



## ASX QUARTERLY REPORT QUARTER ENDING 30 MARCH 2018

### ASX ANNOUNCEMENT

30<sup>th</sup> April 2018

### BARRA RESOURCES LIMITED

A.B.N. 76 093 396 859

### Corporate Details (Mar 31):

ASX Code: BAR

Market Cap: \$23.7M

Cash: \$2.335M

Issued Capital:

473.75M Ordinary Shares

50M Options

Substantial Shareholders:

FMR Investments 17.3%

### DIRECTORS

MD & CEO: Sean Gregory

Chairman: Gary Berrell

Non-Exec: Jon Young

Non-Exec: Grant Mooney

### PROJECTS

Mt Thirsty Co-Ni (50%)

Coolgardie Au (100%)

### CONTACT DETAILS

[www.barraresources.com.au](http://www.barraresources.com.au)

[info@barraresources.com.au](mailto:info@barraresources.com.au)

Ground Floor, 6 Thelma St  
West Perth, WA 6005

PO Box 1546  
West Perth, WA 6872

T: (08) 9481 3911

### CORPORATE

- Barra is fully funded for the gold drilling underway and the proposed Mt Thirsty Pre-Feasibility Study (PFS).

### MT THIRSTY COBALT PROJECT

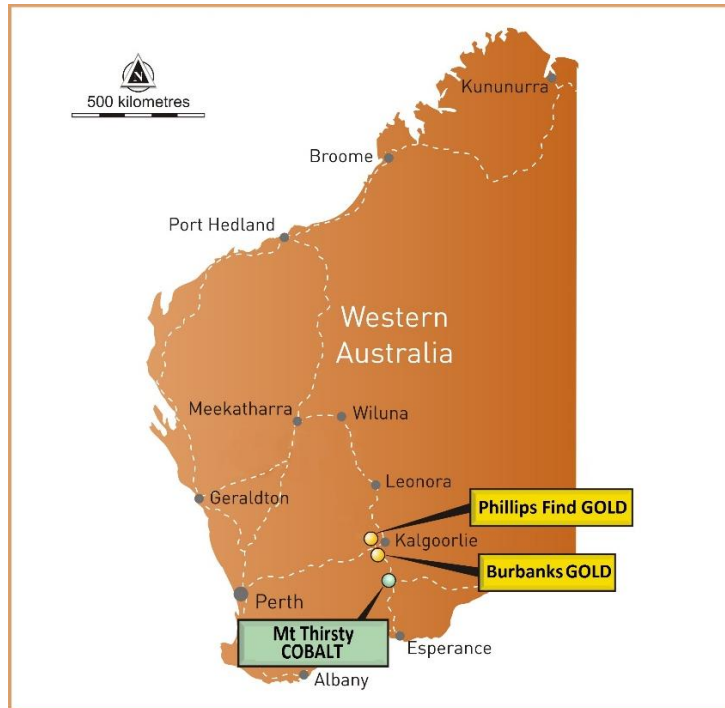
- Recent increases in cobalt price significantly improve project economics.
- Consultation completed with engineering companies regarding tenders for the proposed Mt Thirsty PFS.
- Tenders from a short list of four engineering companies were received and underwent rigorous assessment; ASX announcement to follow shortly.
- Numerous other work packages in areas of resource estimation, mine planning, hydrogeological studies, tailings disposal, marketing, environmental and community studies and Native Title liaison have also been tendered.

### BURBANKS GOLD PROJECT

- Strategic review identifies initial Exploration Target for the Burbanks Gold Project.
- New Gold Strategy selects a systematic exploration approach to build the resource inventory at Burbanks to a critical mass ahead of mining endeavours.
- 4,000m Reverse Circulation (RC) drilling underway at Main Lode.

### PHILLIPS FIND GOLD PROJECT

- Final report on auger geochemical sampling program received.
- Five (5) key geochemical targets identified for drill testing.
- Prioritisation of geochemical targets with mapping targets confirms Truth Target as number one priority for drill testing.
- Statutory approval received for up 35,000m of Air Core (AC) drilling to test Truth Target.



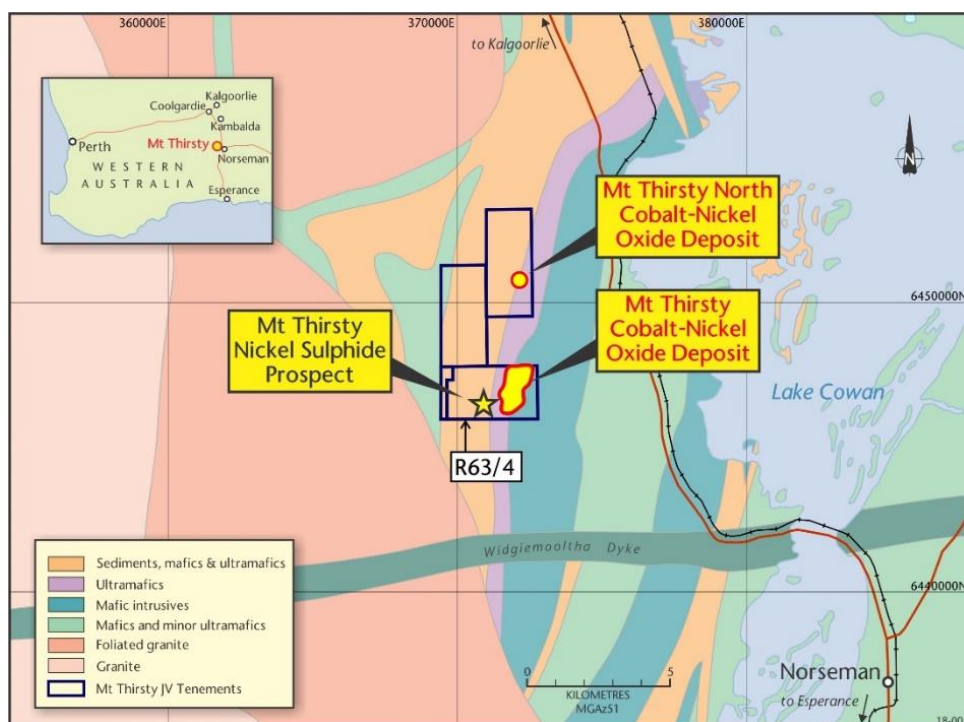
**Figure 1: Barra Project Location**

## Mt Thirsty Cobalt Project

(50% Barra, 50% Conico – Mt Thirsty Joint Venture, MTJV)

The Mt Thirsty Cobalt Project is located 20km north-northwest of Norseman, Western Australia (Figures 1 and 2).

The Project contains the Mt Thirsty Cobalt-Nickel (Co-Ni) Oxide Deposit that has the potential to emerge as a significant cobalt producer. In addition to the Co-Ni Oxide Deposit, the Project also hosts nickel sulphide (Ni-S) mineralisation.



**Figure 2: Mt Thirsty Project Location**

The undeveloped Mt Thirsty Cobalt Project has a significant JORC (2004) compliant resource with a potential to have a long mine life. The Project is close to all necessary infrastructure (rail, road, power, water, and sea port) and, being in a mining orientated state, has the potential to attract a variety of interested parties including end users of cobalt.

The great advantage of Mt Thirsty compared to other potential cobalt operations is the nature of the resource, being a flat lying, continuous and thick deposit starting from near surface to around 70 metres below surface. Due to intense oxidation, the deposit is very soft, fine grained and low in silica.

The Joint Venture partners are working collaboratively to exploit this joint opportunity and remain confident Mt Thirsty has the potential to become a major supplier to the burgeoning battery supply chain.

The Mt Thirsty Project is highly leveraged to cobalt prices with approximately 80% of potential revenue being from cobalt; far higher than other nickel laterite projects. Figure 3 illustrates the effect alternative long-term cobalt prices have on the Net Present Value (NPV) of the Scoping Study<sup>i</sup> completed in October 2017. All other variables from the Scoping Study are fixed in this analysis.

The Scoping Study was published based on a long-term cobalt price of US\$72,000/t. The published sensitivities at the time were limited to  $\pm 20\%$ . Since the Scoping Study was published spot cobalt prices have risen significantly (\$US93,750/tonne as at 2/4/18).

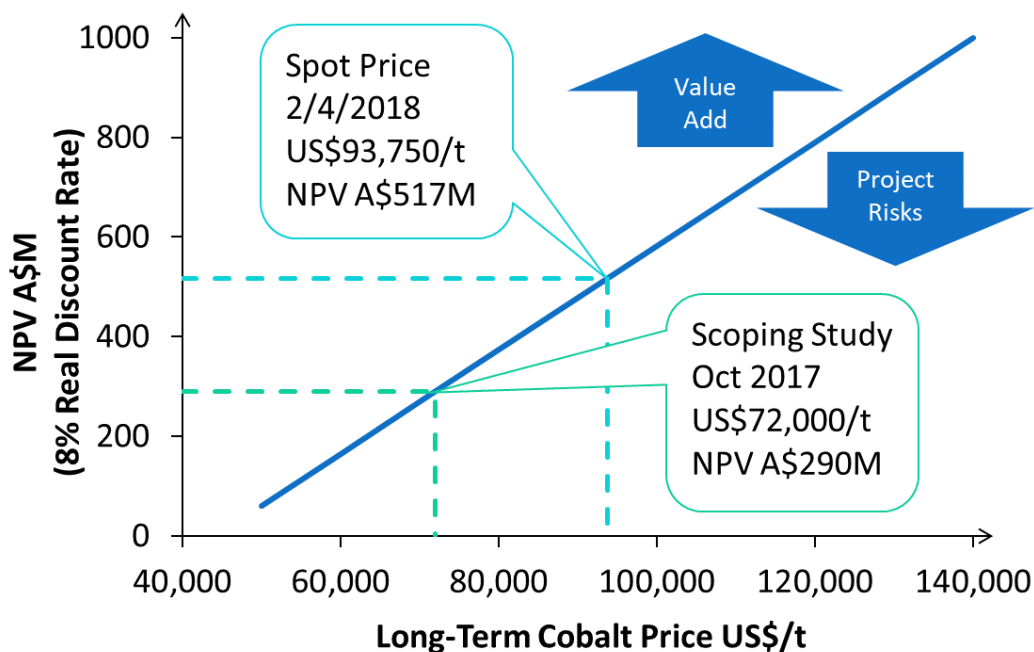


Figure 3: Mt Thirsty Scoping Study Sensitivity to Long-Term Cobalt Prices.

## Activities

### Proposed Mt Thirsty PFS

During the quarter meetings were held in Perth with several engineering companies regarding tenders for the proposed Mt Thirsty PFS. Tenders were received from a short list of four companies which underwent rigorous assessment.

As part of the PFS, the successful tenderer would manage a metallurgical testwork program in consultation with the MTJV. Other external consultants will be appointed and managed by the MTJV owner's representative. These include consultants for resource estimation (upgrade to JORC 2012), mine planning, hydrogeological studies, tailings disposal, marketing, environmental and community studies and Native Title liaison.

### Metallurgical Testwork

As an initial part of the metallurgical testwork program the successful tenderer would investigate the potential for beneficiation of Mt Thirsty cobalt-nickel oxide mineralisation. A desktop study based on previous testwork indicates that removal of the fine fraction which contains mostly goethite (and a large portion of the nickel) could lead to significant upgrading of the coarser cobalt bearing manganese oxide fraction without affecting the nickel leach recovery (as approx. 20% of the nickel is contained in manganese oxides). This work would be a first priority in the PFS and if successful could be significantly value adding for the Mt Thirsty project.

The metallurgical testwork program/PFS study would further investigate the proposed sulphur dioxide (SO<sub>2</sub>) leaching process, its supplementation with various concentrations of sulphuric acid to improve leach recoveries of both cobalt and nickel and also the viability of alternative flowsheets.

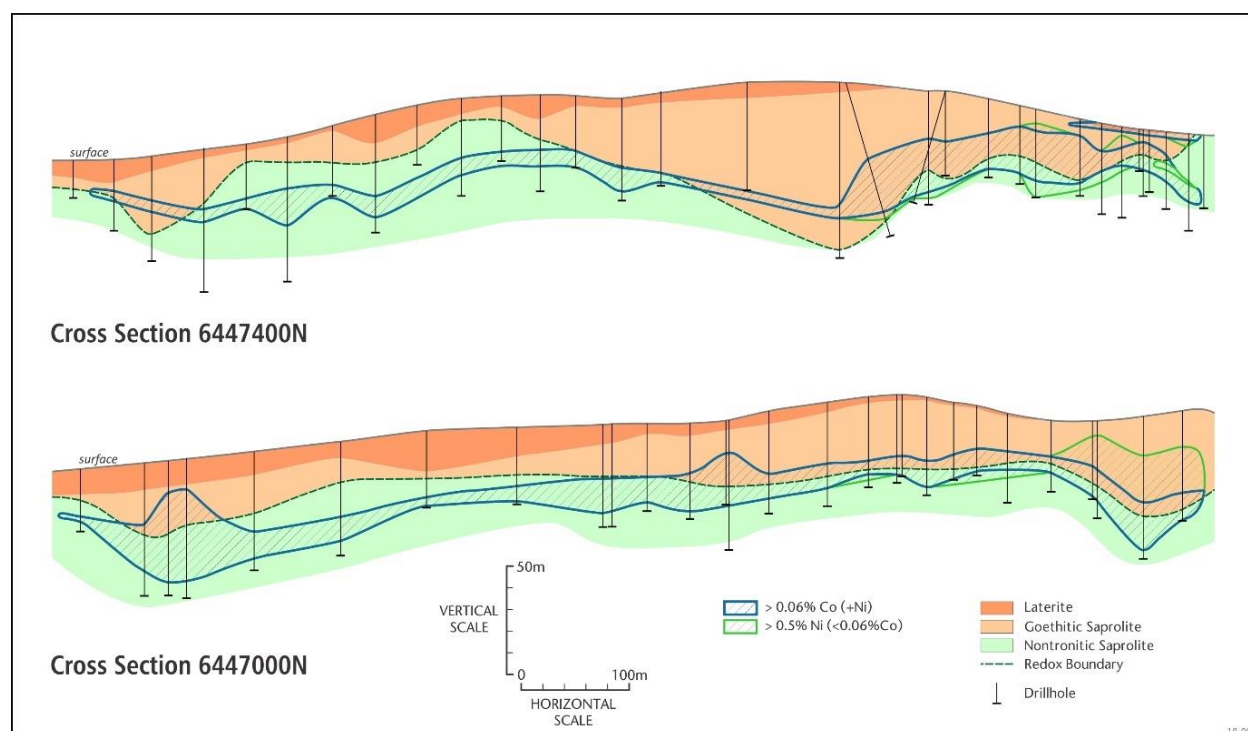
### Background of the Mt Thirsty Project

The Mt Thirsty Cobalt – Nickel - Manganese oxide project covering an area of 11.5km<sup>2</sup> is located 20km north-northwest of Norseman in the southern goldfields of Western Australia, a well-endowed nickel terrain (see Figure 1). Barra has excellent exposure to the cobalt market through its 50% interest in the Mt Thirsty Cobalt Project.

The project hosts the Mt Thirsty Cobalt Oxide Deposit (Table 1) which has the potential to emerge as a significant cobalt supplier. Refer also Cross Sections through Mt Thirsty deposit, Figure 4 below.

**Table 1: Mt Thirsty Cobalt Oxide Deposit Mineral Resource Summary<sup>ii</sup> (0.06% Co cut off)**

Mineral Resource Category	Tonnes	Cobalt (Co) (%)	Nickel (Ni) (%)	Manganese (Mn) (%)
Indicated	16,600,000	0.14	0.60	0.98
Inferred	15,340,000	0.11	0.51	0.73
<b>Total Mineral Resource</b>	<b>31,940,000</b>	<b>0.13</b>	<b>0.55</b>	<b>0.86</b>



**Figure 4: Cross sections through the Mt Thirsty Co-Ni Oxide deposit showing outlines of the mineralisation and weathering profiles.**

Extensive metallurgical testwork in recent years has indicated that high recoveries of cobalt can be achieved via agitated, low temperature, atmospheric leaching using cheaper and more efficient SO<sub>2</sub> as the main leaching agent resulting in a more practical and economic leaching method by specifically targeting cobalt only.

A low temperature, low reagent consumption agitated atmospheric leaching process flowsheet has been developed with 73% cobalt and 21.5% nickel recoveries. A recent positive scoping study has justified further work to progress to a PFS stage.

The Mt Thirsty Cobalt Oxide Deposit currently represents an excellent long-term, low cost, cobalt production opportunity.

As well as the Co-Ni oxide resource, the Mt Thirsty joint venture tenements have potential for nickel sulphide mineralisation at greater depths within the same ultramafic sequence which hosts the near surface oxide deposit.

Intersections of nickel sulphides up to 6m down hole at 3.4% Ni were made by the joint venture in 2010 within E63/373<sup>iii</sup>.

### **Cobalt Outlook**

Demand for cobalt looks very encouraging as the world becomes more dependent on rechargeable power sources for portable electronics and electric vehicles. In addition, the battery industry is also competing with demand for cobalt from producers of superalloys, aircraft turbines and chemical industries.

Demand is likely to escalate exponentially with battery production, however supply is uncertain as over 60% of global supply comes from the politically unstable African countries such the Democratic Republic of Congo, Central African Republic and Zambia.

With potential supply constraints and surging demand, many commentators see pricing pressure as a likely eventuality.

## Burbanks Gold Project

(100% Barra)

### Activities

#### Gold Strategy

Strategic review identifies an initial Exploration Target<sup>iv</sup> for the Burbanks Gold Project of 223,000 to 564,000oz of gold, inclusive of the Birthday Gift Mineral Resource (Table 2). The potential quantity and grade of the Exploration Target is conceptual in nature as there has been insufficient exploration to estimate a Mineral Resource beyond Birthday Gift. It is uncertain if further exploration will result in an estimation of a Mineral Resource.

**Table 2: Burbanks JORC 2012 Exploration Targets and Mineral Resource.**

	Low Range			High Range		
	tonnes	Au g/t	Au Oz	tonnes	Au g/t	Au Oz
Main Lode to Burbanks North Exploration Target	185,000	8.0	47,600	2,170,000	5.0	348,800
Birthday Gift Exploration Target <sup>v</sup>	625,000	4.0	80,000	650,000	6.0	120,000
Birthday Gift Mineral Resource <sup>vi</sup>	514,700	5.8	95,400	514,700	5.8	95,400
<b>Total</b>			<b>223,000</b>			<b>564,000</b>

Note: The above Exploration Target stated does not include greenfield targets at Barra's Phillips Find Gold Project that will be the subject of separate future announcements and drilling programs. Nor does it include any potential below an economic search window limited to within 500m of surface or targets to the south of Birthday Gift.

The Exploration Target is inclusive of the previously announced JORC 2012 compliant Mineral Resource Estimate of 95,400oz of gold at Birthday Gift (Table 3).

**Table 3: Birthday Gift Mine (Burbanks Deposit) Mineral Resource Inventory (as at 30 June 2016)<sup>vi</sup>.**

Mineral Resource for the Burbanks Gold Project – 30 <sup>th</sup> June 2016							
Area	Cut-Off	Indicated			Inferred		
		Tonnes	Grade	Ounces	Tonnes	Grade	Ounces
Christmas Open Pit	1.0	5,700	6.2	1,100	4,000	7.8	1,050
Birthday Gift Underground Mine	2.5	180,000	6.0	34,750	325,000	5.6	58,500
<b>Total Mineral Resource</b>	<b>1.0/2.5</b>	<b>185,700</b>	<b>6.0</b>	<b>35,850</b>	<b>329,000</b>	<b>5.6</b>	<b>59,550</b>

The updated Gold Strategy selects a systematic exploration approach to build the resource inventory at Burbanks to a critical mass ahead of mining endeavours. It sets a pathway targeting over 500,000oz of gold before embarking on a new mine plan and ultimately restarting mining operations. The addition of the Birthday Gift JORC 2012 Mineral Resource of 95,400oz provides a solid foundation that will underpin resource growth at Burbanks via accelerated exploration activity.



## Drilling Programs

Statutory approvals for drilling programs at Main Lode and Kangaroo Hills were received during the period which completes the approval process for all proposed drill programs at Burbanks for 2018. This includes all programs designed to test the three key exploration target areas (excluding Birthday Gift), identified in the updated Gold Strategy, at Main Lode, Burbanks North and Kangaroo Hills.

Subsequent to the reporting period, reverse circulation (RC) drilling commenced at Main Lode which will see 4,000m of RC drilling follow-up and extend upon exceptional drilling results from 2017 where a 400m long mineralised shear was delineated above the historic Main Lode Underground Gold Mine (Figure 5); the program aims to extend the 400m mineralised zone to 800m.

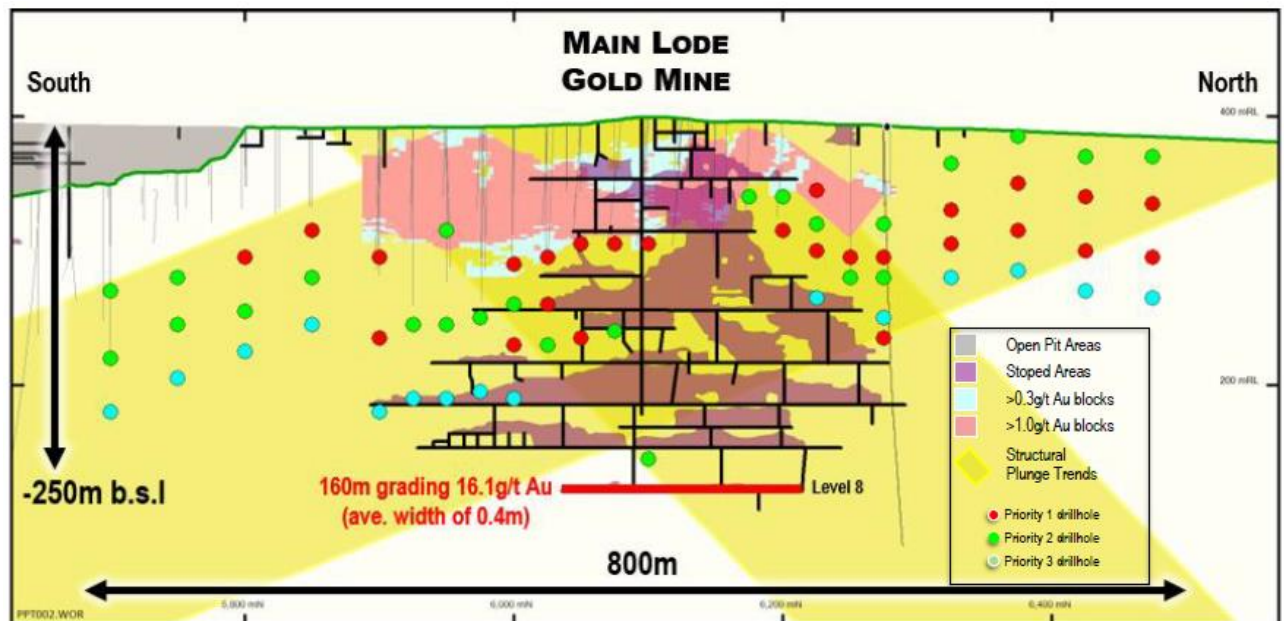


Figure 5: Drilling planned at Main Lode. Planned 4,000m are Priority 1 holes (Red Holes).

## Background of Burbanks Project

The Burbanks Project is located 9km southeast of Coolgardie, Western Australia. The Project comprises 3 tenements including M15/161 and covers the Burbanks Mining Centre and over 5km of the highly prospective Burbanks Shear Zone, the most significant gold producing structure within the Coolgardie Goldfield.

The Burbanks Mining Centre comprises the Birthday Gift Gold Mine (encompassing Lady Robinson, Christmas, Far East and Tom's Pits) and the Main Lode Gold Mine 800m to the north (Figure 2). Here, the recorded historic underground mine production (1885-1961) totalled 444,600t at 22.7g/t gold for 324,479oz predominantly from above 140m below the surface. Intermittent open pit and underground mining campaigns between the early 1980's to present day has seen total production from the Burbanks Mining Centre now exceeds 420,000oz.

The Birthday Gift Underground Mine produced 204,000t at 27.4g/t gold for ~180,000oz with peak production between 1897 and 1903. At 27.4 g/t Au, Birthday Gift represents one of the richest goldmines in the Eastern Goldfields of Western Australia.

The Main Lode Underground Mine produced 146,000t at 18.3g/t gold for ~85,900oz to a depth of 240m below surface (Level 7) between 1885 and 1914. Underground mining stopped at Level 7 due to the outbreak of World War One; Level 8, at 275m below surface, was developed but never mined. Between 1946 and 1951, Western Mining Corporation accessed Level 8 at Main Lode and undertook

extensive strike drive sampling, yielding a pay-run of 160m at 16.1g/t gold at an average width of 0.4m.

Barra originally acquired M15/161 in 2000 and established a maiden JORC 2004 Indicated and Inferred Mineral Resource at Birthday Gift of 517,000t at 4.45g/t gold for 74,000oz. Underground mining ensued at Birthday Gift where Barra produced 33,483oz in its own capacity and via tribute mining agreements with third parties.

Underground drilling at Birthday Gift (Barra, 2008) to extend resources between Level 4 (current extent of recent mine activity) and Level 7 (around 170m below Level 4) yielded excellent results including a stunning 4.69m @ 462.10g/t Au (incl. 0.21m @ 10,300g/t Au) and 5.97m @ 39.75g/t (incl. 0.5m @ 468.6g/t Au), 6.05m @ 27.07g/t Au, 3.45m @ 16.50g/t Au, 4.00m @ 9.56g/t Au and 9.11m @ 5.20g/t Au .

Like Main Lode, Level 7 at Birthday Gift was developed but never mined and strike drive sampling by Western Mining Corporation between 1946 and 1951 produced two pay runs of 30m length at 1.5m true width at 17.2g/t Au and 90m length at 1.2m true width at 13.0g/t Au. No historical mining has ever taken place at these depths. Following the economic downturn in 2008, Barra entered a tribute mining agreement with Blue Tiger Mines Pty Ltd (BTM) and mining recommenced at Birthday Gift. During the period of tribute mining between June 2009 and November 2011, BTM produced 45,700t @ 4.5g/t Au for 6,620oz. In 2013, Barra sold the mining lease to BTM for \$2M and a gold royalty with Barra retaining sole and exclusive rights to the all the area outside of a restricted zone around the Birthday Gift mine area.

Between 2014 and 2017 BTM and later Kidman Resources Limited (ASX:KDR), produced a combined 14,322oz of gold. Barra re-acquired the mining lease M15/161 in December 2017 for \$121,000 and a \$20 per ounce royalty for the next 55,000oz mined.



## Phillips Find Gold Project

(100% Barra)

### Activities

#### Drilling Programs

The Company received statutory approval for its drilling programs for the next 12-months aimed at testing the newly identified Truth Target area, about 5km northwest of the Phillips Find Mining Centre (PFMC) (Figure 6).

The recent interpretation (based on 1:10k mapping) of a complex interplay of thrust faults, folds and thick units of favourable dolerite, has elevated the Truth Target area to the highest priority structural target at Phillips Find. Over 35,000m of AC drilling has been planned and will be divided into phases of about 10,000-15,000m each. The timing of commencement of AC drilling at Truth is tentatively scheduled to commence in the second half of 2018.

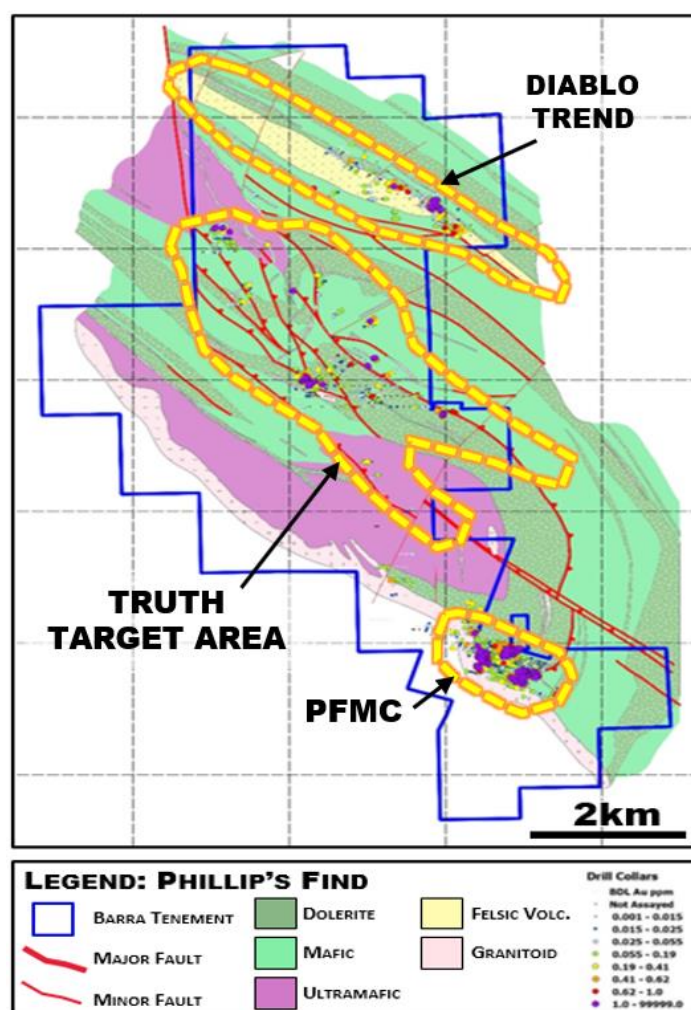
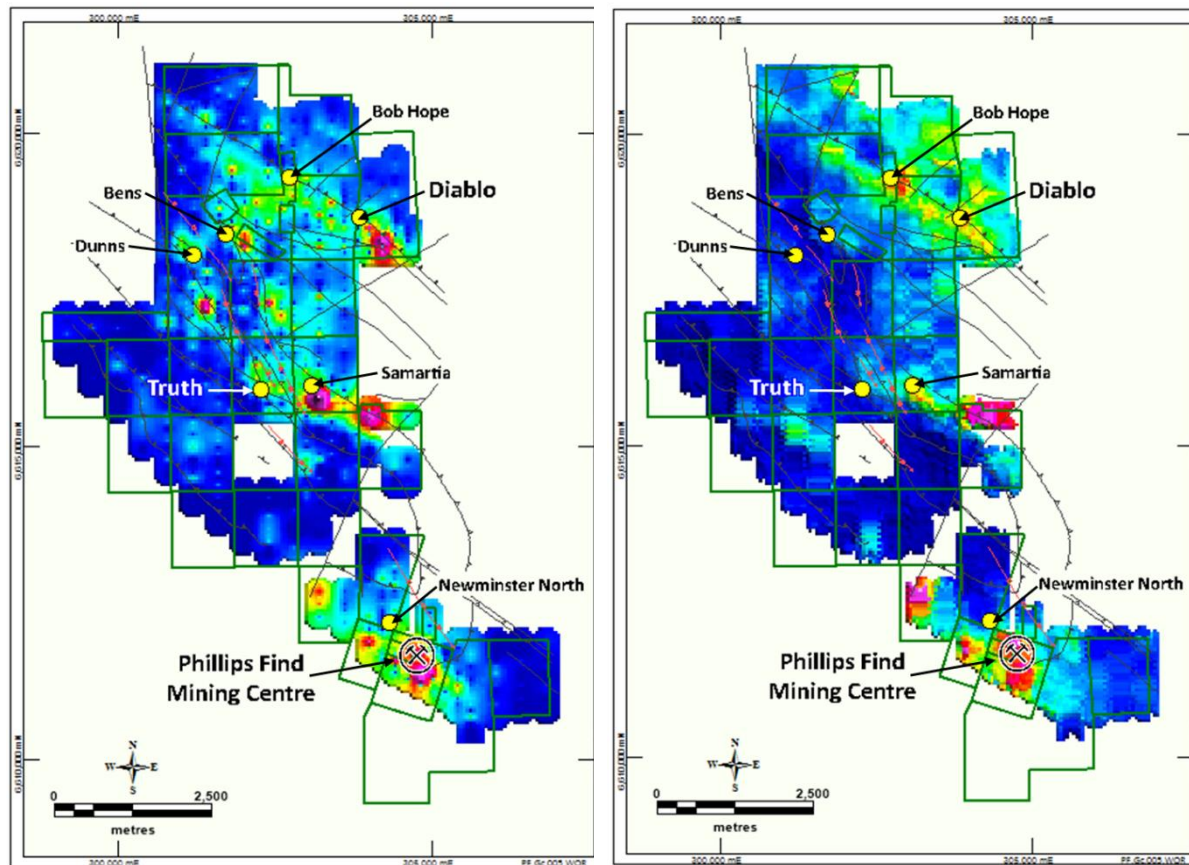


Figure 6: Phillips Find Project stratigraphic and structural interpretation, based on recent 1:10k mapping, showing key structural target areas.

#### Auger Geochemistry

Between June and October 2017, CSA Global Consultants (CSA) planned and managed a new multi-element auger calcrete geochemical sampling program over the Phillips Find Project. The final report on the results of the auger program was received during the period. The study found the economically most significant element association was gold (Au) + calcium (Ca) + arsenic (As) ± tungsten (W) which is interpreted to represent orogenic gold mineralisation in calcrete (Figure 7).



**Figure 7: Phillips Find – Main prospects and gold anomalism in new auger geochemistry (left), and gold pathfinder element suite anomaly (Au + Ca + As ± W) (right).**

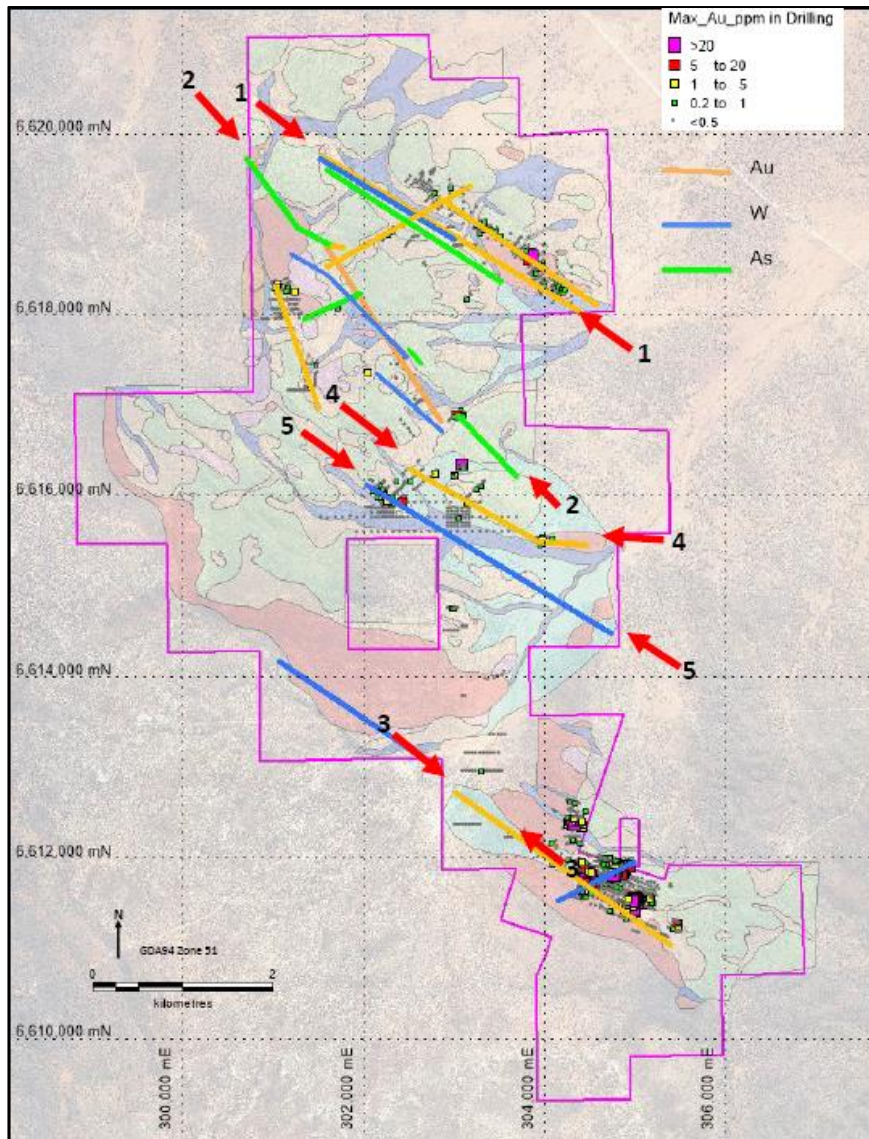
The new auger geochemical sampling program has proven to be highly successful with both gold and gold pathfinder element suite anomalism (Figure 7) showing remarkable correlation with the new mapping and structural interpretation (see Figure 6). The report identified 5 key targets (Figure 8) which the Company has prioritised and developed a gold exploration strategy for. As discussed above, the Truth Target area, due to its favourable geology and structural setting is the highest priority and is tentatively scheduled for AC drill testing during the second half of 2018.

### ***Background of Phillips Find Project***

The Phillips Find Project is centred 50km north-northwest of Coolgardie, Western Australia.

The project covers over 10 kilometres in strike of prospective greenstone stratigraphy and includes the Phillips Find Mining Centre (PFMC) where approximately 33,000oz of gold has been produced between 1998 and December 2015 from three open-pit operations; Bacchus Gift, Newhaven and Newminster. Exploration potential within the project is excellent with numerous targets defined by auger geochemical anomalism, aeromagnetic interpretation and drilling.

The most recent mining activity at the PFMC was the Newminster open-pit which was mined in two stages between January 2013 and September 2015 producing approximately 9,000oz of gold. With open-pit mining now complete at Newminster, the Company is now focussed on advancing the underground potential of the PFMC with the aim developing a viable medium to long-term underground mining operation.



**Figure 8: Phillips Find – Ranked orogenic gold targets (red arrows), from 2017 auger calcrete sampling, overlying regolith interpretation and maximum gold value (Au ppm) in drilling.**

## Tenements

The following tenement changes occurred during the quarter (see Appendix 2 for Tenement Listing at end of report):

- Phillips Find: applications for mining leases M16/557-558 were withdrawn in favour of new prospecting licence applications P16/3084-3088.

*Sean Gregory*

**SEAN GREGORY**

Managing Director & CEO

## Appendix 1

### ASX Announcements During the Quarter

Date	Announcement
11-04-18	Re-Awakening the Main Lode Gold Mine
04-04-18	Mt Thirsty Highly Leveraged to Increasing Cobalt Prices
21-03-18	New Gold Strategy to Build Burbanks Resource Inventory
15-03-18	Paydirt Battery Minerals Conference Presentation
07-03-18	Half Year Accounts
22-02-18	RIU Explorers Conference Presentation
05-02-18	New Barra CEO/Managing Director Commences
30-01-18	Quarterly Cashflow Report
30-01-18	Quarterly Activities Report

## Appendix 2

### Tenement Listing

Tenement	Project	Location	Change in Interest (%) during Quarter		
			End of Quarter	Acquired	Disposed
M15/161	Burbanks	WA	100		
P15/5249		WA	100		
P15/5412		WA	100		
E63/1267	Mt Thirsty	WA	50		
E63/1790		WA	50		
P16/2045		WA	50		
R63/4		WA	50		



Tenement	Project	Location	Change in Interest (%) during Quarter		
			End of Quarter	Acquired	Disposed
M16/130	Phillips Find	WA	100		
M16/133		WA	100		
M16/168		WA	100		
M16/171		WA	100		
M16/242		WA	100		
M16/258		WA	100		
M16/550		WA	100		
P16/2702		WA	100		
P16/2785		WA	100		
P16/2786		WA	100		
P16/2985		WA	100		
P16/2986		WA	100		
P16/2987		WA	100		
P16/2988		WA	100		
P16/2989		WA	100		
P16/2990		WA	100		
P16/2991		WA	100		
P16/2992		WA	100		
P16/2993		WA	100		
P16/2994		WA	100		
P16/2995		WA	100		
P16/2998		WA	100		
P16/2999		WA	100		
P16/3037		WA	100		
P16/3038		WA	100		
P16/3039		WA	100		
P16/3040		WA	100		
P16/3041		WA	100		
P16/3042		WA	100		
P16/3043		WA	100		

## Appendix 3

JORC Table 1 - Provided to ensure compliance with the JORC code (2012 edition) for the reporting of Exploration Results.

### Phillips Find Project – Auger Geochemical Sampling

#### Section 1 – Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>• <i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</i></li> <li>• <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li>• <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li>• <i>In cases where ‘industry standard’ work has been done this would be relatively simple (e.g. ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Samples were collected using an auger drill rig from between 0.1 and 2.0m depth.</li> <li>• All holes attempted to get through transported regolith to in-situ material where possible.</li> <li>• Samples were taken from the carbonate horizon, determined by applying hydrochloric acid. Sample with highest ‘fizz’ is sampled.</li> <li>• 200 grams of un-sieved material was collected and placed in paper sample bags, sealed, number then sent to laboratory for analysis</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>• <i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</i></li> </ul>	<ul style="list-style-type: none"> <li>• 3” auger sampling rig was used. Holes are drilled vertically from 0.1 to 2.0m</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>• <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li>• <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li>• <i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>• <i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i></li> <li>• <i>The total length and percentage of the relevant</i></li> </ul>	<ul style="list-style-type: none"> <li>• A short field description of each sample is taken and includes: Regolith description, lithology, depth of sample, colour and fizz (acid reaction – weak, moderate, strong)</li> <li>• Logging is both qualitative and quantitative in nature depending on the field being logged.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<i>intersections logged.</i>	
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No sub-sampling or other special treatment of the sample was conducted.</li> <li>• The whole sample was pulverised in a vibrating disc pulveriser at the laboratory.</li> <li>• No field duplicates were taken.</li> <li>• The sample size is considered appropriate for the type and style of mineralisation.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li>• <i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The samples were digested with Aqua Regia. This is a partial digest though it is extremely efficient for extraction of Gold. Easily digested elements show good recoveries however others (particularly the refractory oxides and silicates) are poorly extracted.</li> <li>• Laboratory QA/QC controls were implemented during the analysis process including duplicates for reproducibility, blank samples for contamination and standards for bias.</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All results were assessed by CSA Global Consultants who follow an internal peer review procedure.</li> <li>• Results are also reviewed, verified and signed off by the Exploration Manager for Barra Resources who is also a Competent Person.</li> <li>• Logging information and originally assay data is sent the company's consultant database administrator (RoreData) for database entry and a validation process. Sampling, location, and laboratory assay data is captured electronically and also sent to RoreData. All original data is stored and backed-up by Barra. The official database is stored by RoreData, a copy of which is uploaded to Barra's server for geologists use. Uploaded data is reviewed and verified by the geologist responsible for the data collection.</li> <li>• No adjustments or calibrations were</li> </ul>

Criteria	JORC Code explanation	Commentary
		made to any assay data reported.
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>• Sample positions are located using a handheld navigational GPS (NGPS) unit with a nominal accuracy of +/- 3m for northing an easting.</li> <li>• All samples were located using the GDA94, MGA Zone 51 grid system.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>• Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>• Samples were collected at spacings of either 400m x 100m or 200m x 100m depending upon a geological and structural mapping data.</li> <li>• The sample spacing is appropriate at this stage of the exploration process.</li> <li>• No sample compositing has been applied.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>• Samples for analysis were tagged and recorded instantly and delivered to the laboratory at the end of each day.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>• No audits or reviews have been conducted on sampling techniques and data at this stage.</li> </ul>

## SECTION 2 – REPORTING OF EXPLORATION RESULTS

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>• The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>• The Phillips Find Project is located about 45km NNE of Coolgardie, WA, and includes all tenements listed in the Tenement List in Appendix 2.</li> <li>• The tenements are all in good standing.</li> <li>• The Phillips Find Mining Centre is located at the south end of the main project area where ~33,000oz of gold has been produced from three pits.</li> <li>• There is a \$3/tonne of ore Royalty on M16/130 capped at 0.5M tonnes of ore, a \$10/oz Royalty on M16/130, 168, 242, 258 and M16/550 on all gold produced after 40koz and capped at \$1M, and \$5/oz produced from M16/171 capped at \$300k.</li> <li>• The Phillips Find Project is covered by a Native Title claim held by Maduwonga.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Gold was first discovered at the Phillips Find Mining Centre (Newminster, Newhaven and Bacchus Gift Deposits) in the 1890's but it wasn't until the 1930's that small mining occurred at Newminster and Newhaven. The most recent small scale mining at Newminster was conducted by Mr D Radisich during the 1970's. Systematic exploration commenced in the 1980's with RAB and RC drilling conducted by Coolgardie Gold NL, Central Kalgoorlie Gold Mines NL (CKGM), Archaean Gold NL, Lachlan Resources NL and Barmenco Pty Ltd.</li> <li>Barmenco estimated a geological resource for Newminster in 1999.</li> <li>Barra Resources Ltd acquired the Newminster Deposit (Phillips Find Project) from Barmenco in 2000. In 2008 Barra drilled 3 diamond holes at Newminster to better understand that structural geometry of mineralisation. It wasn't until 2011, after a very successful RC drilling that a maiden JORC 2004 compliant resource was established and a commitment to an open pit mining operation was made.</li> <li>The Newminster Deposit was mined in 2 stages to a final depth of -65m between January 2013 and September 2015 subject to a 'Right-to-Mine' agreement with Blue Tiger Mining Pty Ltd.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The Phillips Find Project covers an area along the contact between Coolgardie and Kalgoorlie domains. The boundary between the two domains is marked by the regional scale Kunanalling Shear. The Phillips Find Mining Centre is located on a major geosynclinal fold hinge comprising a sequence of interflow sediments, basalt, dolerite and ultramafic rocks abutting the Dunnsville-Doyle Granodiorite.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>No drilling has been conducted</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate plans have been included in the body of this report.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>Contouring provides an appropriate representation of the results.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>All meaningful and material information is reported.</li> <li>Auger geochemical results should be viewed in the context of the geological and structural setting.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Further work</b>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>Further work is planned and includes wide spread air core drilling to test anomalies and trends identified from the geochemical survey.</li> <li>Proposed drilling is discussed in this report.</li> </ul>

## Disclaimer

*The interpretations and conclusions reached in this report are based on current geological theory and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for complete certainty. Any economic decisions that might be taken based on interpretations or conclusions contained in this report will therefore carry an element of risk.*

*This report contains forward-looking statements that involve a number of risks and uncertainties. These forward-looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this report. No obligation is assumed to update forward-looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.*

## Competent Persons Statements

*The information in the 2011 report relating to the Mt Thirsty Mineral Resource Update is based on information compiled by Alan Miller, who at the time was a full time employee of Golder Associates Pty Ltd and a member of the Australasian Institute of Mining and Metallurgy. Alan Miller has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has undertaken 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 prepared by the Joint Ore Resources Committee, the Australian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and the Mineral Council of Australia." Alan Miller consented to the inclusion in the 2011 report of the matters based on this information in the form and context in which it appears.*

*The information in this report which relates to Exploration Targets, Exploration Results and Mineral Resources for the Phillips Find and Burbanks Projects is based on and fairly represents information compiled by Mr Gary Harvey who is a Member of the Australian Institute of Geoscientists and a full-time employee of Barra Resources Ltd. Mr Harvey has sufficient experience which is 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" (the JORC Code). Mr Harvey consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

## Endnotes

<sup>i</sup> Refer ASX:BAR Announcement 5/10/2017 for details of the Scoping Study including cautionary statements. The Scoping Study referred to in this report is based on low-level technical and economic assessments and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised. Cobalt price is one of many key sensitivities to the project. Other sensitivities including but not limited to nickel price, foreign exchange, land access, capital cost, availability of funding, operating cost, metal recoveries and resource inventory also present risks and opportunities to the economics of the project. The Scoping Study is based on an Inferred and Indicated JORC 2004 Mineral Resource. Further work is required during the Pre-Feasibility Study to move this through higher Mineral Resource and Ore Reserve categories under JORC 2012. Investors should form their own view on long-term cobalt prices. Given the uncertainties involved, investors should not make any investment decisions based solely around the outcomes of the Scoping Study or this sensitivity analysis.

<sup>ii</sup> The Mt Thirsty Mineral Resource was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported, refer ASX Announcement 8th March 2011: "Resource Upgrade".

<sup>iii</sup> Refer ASX:BAR announcement 19th May 2010: "High Grades Intersected at Mt Thirsty".

<sup>iv</sup> Refer to ASX:BAR release dated 21 March 2018 for full details of the initial Burbanks Exploration Target

<sup>v</sup> The information in this release that relates to the Birthday Gift Exploration Target has been extracted from Kidman Resources Limited's ASX:KDR Release dated 25/08/2015 "Initial 99,000oz Resource for Burbanks gold mine in WA", available to view at [www.kidmanresources.com.au](http://www.kidmanresources.com.au). The Company is not aware of any new information or data that materially affects the information included in the previous reports and that all the previous assumptions and technical parameters underpinning the estimates in Kidman's ASX Release dated 25/08/2015, have not materially changed.

<sup>vi</sup> For full details of the Birthday Gift Mineral Resource, refer to ASX:KDR's 2016 Annual Report