



# ASX QUARTERLY REPORT

## QUARTER ENDING 31 MARCH 2020

### ASX ANNOUNCEMENT

30<sup>th</sup> April 2020

### BARRA RESOURCES LIMITED

A.B.N. 76 093 396 859

### Corporate Details (Mar 31):

ASX Code: BAR  
Market Cap: \$8.4M  
@ 1.4c  
Cash: \$637,000

### Issued Capital:

596.5M Ordinary Shares  
38M Options

### Substantial Shareholders:

FMR Investments 14.0%  
Mineral Resources Ltd 9.6%

### 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  
T: (08) 9481 3911

### MT THIRSTY COBALT NICKEL PROJECT

- Mt Thirsty now assumes the mantle of Australia's most advanced genuine cobalt project with a completed Pre-Feasibility Study (PFS)
- Hydrometallurgical process is at atmospheric pressure and 70-90°C utilising sulphur dioxide (SO<sub>2</sub>) as the main reagent
- Maiden JORC 2012 Probable Ore Reserve of 18.8 Mdt at 0.13% cobalt and 0.54% nickel estimated for the project
- Positive economics returned over a 12 year mine life with a pre-tax NPV of A\$44.4M (A\$25.7M post-tax)
- Capital Expenditure of A\$371M including 10% indirects, 9% growth allowance, 4% owner's costs, and 10% contingency
- All in Sustaining Costs of US\$35,400/t contained cobalt
- The direct project expenditure for the MTJV now reverts to a minimum while the partnering strategy for the project is pursued as planned

### BURBANKS GOLD PROJECTS

- Subsequent to the end of the quarter, Barra entered into an exploration and mining joint venture with mining and processing company, FMR Investments Pty Ltd (FMR)
- This agreement provides a platform for Barra to unlock the potential at Burbanks on a zero risk basis with FMR funding initial drilling and mining costs with profits going into a future fund for exploration drilling
- With access to mills in the Eastern Goldfields becoming increasingly scarce, the ability to utilise FMR's 100% owned nearby Greenfields Mill is considered a significant opportunity to monetise ore from Burbanks at current gold price highs.

### PHILLIPS FIND GOLD PROJECT

- Barra is also investigating the potential for small scale tribute mining at the Phillips Find Mining Centre.

### CORPORATE

- In response to contracting global financial markets, cash outflows have been substantially cut including a reduction in staff and office expenses
- Managing Director and CEO, Sean Gregory, is transitioning to a Non-Executive Director role effective 24 June 2020
- All Non-Executive Directors are working for nil fees
- Barra's loan to Conico of up to \$500,000 to facilitate completion of PFS has been drawn to a balance of \$332,000 as at end of quarter
- As at the end of the quarter, Barra has \$637,000 in cash



Figure 1: Barra Project Location Plan

## MT THIRSTY COBALT NICKEL PROJECT

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

The Mt Thirsty Cobalt Project is located 16km north-northwest of Norseman, Western Australia (Figure 1).

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.

The Pre-Feasibility Study (PFS) for the project was completed and announced to the ASX on 20 February 2020.

The PFS is based on the 26.9 Mdt @ 0.117% cobalt and 0.52% nickel Indicated and Inferred Mineral Resource (Table 1) and allowed a Maiden Probable Ore Reserve of 18.8 Mdt @ 0.126% cobalt and 0.54% nickel to be estimated. (Table 2).

For personal use only

Table 1 - 2019 Mineral Resource estimates (all grades reported on a dry basis)

Mineral Resource	Cut-off (Co%)	Wet Tonnes (Mt)	Moisture (% wet t)	Dry Tonnes (Mt)	Co (%)	Ni (%)	Mn (%)	Fe (%)
<b>Mt Thirsty Main Indicated</b>	0.06	31.2	27%	22.8	0.121	0.53	0.79	21.3
<b>Mt Thirsty Main Inferred</b>	0.06	3.5	27%	2.5	0.103	0.45	0.66	19.1
<b>Mt Thirsty Main Sub Total</b>	0.06	34.7	27%	25.4	0.119	0.52	0.77	21.1
<b>Mt Thirsty North Inferred</b>	0.06	2.0	27%	1.5	0.092	0.55	0.48	19.4
<b>Total</b>	0.06	36.7	27%	26.9	0.117	0.52	0.76	20.9

Table 2 - Mt Thirsty Ore Reserve estimate

Mineral Resource	Cut-off (Co%)	Wet Tonnes (Mwt)	Moisture (% wet t)	Dry Tonnes (Mdt)	Co (%)	Ni (%)	Mn (%)	Fe (%)
<b>Mt Thirsty Probable</b>	Approx. 0.07% Co (Variable)	25.9	27%	18.8	0.126	0.54	0.80	21.6

Refer to ASX Announcements 9/9/2019 for full details of the Mineral Resource and 20/2/2020 for full details of the Ore Reserve.

The PFS has assumed a water supply of 1.8 GLpa of hyper saline (4 times seawater) from the paleochannel aquifers for process water supplemented by 0.2 GLpa of saline water (1 times seawater) to be treated by reverse osmosis for the potable and demineralised water requirements for the Project. A \$170,000 investigative drilling program has been prepared with program of work approvals in place. This will form a key part of future studies on the Project.

Metallurgical testwork on the project included beneficiation studies (the base case selected whole ore leaching in preference to beneficiation), 71 leaching tests (including 7 at the bulk 20 dry kg scale), and testwork to demonstrate each of the proposed process engineering steps. The testwork was based on representative sample composites from 2016 Reverse Circulation and 2018 Air Core drilling campaigns.

Mining will be by conventional open pit methods using 200t hydraulic excavators and 150t off-road trucks. Most of the ore will be free dig with an allowance for drill and blast in the laterite cap rock. 14 pit stages based on whittle optimisations have been scheduled over a 12 year mine life. 18.8 Mdt of Ore Reserves plus an additional 1.0 Mdt of Inferred Mineral Resources at Mt Thirsty and 0.8Mdt of Inferred Mineral Resources have been scheduled at a 1.8Mdtpa Ore feed rate and a 2.4:1 waste:ore strip ratio.

The ore feed will pass through a static grizzly into a mineral sizer, prior to wet scrubbing in an open circuit SAG mill and then closed circuit grinding in a ball mill to meet a -53um leach feed specification. The ball mill cyclone overflow is thickened to 40% solids (in hypersaline process water) and leached at 70-90°C at atmospheric pressure using SO<sub>2</sub> and air. Sulphur will be imported and burnt in air to make sulphur dioxide that will be diluted with compressed air and sparged into the leach tanks at varying concentrations. The leached slurry will be primary neutralised with limestone and treated by counter current decantation before secondary neutralisation using limestone. The cobalt and nickel in the neutralised solution is recovered by mixed sulphide precipitation using NaHS and NaOH prior to filtering and product bagging. Manganese precipitation using sulphur dioxide and tailings neutralisation with limestone and lime complete the process (Figure 2 and Figure 3).

For personal use only

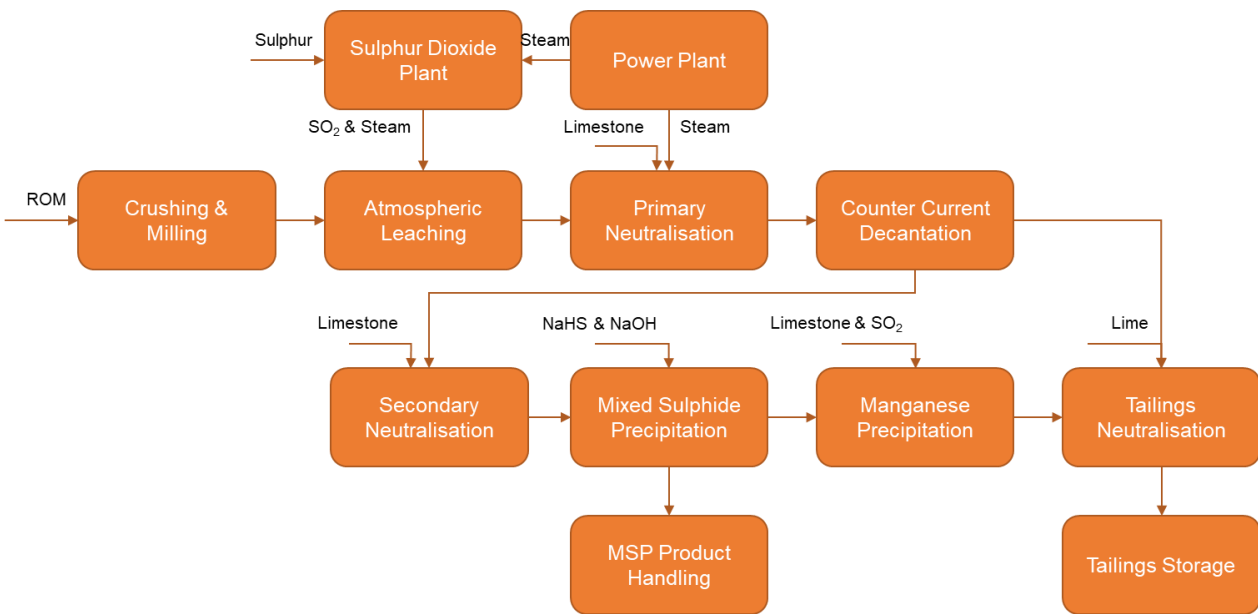


Figure 2 - Schematic Process Flowsheet for Mt Thirsty



Figure 3 - 3D isometric of the Mt Thirsty processing plant showing generalised process flow (numbered labels)

Tailings will be stored on site in a dedicated single cell tailings dam constructed using the downstream stacking method from mine waste and engineered rock fill in accordance with stringent regulatory guidelines and approvals.

The Project is fortunate to be located only 16km north-west of Norseman and only 4km from the Coolgardie-Esperance Highway (part of the Trans-Australia Highway 1) (Figure 1). This infrastructure corridor includes road, rail, gas, water, fibre optic infrastructure, some of which will be useful to the Project. Power and steam will be generated on site.

For personal use only

A workforce of up to 300 both during construction and operations will be accommodated in existing and proposed camps in the nearby towns of Norseman and Kambalda with a combination of residential, fly-in fly-out and drive-in-drive-out workers.

A reconnaissance flora and fauna survey was conducted by Spectrum Ecology at Mt Thirsty in spring 2018. The survey did not identify any rare plants or animals. Plants listed as priority flora were however identified and Mallee Fowl are known in the area. As such, a targeted flora and Mallee Fowl search was conducted over the tenements in spring 2019. No evidence of Mallee Fowl were found. Seven priority flora species were recorded. Approvals under the *Environmental Protection Act 1986*, *Environmental Protection Act 1986*, and *Mining Act 1978* should be able to be completed within 6 months.

The capital cost estimate for the project is A\$370.7M +/- 25% including 10% contingency on direct and indirect costs, 9% growth allowance and 4% owner's costs.

The operating cost estimate is \$65.32 per dry tonne at the process design criteria grades, but will vary over the life of mine with reagent consumption tied to feed grades. The All-In Sustaining Cost is A\$35,400 per tonne of contained cobalt metal after adjusting for Nickel credits and payability discounts.

The financial analysis returned the following results:

- Life of Mine Revenue after Royalties \$1,848M (71% from Cobalt and 29% from Nickel)
- Life of Mine Operating Costs \$1,233M
- Life of Mine Cumulative Net Cash Flow \$213M
- Pre Tax NPV \$44.4M
- Post Tax NPV \$25.7M

### **Next Steps**

Native Title negotiations are continuing with the Ngadju Traditional Owners and no impediments to an agreement are anticipated.

The Mt Thirsty Joint Venture (MTJV) has identified the highest value development path to be a farm-in from a large global firm, eager to secure a guaranteed sustainable source of cobalt. The MTJV is now re-engaging with several major Australian and international mining, trading and refining firms who have all identified a high quality PFS as their minimum investment criteria.

The direct Project expenditure for the MTJV now reverts to a minimum while the partnering strategy is pursued as planned.

## BURBANKS GOLD PROJECT

(100% Barra)

### ACTIVITIES

Barra's 100% owned Burbanks Gold Project is located just 9 km south of Coolgardie in Western Australia (Figure 4).

The Burbanks Mining Centre comprises the Birthday Gift and Main Lode Gold Mines (Figures 1 & 2). The recorded historic underground production at Burbanks (1885-1961) totalled 444,600t at 22.7 g/t Au 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 exceed 420,000oz.

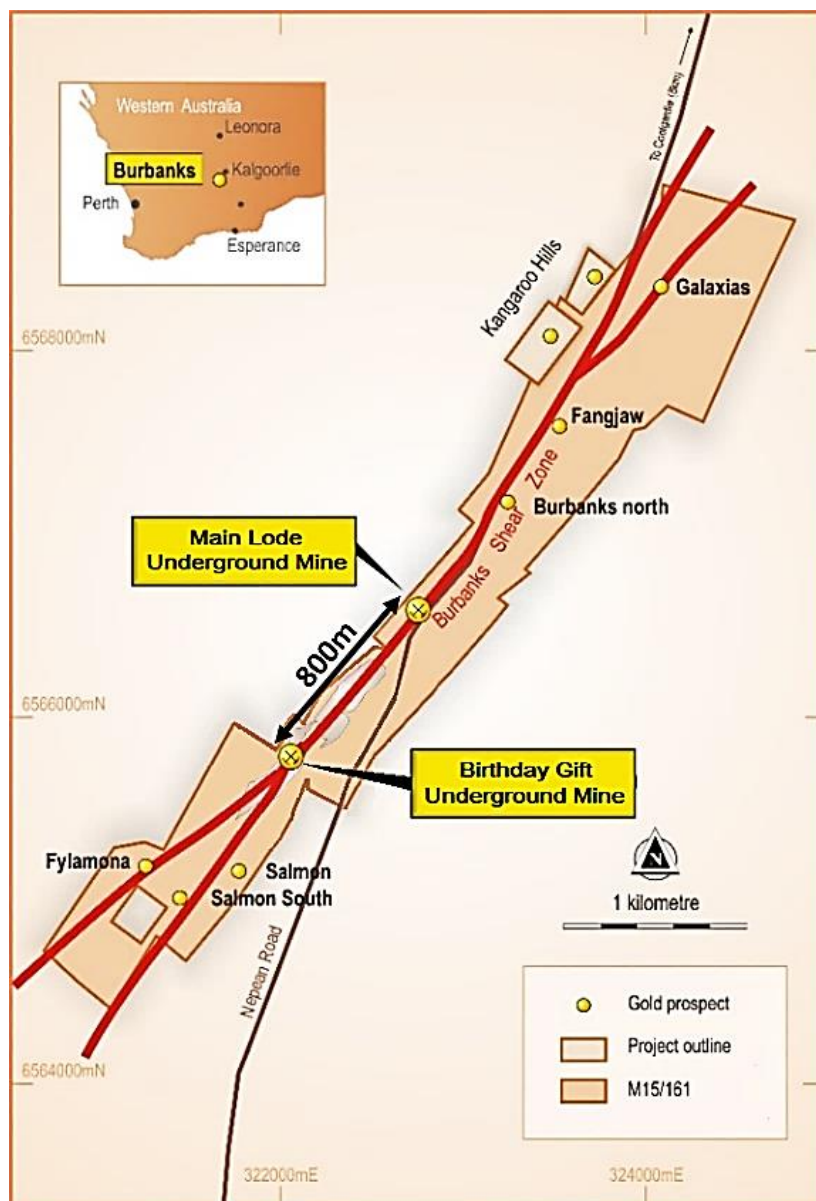


Figure 4 - Burbanks Location Plan

For personal use only

## Drilling and Mineral Resources

No drilling operations were conducted during the quarter.

JORC 2012 compliant Mineral Resource are estimated as 145,700 ounces of gold at Burbanks (Table 3).

Deposit	Cut-Off g/t Au	Indicated			Inferred			Total			Refer ASX: BAR
		kt	Grade g/t Au	Ounces	kt	Grade g/t Au	Ounces	kt	Grade g/t Au	Ounces	
Christmas Open Pit	1.0	5.7	6.2	1,100	4.0	7.8	1,050	9.7	6.9	2,150	23/9/19
Birthday Gift Underground Mine	2.5	180	6.0	34,750	325	5.6	58,500	505	5.7	93,250	23/9/19
Main Lode Deposit	1.0	106	2.8	9,700	254	2.5	20,200	360	2.6	29,900	30/10/18
Burbanks North	1.0				360	1.8	20,400	360	1.8	20,400	2/8/19
<b>Total</b>	<b>1.0/2.5</b>	<b>291</b>	<b>4.9</b>	<b>45,550</b>	<b>943</b>	<b>3.3</b>	<b>100,150</b>	<b>1235</b>	<b>3.7</b>	<b>145,700</b>	
All tonnages reported are dry metric tonnes. Minor discrepancies may occur due to rounding to appropriate figures. For full details of the Mineral Resources refer to ASX announcements as tabulated.											

Table 3 - Burbanks Global Mineral Resources

## Exploration and Mining JV

Subsequent to the end of the quarter, Barra Resources Limited ("Barra") entered into an exploration and mining joint venture at the Burbanks Gold Project with mining and processing company, FMR Investments Pty Ltd ("FMR").

This agreement provides a platform for Barra to unlock the potential at Burbanks on a zero risk basis with FMR funding initial drilling and mining costs at the shallower Mainlode deposit, with profits going into a future fund for deep exploration drilling below historical workings and where high grade mineralisation is known to continue. Should Barra wish, it has the ability to increase its interest at mining stages by funding in excess of its 20% free carried position to a maximum of 50%.

With access to mills in the Eastern Goldfields becoming increasing scarce, the ability to utilise FMR's 100% owned nearby Greenfields Mill is considered a significant opportunity to monetise ore from Burbanks at current gold price highs.

The key terms of the agreement are as follows:

- The agreement initially considers mining the Burbanks North deposit to a depth of up to 35m and the Main Lode South deposit to a depth of up to 75m depth ("Initial Licence Areas").
- FMR will be responsible for funding the grade control drilling in the Initial Licence Area as an allowable deduction from future profits.
- If FMR elect to proceed with mining in the Initial Licence Area, they then carry all mining and financial risks.
- Processing is to be conducted at FMR's nearby Greenfields mill.
- The first \$8 million dollars in net profits from the Initial Licence Area is to be set aside in a "Future Fund" trust for exploration at Burbanks at depth and along strike.
- Any additional profits to be distributed 80/20 with Barra having a 20% free carried interest.
- A Burbanks Consultation Committee will be formed with equal representation from the parties to consider Future Fund exploration programs and "Future Mine Plans".
- If the Burbanks Consultation Committee recommends Future Mine Plans, FMR may elect to proceed within 90 days.

For personal use only

- Within 30 days, Barra may elect to increase its interest from 20% free carried to 50% by contributing up to 50% of the mining and exploration costs and in turn, earn up to 50% of the revenue and profits from Future Mine Plans.
- If FMR elect not to proceed with a Future Mine Plan, Barra may assume 100% risk and reward and commence the Future Mine Plan independently.
- The term of the agreement is for 3 years, with FMR also having the option to extend for a further 3 years.

Drilling will commence immediately with approximately 1,800m of grade control Reverse Circulation (RC) drilling at Burbanks North and Main Lode. Mining Proposals for Burbanks North and Main Lode are in advance preparation and will shortly be lodged with the WA Mines Department for approval.

## PHILLIPS FIND GOLD PROJECT

(100% Barra)

### ACTIVITIES

Barra's 100% owned Phillips Find Gold Project is located 50km north 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 was produced between 1998 and 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, mapping and drilling.

Barra is also investigating the potential for small scale tribute mining at the Phillips Find Mining Centre.



## CORPORATE

In response to the unprecedented global financial markets disruption caused by the still spreading COVID 19, Barra's Board of Directors has undertaken a comprehensive business review to ensure the long-term viability of the Company and to protect value for its many loyal shareholders.

Overheads have been cut wherever possible, staff numbers and costs have been reduced and business partnering opportunities to generate low risk capital returns are currently being pursued.

Managing Director and Chief Executive Officer, Sean Gregory, was originally employed to drive the Mount Thirsty Joint Venture to the Pre-Feasibility Stage (PFS) for the development of the Mt Thirsty Cobalt Nickel Project. This task has now been completed to a world-class standard and the project is currently being marketed to a variety of large international companies in order to fund next stages of development.

Sean will serve out his 3-month notice period and depart his executive role on 24 June 2020. However, Sean will remain with the Company as a Non-Executive Director where his knowledge and insight of our projects will be greatly valued.

Barra's long-standing Exploration Manager, Gary Harvey, will continue to oversee Barra's advanced gold portfolio located in the Eastern Goldfields. The Company's focus will now shift to exploiting and developing the gold assets plus actively pursuing new gold business opportunities.

The experienced non-executive board will oversee the corporate management responsibilities, ASX reporting and shareholder communications.

In deference to preserving cash reserves, all Non-Executive Directors worked for half fees from December to March and are now working for nil fees from April and for the foreseeable future. The Board is very sensitive to defer any dilutive capital raisings at depressed levels.

Barra's loan to Conico of up to \$500,000 to facilitate completion of PFS has been drawn to a balance of \$332,000 as at end of quarter.

As at the end of the quarter, Barra has \$637,000 in cash.

**Note 6 to Appendix 5B:**

Payments to related parties of the entity and their associates: during the quarter totalling \$104,000 was paid to Directors and associates for salaries, superannuation, and consulting fees.

A handwritten signature in blue ink, appearing to read 'Sean Gregory'.

---

**SEAN GREGORY**

Managing Director & CEO

Please refer to our website for background information on each of Barra's projects.

## 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

Project and Discipline	JORC Section	Competent Person	Employer	Professional Membership
Coolgardie Gold Projects Geology	Exploration Results and Mineral Resources	Gary Harvey	Barra Resources Ltd	MAIG
Birthday Gift and Christmas Pit Resource Estimation	Mineral Resources	Richard Buerger	Mining Plus Pty Ltd	MAIG
Main Lode and Burbanks North Resource Estimation	Mineral Resources	Andrew Bewsher	BM Geological Services Pty Ltd	MAIG
Mt Thirsty Geology	Exploration Results and Mineral Resources	Michael J Glasson	Tasman Resources Ltd; Consultant to MTJV; holds shares in Conico Ltd	MAIG
Mt Thirsty Resource Estimation	Mineral Resources	David Reid	Golder Associates Pty Ltd	MAusIMM
Mt Thirsty Metallurgy	Exploration Results and Ore Reserves	Peter Nofal	AMEC Foster Wheeler Pty Ltd trading as Wood	FAusIMM
Mt Thirsty Mining	Ore Reserves	Frank Blanchfield	Snowden Mining Industry Consultants Pty Ltd	FAusIMM

*The information in this report that relates to Exploration Results, Mineral Resources and Ore Reserves for the Mt Thirsty Cobalt-Nickel Project and Coolgardie Gold Projects is based on and fairly represents information compiled by the Competent Persons listed in the table above. The Competent Persons have sufficient relevant experience to the style of mineralisation and type of deposits under consideration and to the activity for which they are undertaking to qualify as a Competent Person as defined in the JORC Code (2012 Edition). For new information, the Competent Persons consent to the inclusion in the report of the matters based on their information in the form and context in which it appears. Previously announced information is cross referenced to the original announcements. In these cases, the company is not aware of any new information or data that materially affects the information presented and that the material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified from the original market announcements.*

## APPENDIX 1 - ASX ANNOUNCEMENTS DURING THE QUARTER

Date	Announcement
28 January 2020	<a href="#"><u>Quarterly Activities Report for the Quarter Ending 31 December 2019</u></a>
20 February 2020	<a href="#"><u>Positive Mt Thirsty PFS to provide 'First World' security of cobalt supply</u></a>
20 February 2020	<a href="#"><u>RIU Explorers Conference Presentation</u></a>
13 March 2020	<a href="#"><u>HY Accounts 31 December 2019</u></a>
25 March 2020	<a href="#"><u>Business Update</u></a>

## APPENDIX 2 – TENEMENT LISTING

Tenement	Project	Location	Change in Interest (%) during Quarter		
			End of Quarter	Acquired	Disposed
E63/1267	Mt Thirsty	WA	50		
E63/1790		WA	50		
P16/2045		WA	50		
R63/4		WA	50		
M15/161	Burbanks	WA	100		
P15/5249		WA	100		
P15/5412		WA	100		
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		
P16/2998		WA	100		
P16/2999		WA	100		
P16/3037	WA	100			
P16/3038	WA	100			
P16/3039	WA	100			

Tenement	Project	Location	Change in Interest (%) during Quarter		
			End of Quarter	Acquired	Disposed
P16/3040		WA	100		
P16/3041		WA	100		
P16/3042		WA	100		
P16/3043		WA	100		
P16/3084		WA	85		
P16/3085		WA	85		
P16/3086		WA	85		
P16/3087		WA	85		
P16/3088		WA	100	100	

For personal use only