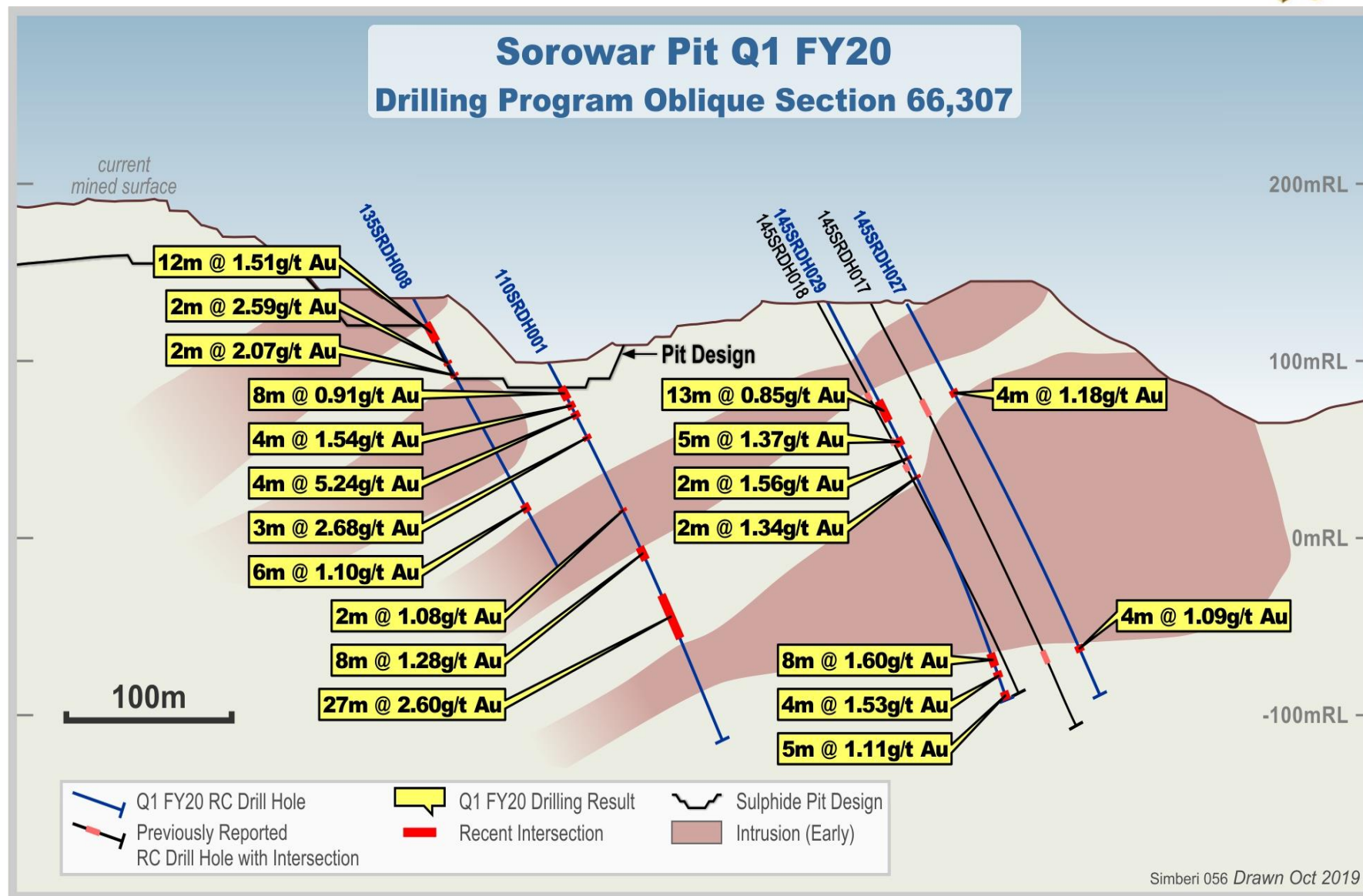
25 m at 3.09 g/t Au from 136 m

125SRDH011:

12 m at 12.8 g/t Au from 75 m

125SRDH015:

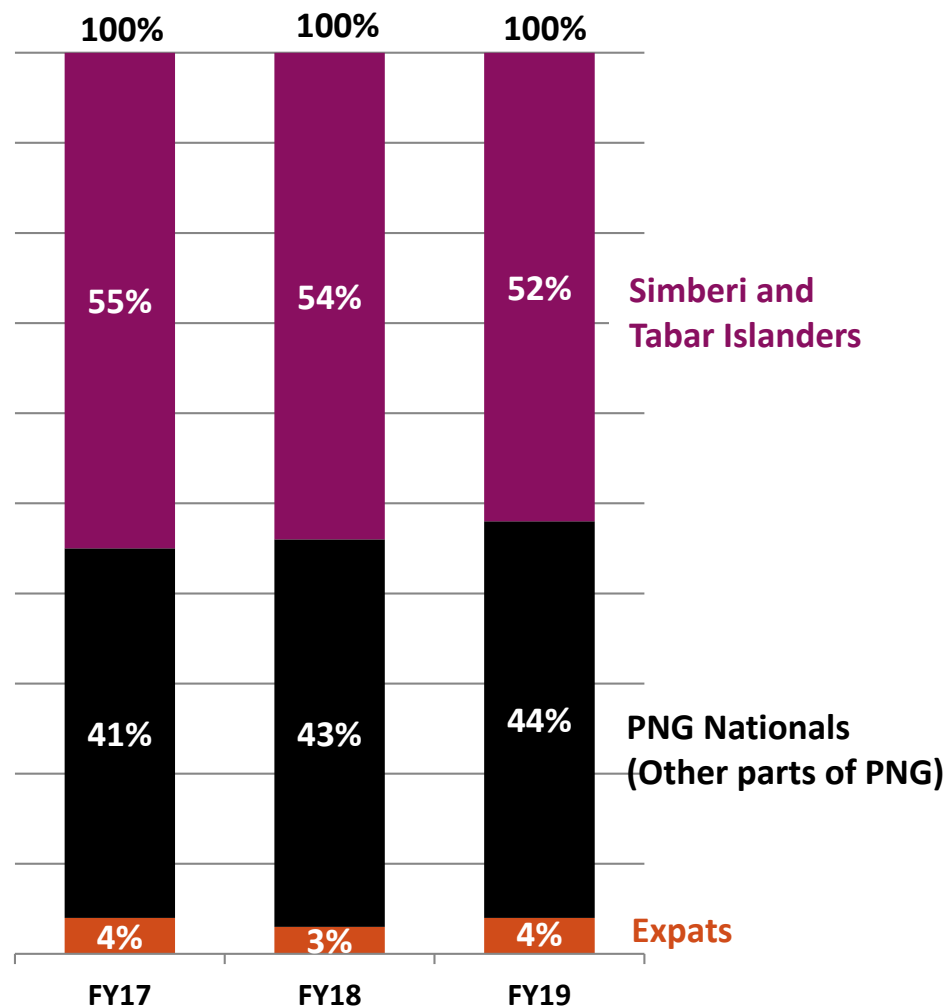
11 m at 13.2 g/t Au from 45 m



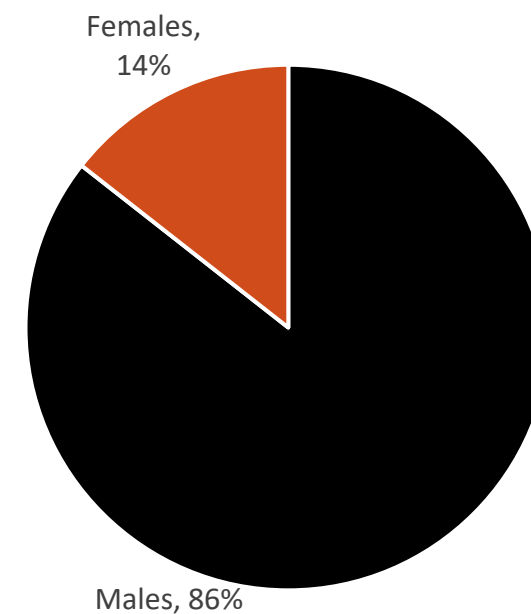


Top L: A'aiba Elias. Top R: Steven Rangrang and Gerard Gulung.
Bottom L: Cathy Andrew. Bottom R: Salome Palua, Rose Joe, Fidelia Panol, Betty William, Joyce Robin, Esther Lerekin

Simberi employees diversity



Simberi gender diversity

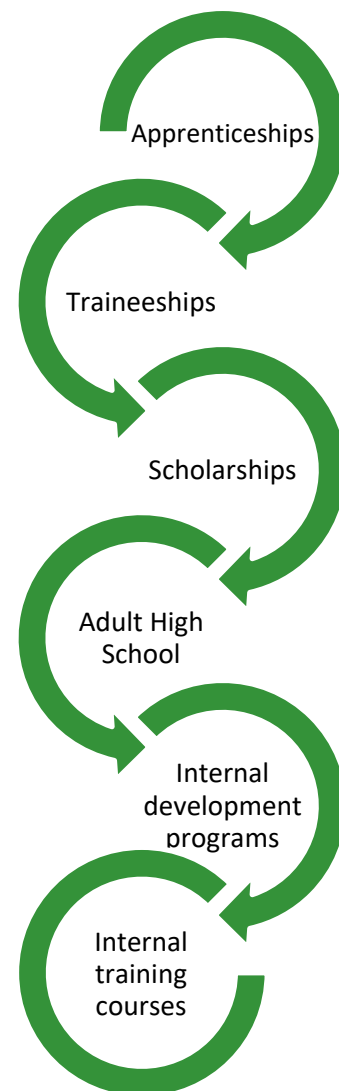


Commitment to upskilling our workforce

- 1.6 million kina spent on training in 2019
- 13 enrolled in nationally recognised **apprenticeships**. Over and above these, **4** completed their apprenticeships and were appointed as tradespeople
- 12 students were offered **work experience** opportunities
- 3 **scholarships** to university degree level students
- 8 **graduated** from Office Administration trainee program, 5 **employed**

Flexible Open & Distance Education (e-learning)

- Free to employees & locals
- 28 completed 1 or more subjects at year 10-12
- 10 completed grades 8-9

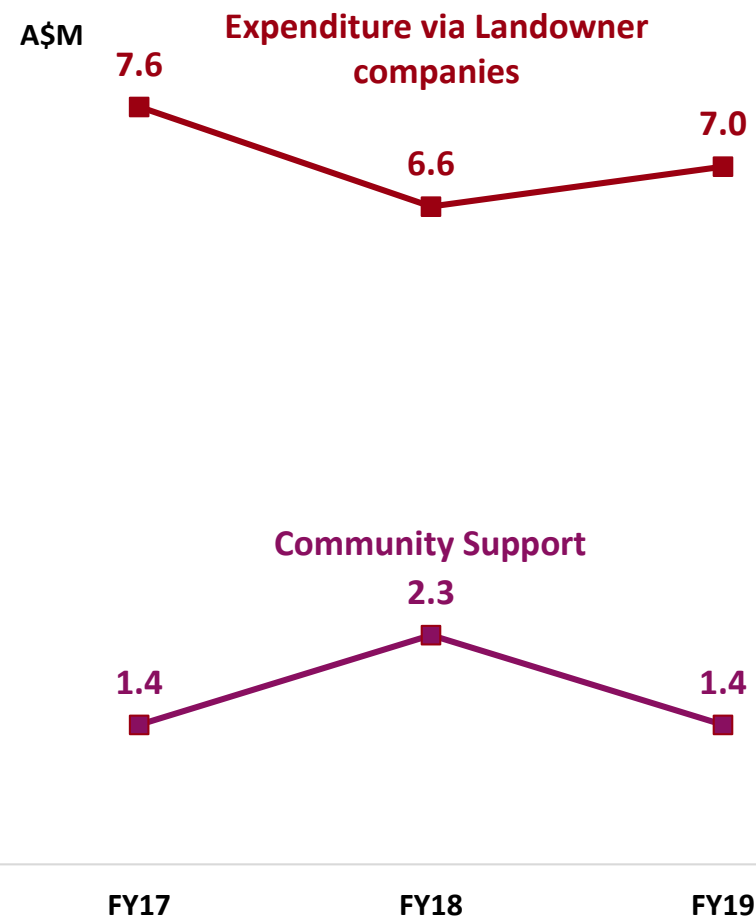


Environmental Survey at Monun Creek, Simberi Island, 2018.

A\$7 M spent with Landowner businesses in FY19

- Landowner business / mine services:
 - Bakery, market garden, wet mess management
 - Boats (exploration & logistics)
 - Earthmoving & trucking
 - Contracts range between A\$1,000 to A\$200,000 per month
- Community support:
 - Relocation of houses
 - Roads & water maintenance
 - Implementing plantation and mariculture partnership development initiatives

Spending in the Community



- **New Ireland Province Malaria Alliance**
Works to eliminate malaria in the New Ireland Province of PNG.
- **Australian Doctors International**
Deploys volunteer Australian doctors to PNG to treat and train in rural and remote areas.
- **Elementary School Assistance**
'Tutu' desks and mosquito nets issued to all young students on the island.
- **Tabar Islands Scholarship Program**
Awarding high school and tertiary scholarships to eligible Tabar Islands community members.



Top L: Australian Doctors International volunteer, Simberi Island. Top R: Carol Kiaput from Banesa presents Thomas Adamson, Senior Exploration Geologist, with a cultural token of appreciation for the company's community assistance with ground levelling works. Bottom: Elementary school assistance.

Road and water infrastructure, education, medical services

- Maintaining roads, bridges, water supply, school and clinics, including new community clinic staff housing in 2018
- Logistical support to school and police including housing, travel and vehicles
- Simberi clinic conducts approx. 900 consultations per month, 40-50 community member medivacs p.a.
- Various visits from Australian Doctors International (ADI) in 2016-19 and Fred Hollows in 2018
- Ongoing efforts to eradicate malaria
- **Planned for 2020** – completion of clinic expansion to minor hospital size.



Images: Recently completed erosion prevention works, July 2019.

Simberi Ring Road Maintenance

- Resurfacing - utilizing local landowner contractors
- Re-sheeting of washouts / potholes
- Culvert and bridge maintenance

School Support

- Maintenance of classrooms, provision of books and stationery on ad hoc basis
- Joint venture with landowners to construct two teachers' houses

Community Policing Support

- Provision of vehicle for police operations
- Accommodation and meals onsite
- Travel to and from Simberi Island



Above: The new Monun Creek ring road bridge on Simberi Island, July 2019. Concrete erosion management works around the bridge abutment about to start.

Sustainable business development

- Landowners business umbrella company 'SMS' (Simberi Mine Services) established as vehicle for sustainable business opportunities post mining e.g. bakery, rehabilitation, agriculture, tourism, fishing
- Training in business acumen & accounting
- In 2018 fisheries business advisor engaged
- In 2019 commercial cocoa advisor engaged

Business development initiatives

- | | |
|----------------------------|-------------------|
| • Market Garden | Complete FY16 |
| • Chicken Farm | Complete FY16 |
| • Mariculture | Ongoing |
| • Cocoa plantations | Rapid expansion |
| • Tomato and Onion exports | Commenced in 2019 |



Above images: Mariculture project on reef off Simberi Island, 2019.

Co-operative cocoa plantation project

Company provided:

- Initial 5,000 seedlings, nursey for ongoing seedling production (now self-sustaining)
- Initial plantation within the mining lease, labour provided by SMS with company assistance, demonstrates successful mixed cropping based on traditional organic farming method – subsistence tree crops to provide shade for cocoa plants
- Drainage ditches to prevent water-logging, key problem to overcome in high rainfall area

2019:

- Further plantation land on Simberi Island purchased and cleared
- Strong demand from landowners for seedlings assistance with export via SMS co-operative
- Work on commercialisation with NGO
- New onion and tomato cash cropping.



Top: First crop of cocoa pods.
Bottom: Cocoa plant nursery, new crop of seedlings. Both images July 2019.



THERE HAVE BEEN POSITIVE IMPROVEMENT IN THE AUDIT RESULTS:

20%

reduction in the percentage of women who feel sad or angry at work

18%

increase in the percentage of women who feel happy about their safety at work

15%

reduction in the percentage of times an identified major risk to women in Papua New Guinea has "high" severity impact on safety for women in our workplace

5%

reduction in the percentage of times an identified major risk to women in Papua New Guinea has "all the time" frequency impact on safety for women in our workplace¹

KEY FACTS AND CHALLENGES – PAPUA NEW GUINEA

DOMESTIC VIOLENCE



94% of companies surveyed believed family & sexual violence affected their employees at home and at work¹

TRANSPORTATION



Only 12% of women who work in remote areas have secure transportation to and from work¹

TRAINING



Only 10% of workplaces offer anti-harassment training to employees²

SAFETY



56% of female employees believe their career was affected by a real/perceived safety concern³

In August 2018, St Barbara presented on its Gender Smart Safety program at the [Minerals and Energy for Development Alliance](#) Women in Resources conference in Lae, PNG; and in November 2018, at the Minerals Council of Australia Gender Diversity Working Group [‘White Ribbon’](#) event in Brisbane, Australia.

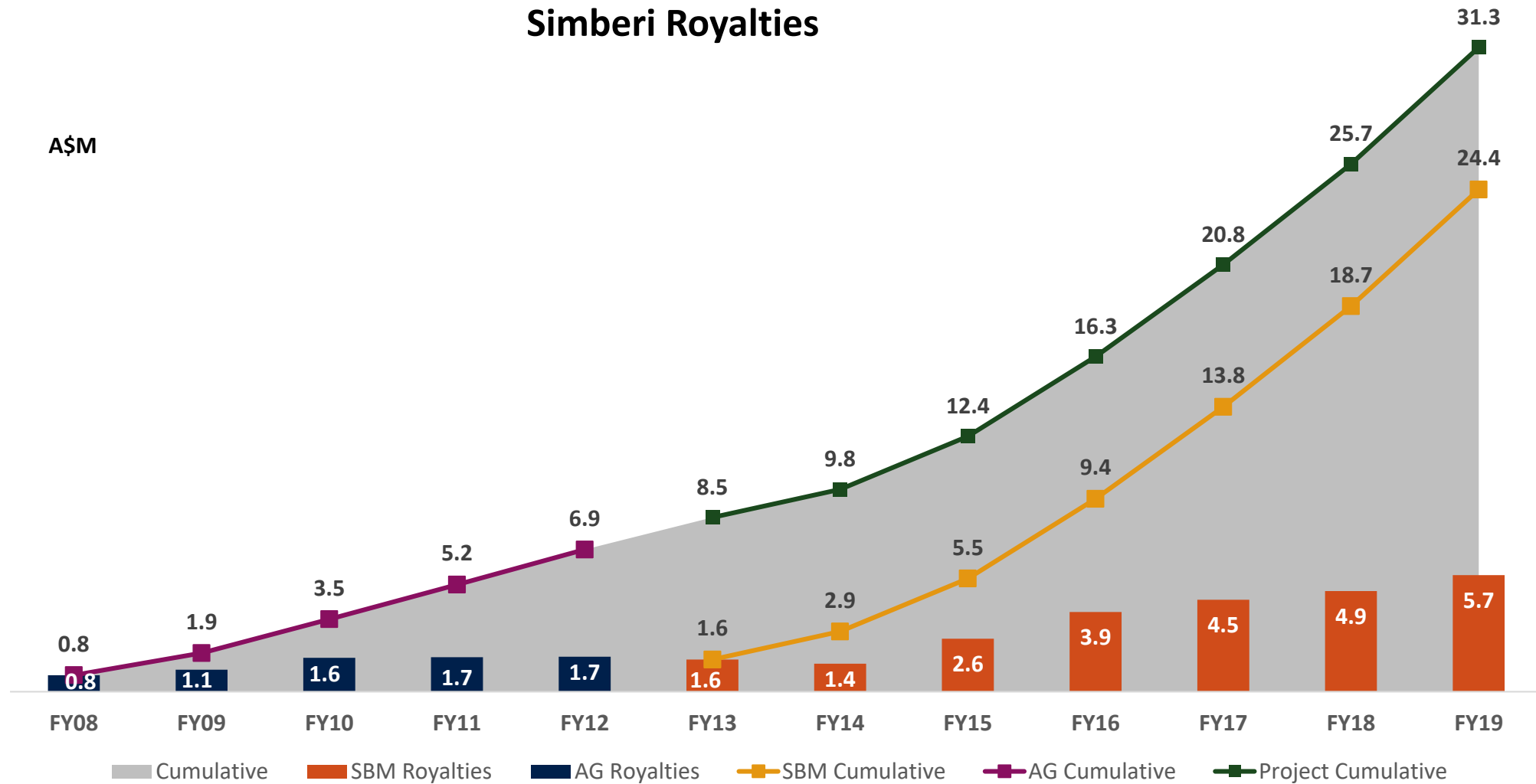
AN INNOVATION OF THE PAPUA NEW GUINEA AND PACIFIC PARTNERSHIPS

Through the Papua New Guinea and the Pacific Partnerships, Australia, New Zealand and IFC are working together to stimulate private sector investment, promote sustainable economic growth and reduce poverty in the Pacific.

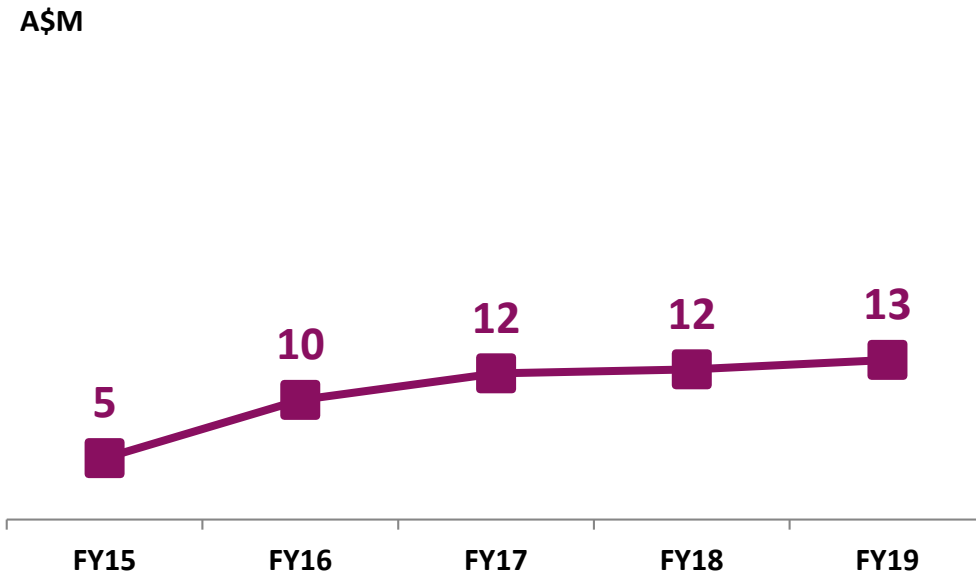


Simberi Royalties

A\$M



Income tax, other taxes, royalties and duties¹ paid



1. Other taxes includes salary taxes paid by Group on behalf of employees. Excludes corporate royalties. PNG in net tax loss position, no income tax paid FY17-FY19.



Bob Vassie, Managing Director and CEO
Distributing school supplies at Bekou primary school, Simberi PNG, 2018



We act with **honesty** and **integrity**

We treat people with **respect**

We value **working together**

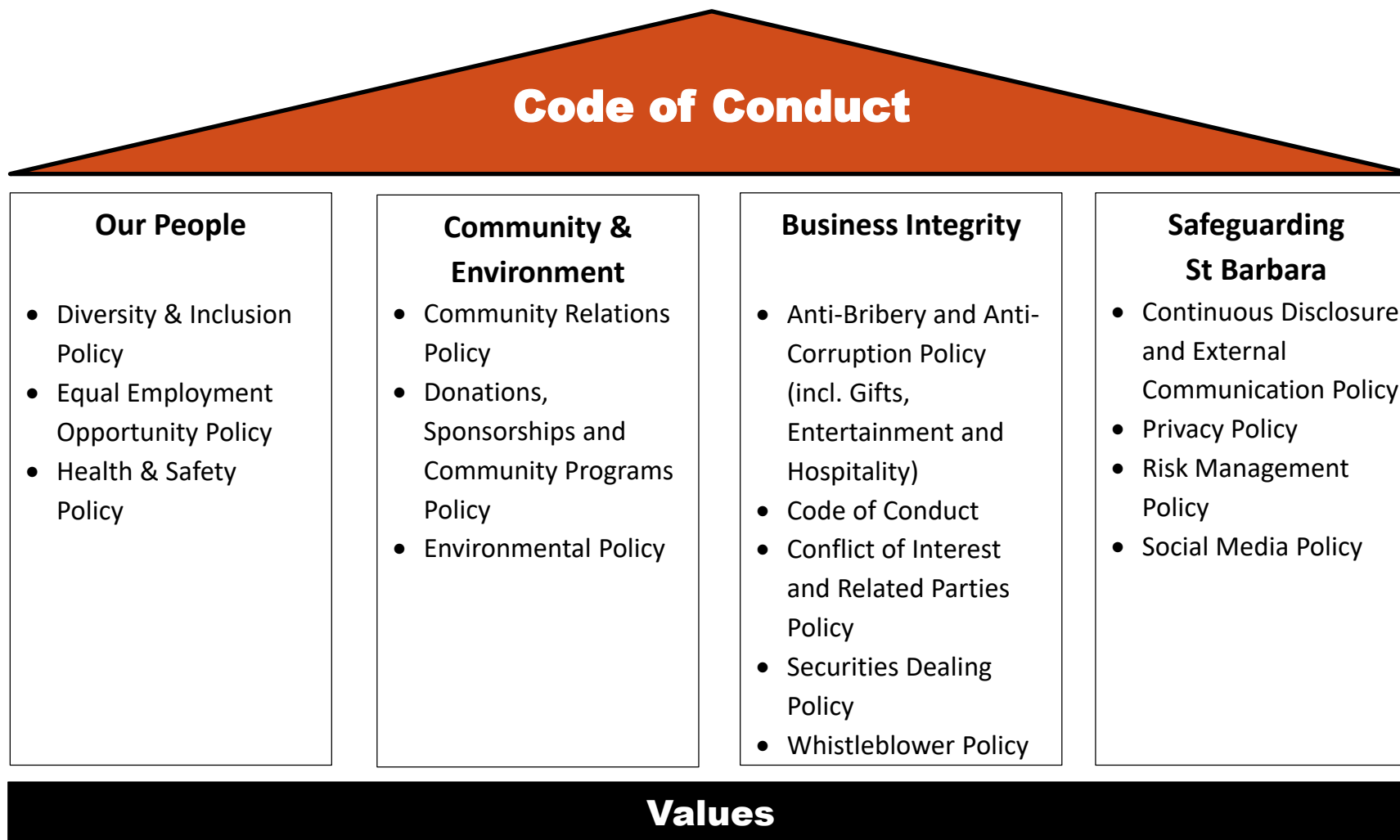
We **deliver** to promise

We strive to **do better**



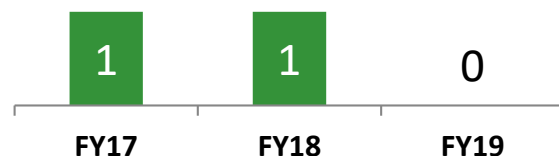
Above: Roger Boston, Processing Manager and Paul Lingei, Superintendent Metallurgy, both at Simberi, PNG, 2018

St Barbara's code of conduct: the framework of policies that puts our values into practice



St Barbara has developed a comprehensive framework of **Anti-Bribery and Anti-Corruption** measures to prevent and detect bribery and corruption, comprising an integrated set of policies, training, audits, procedures and registers.

Whistleblower complaints¹



Online registers

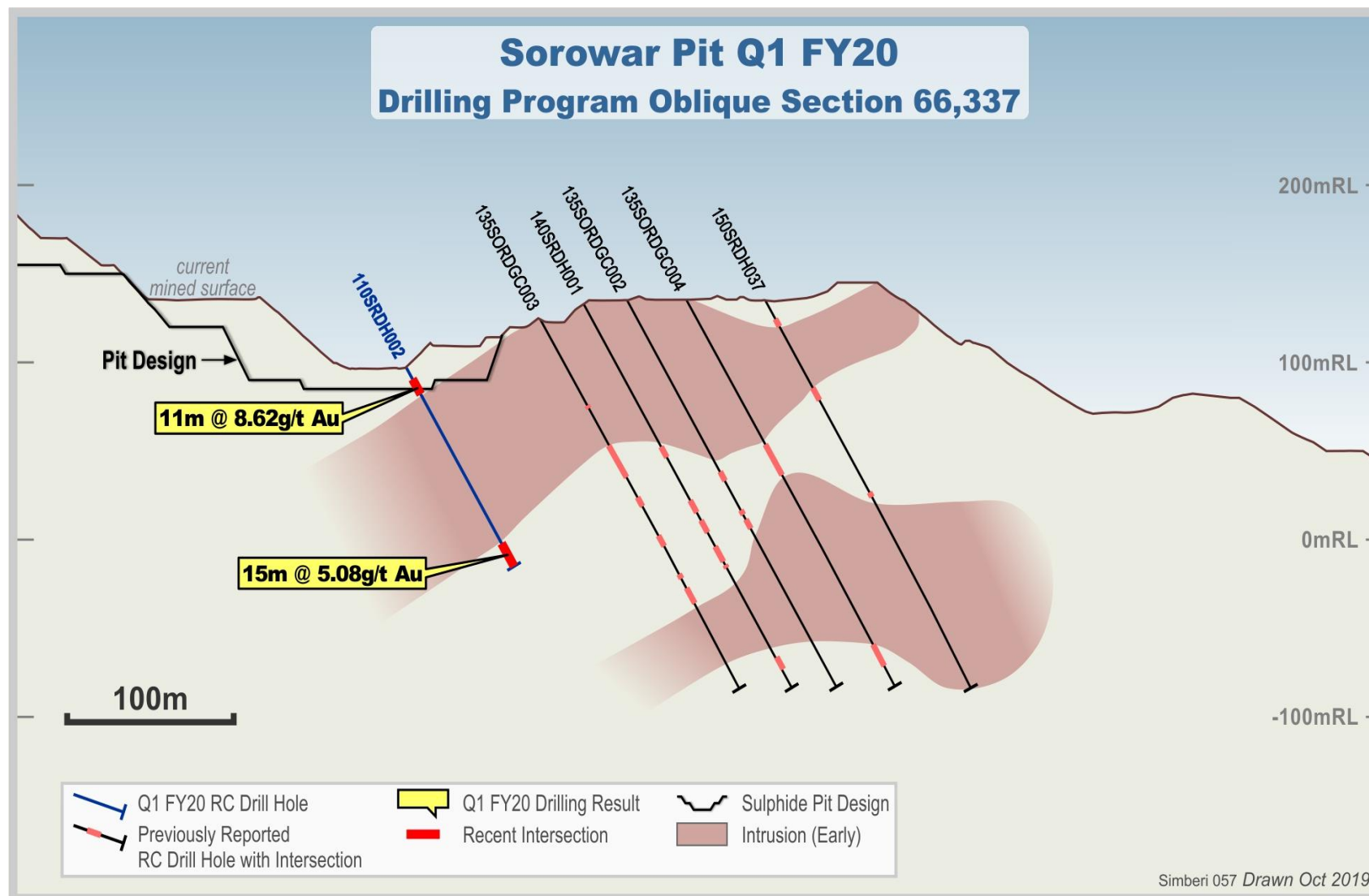
- Gifts, Entertainment and Hospitality
- Conflict of Interest and Related Party Transactions
- Donations, Sponsorships and Community Programs

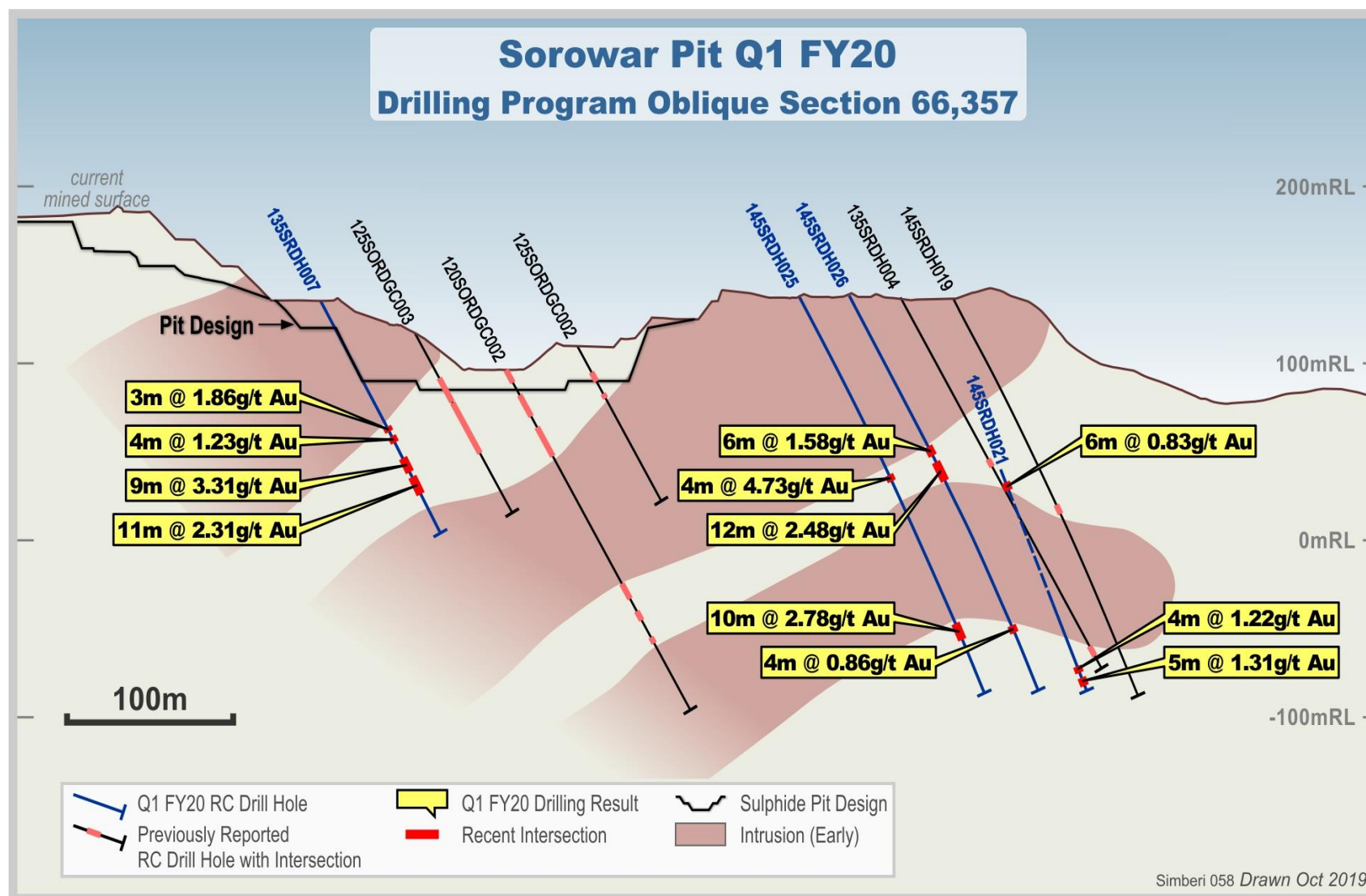
Training

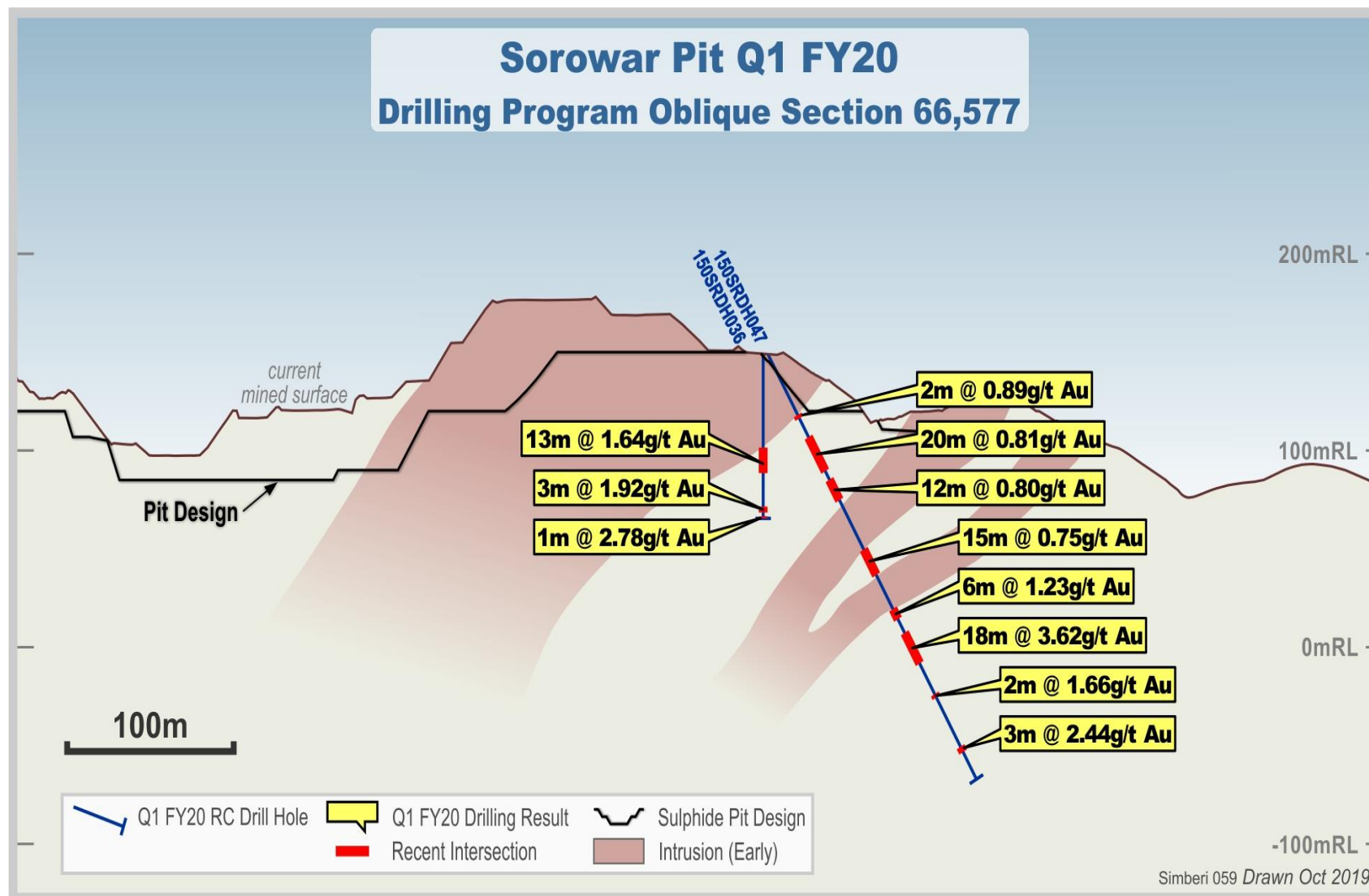
- Training at **induction** and **annually** for **all staff**
- Specific induction and ongoing training for supplier facing staff

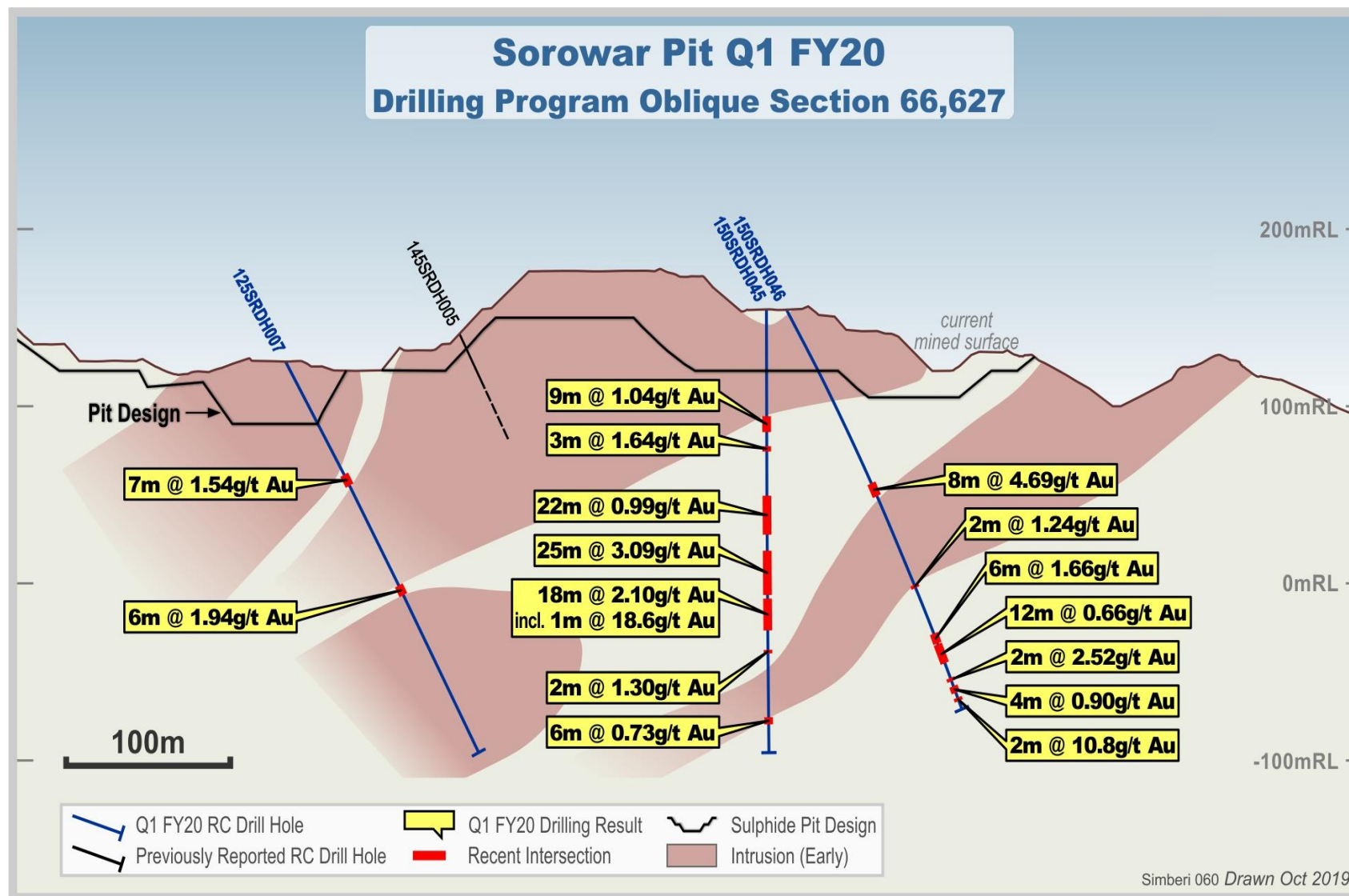
Policies

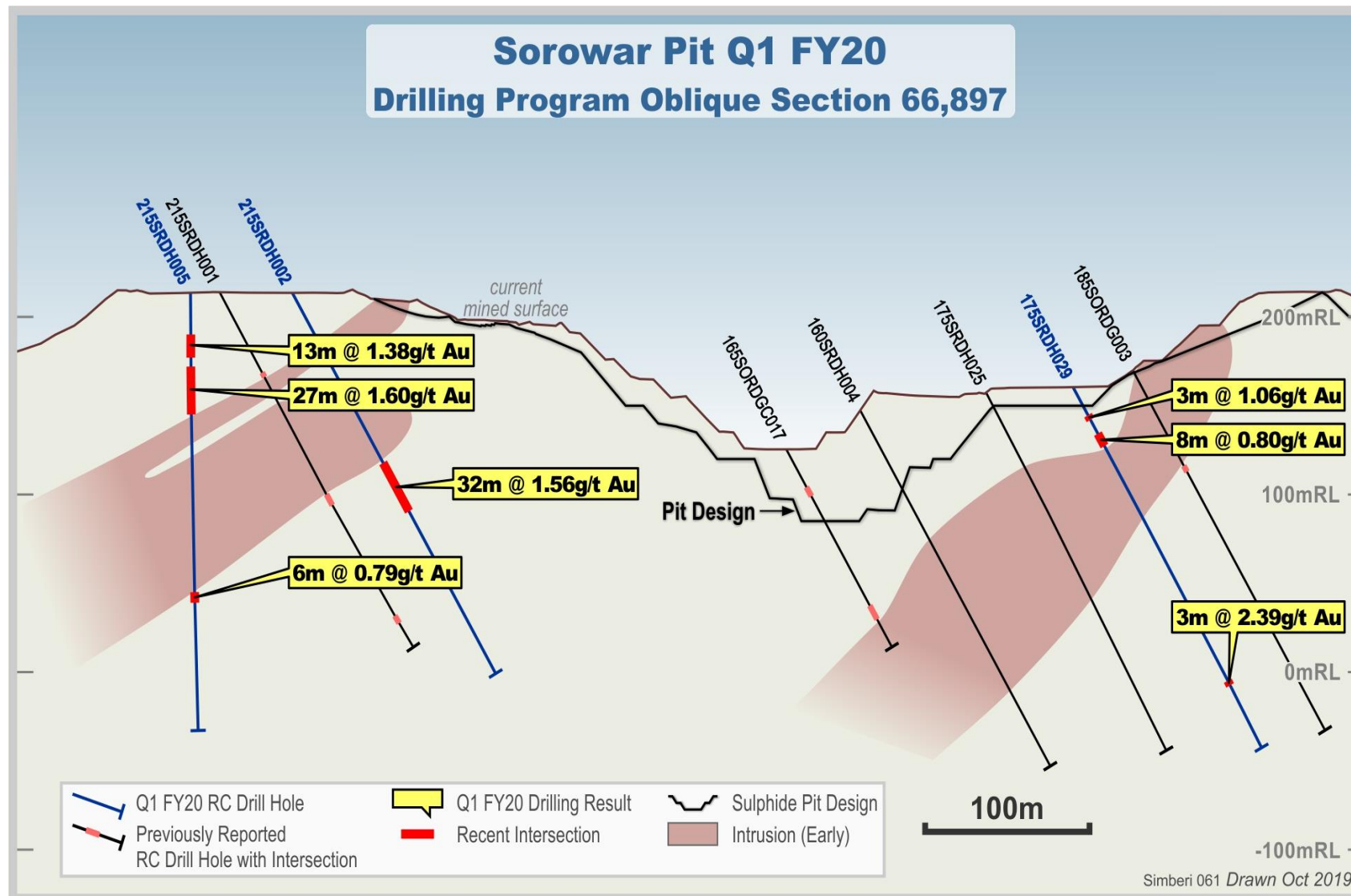
- Anti-Bribery and Anti-Corruption (inc. Gifts, Entertainment and Hospitality)
- Conflict of Interest and Related Party Transactions
- Donations, Sponsorships and Community Programs
- Whistleblower











Ore Reserves Summary as at 30 June 2019 + Atlantic Gold



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)	2,220	8.0	568	7,915	5.9	1,506	10,135	6.4	2,073
Tower Hill, (WA)	-	-	-	2,572	3.7	306	2,572	3.7	306
Simberi Oxide, (PNG)	1,547	1.5	75	5,346	1.2	213	6,893	1.3	288
Simberi Sulphide, (PNG)	1,615	2.0	105	16,520	2.4	1,270	18,135	2.4	1,375
Simberi Stockpiles, (PNG)	1,058	0.7	24	-	-	-	1,058	0.7	24
Total (30 June 2019)	6,440	3.7	772	32,353	1.1	3,295	38,793	3.3	4,066
Atlantic Gold, (NS)	25,400	1.1	902	26,550	1.1	973	51,950	1.1	1,875
Total All Projects	31,840	1.6	1,674	58,903	2.3	4,268	90,743	2.0	5,941

Notes

- Ore Reserves are based on a gold price of: Gwalia (AU\$1,600/oz), Tower Hill (AU\$1,250/oz), Simberi (US\$1,250/oz)
- Cut-off Grades Gwalia (4.7g/t Au), Tower Hill (2.8g/t Au), Simberi Oxide (0.5g/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 2019 Annual Mineral Resource and Ore Reserve Report at www.stbarbara.com.au/exploration/Ore-Reserves-mineral-resources/
- The information for the Atlantic Gold Mineral Resources or Ore Reserves is extracted from the report entitled 'Moose River Consolidated Mine, Nova Scotia, Canada, NI 43-101 Technical Report' created on 25 March 2019 and is available to view at stbarbara.com.au. The company confirms that it is not aware of any new information or data that materially affects the estimates of Mineral Resources or Ore Reserves, that all material technical assumptions and technical parameters underpinning the estimates in the market 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 market announcement.

Full details are contained in the ASX release dated 21 August 2019 'Ore Reserves and Mineral Resources Statements 30 June 2019' available at www.stbarbara.com.au

Mineral Resources Summary at 30 June 2019 + Atlantic Gold



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)	5,034	7.3	1,183	17,527	6.0	3,393	1,129	5.5	199	23,690	6.3	4,775
Tower Hill, (WA)	-	-	-	4,604	3.9	574	489	3.3	51	5,093	3.8	625
Simberi Oxide, (PNG)	2,414	1.3	103	10,562	1.1	376	12,886	0.9	383	25,862	1.0	862
Simberi Sulphide, (PNG)	2,897	1.6	150	43,450	1.7	2,375	18,591	1.4	810	64,938	1.6	3,335
Total (30 June 2019)	10,345	4.3	1,436	76,143	2.7	6,718	33,095	1.4	1,443	119,583	2.5	9,597
Atlantic Gold, (NS)	25,180	1.2	936	32,230	1.1	1,183	6,060	1.3	252	63,470	1.2	2,371
Total All Projects	35,525	2.1	2,372	108,373	2.3	7,901	39,155	1.3	1,695	183,053	2.0	11,968

Notes

1. Mineral Resources are reported inclusive of Ore Reserves
2. Cut-off Grades Gwalia (2.5g/t Au), Tower Hill (2.5g/t Au), Simberi Oxide (0.4g/t Au), Simberi Transitional and Sulphide (0.6g/t Au)
3. Simberi Mineral Resources are reported constrained by a US\$1,800/oz 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 2019 Annual Mineral Resource and Ore Reserve Report at www.stbarbara.com.au/exploration/Ore-Reserves-mineral-resources/
6. The information for the Atlantic Gold Mineral Resources or Ore Reserves is extracted from the report entitled 'Moose River Consolidated Mine, Nova Scotia, Canada, NI 43-101 Technical Report' created on 25 March 2019 and is available to view at stbarbara.com.au. The company confirms that it is not aware of any new information or data that materially affects the estimates of Mineral Resources or Ore Reserves, that all material technical assumptions and technical parameters underpinning the estimates in the market 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 market announcement.

Full details are contained in the ASX release dated 21 August 2019 'Ore Reserves and Mineral Resources Statements 30 June 2019' available at www.stbarbara.com.au

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.

Mineral Resource and Ore Reserve Estimates

The information in this presentation that relates to Mineral Resources or Ore Reserves for Gwalia, Tower Hill and Simberi is extracted from the report titled 'Ore Reserves and Mineral Resources Statements 30 June 2019' released to the Australian Securities Exchange (ASX) on 21 August 2019 and available to view at stbarbara.com.au. 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 21 August 2019 and 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.

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Full details are contained in the ASX release dated 21 August 2019 'Ore Reserves and Mineral Resources Statements 30 June 2019' available at 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.

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 for example

Underlying profit from operations Excludes impairment losses, corporate costs, exploration expenses, interest and tax. The measure is presented to enable an understanding of the underlying performance of the operations, which has not been subject to review or audit by the Group's external auditors. Refer 2019 Annual Report (p4) for details, available at www.stbarbara.com.au

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