

## KEY MESSAGES



#### Mt Thirsty pre-feasibility study underway

- Advanced, high grade, low capex, undervalued cobalt-nickel project
- Strategic interest from tier-one firms seeking to secure supply

## Dual commodity strategy in play with Coolgardie gold projects

- Burbanks historical underground mines
- Phillips Find historical open pit mines
- Ongoing drilling campaigns in 2019

Projects all located in WA's stable and ethical goldfields



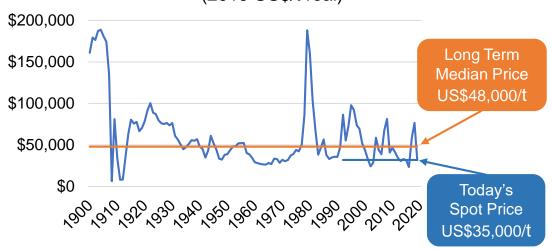


# COMMODITY PRICES SET TO RISE

- Cobalt prices at historical low in real terms
- Nickel warehouse levels have halved in last year
- Demand growth and supply constraints ahead

Mt Thirsty Commodity Mix							
Approx.	Co (%)	Ni(%)					
By Volume	50	50					
By Value	80	20					

## Long Term Cobalt Price<sup>1</sup> (2019 US\$/t real)

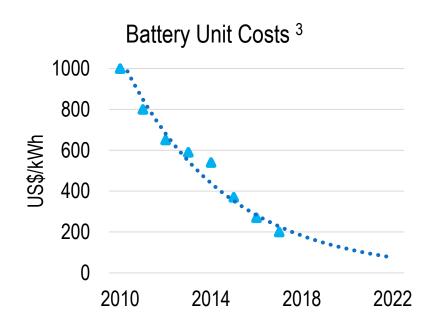


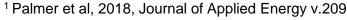


## ELECTRIC VEHICLES TECHNOLOGY DEVELOPMENT

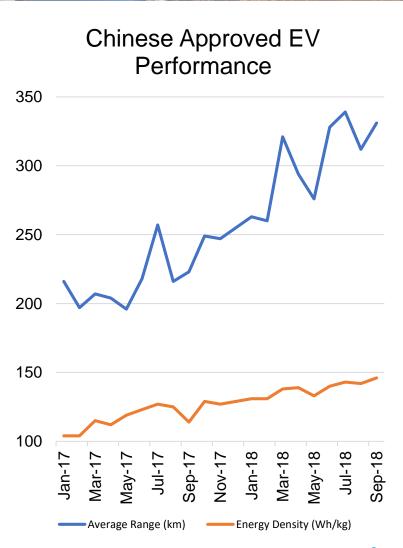


 Evs are already cheaper than petrol vehicles in USA, UK & Japan on a total cost of ownership basis and after subsidies<sup>1</sup>





<sup>&</sup>lt;sup>2</sup> Electric Vehicle Council



<sup>&</sup>lt;sup>3</sup> Bloomberg

<sup>&</sup>lt;sup>4</sup> Galaxy Resources

## ELECTRIC VEHICLES CHINA LEADING THE WAY



- China is the biggest and fastest growing car market
- Government mandated 12% EVs by 2020
- Brand names unfamiliar in western markets











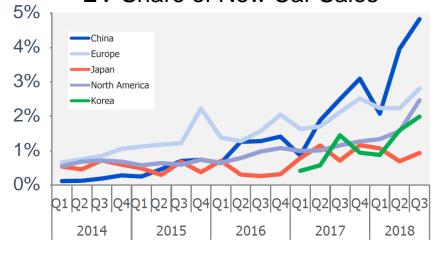








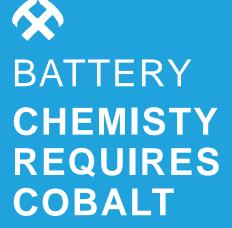
#### EV Share of New Car Sales<sup>1</sup>



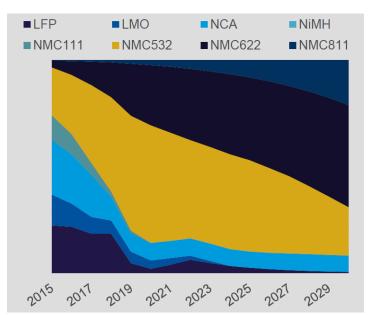
<sup>2017</sup> All Car Sales (millions)<sup>2</sup> 30 25 20 15 10 5 Russia Australia France Canada Japan India Brazil Italy Germany ndonesia

<sup>&</sup>lt;sup>1</sup> Bloomberg

<sup>&</sup>lt;sup>2</sup> Jato



- Cobalt shortage will necessitate thrifting to lower cobalt cathode chemistries
- Cobalt remains essential for thermal stability and energy density
- New technology adoption is slow (5-10 years)



LFP

Lithium Iron Phosphate

LMO

Lithium Manganese Oxide

NCA

Nickel-Cobalt-Aluminum

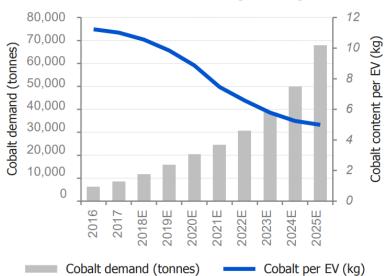
**NMC** 

Nickel-Manganese-Cobalt (numbers denote relative proportions)

**NiMH** 

Nickel-Metal-Hydride

#### **EV Cobalt Demand (Tonnes)**



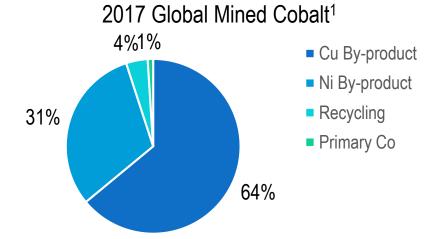
Source: CRU, Cobalt 27

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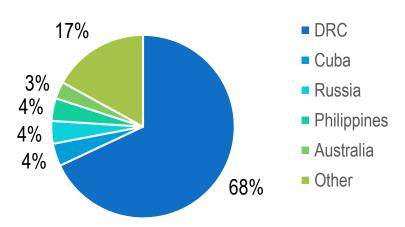


## COBALT SUPPLY SCARCE

- 99% of cobalt is mined as a by-product
- HPAL capital cost is a barrier to entry for others
- Sustainability and Security of Supply Concerns for DRC Supply





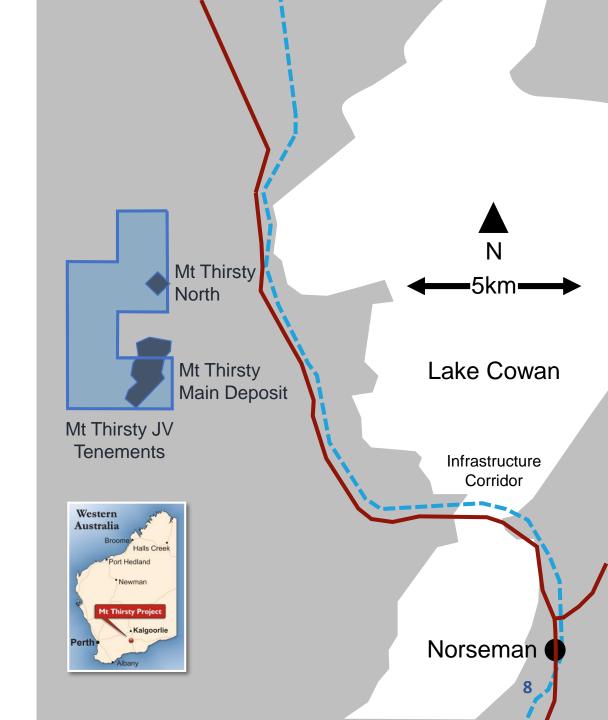


<sup>&</sup>lt;sup>1</sup> Darton Commodities, CRU, Cobalt 27

### **MT THIRSTY**

#### COBALT-NICKEL PROJECT

- Project is only 16km NW from Norseman town
- Infrastructure all available locally
  - > Road
  - > Rail
  - > Gas
  - Water
  - > Town
  - > Workforce
  - > Fibre Optics
- 50/50 JV with Conico Ltd



# MT THIRSTY MINERAL RESOURCE UPGRADE

0.06% Co Cutoff	Mineral Resource	Dry Tonnes (Mdt)	Co (%)	Ni (%)
Mt Thirsty	Indicated	22.6	0.116	0.53
Main	Inferred	2.5	0.099	0.44
Mt Thirsty North	Inferred	1.5	0.092	0.55
Total	Ind. & Inf.	26.6	0.113	0.52

- Indicated Mineral Resource now represents 85% of the total Mineral Resource<sup>1</sup>
- Indicated classification eligible for a JORC 2012 Ore Reserve estimate at the completion of a successful PFS
- Cobalt grade is double that of most nickel laterites
- Flat lying and low strip ratio



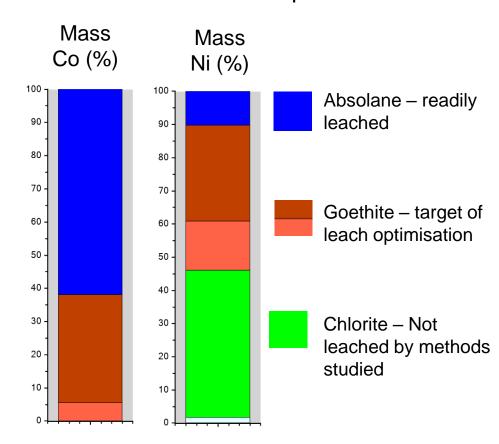
## MT THIRSTY ATMOSPHERIC LEACHING



Master Comp. Leach Extractions <sup>1</sup>						
	Co (%)	Ni(%)				
2019 PFS	84%	31%				
2017 SS	79%	26%				

- Extractions achieved using SO<sub>2</sub> as the main reagent without adding supplemental acid
- Low capex flowsheet (A\$212M)<sup>2</sup>
- Results now demonstrated at the semi-continuous bulk scale
- Increased project revenues are expected to be available for minimal additional reagents and costs

#### **QEMSCAN Mineral Deportment**

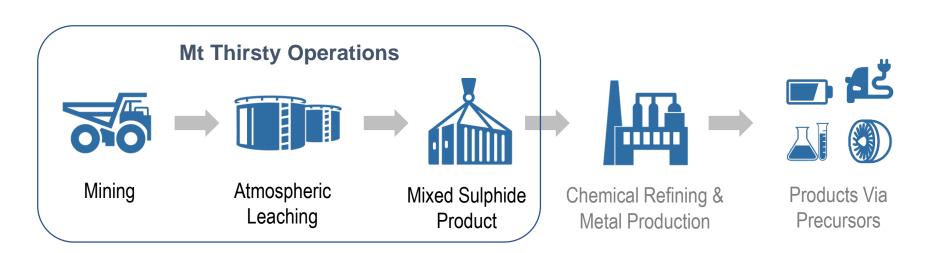


<sup>&</sup>lt;sup>1</sup>Refer to ASX Announcement 9/5/19 for full details <sup>2</sup>As reported in 2017 Scoping Study 5/10/17

### PRODUCT VALUE CHAIN

- Mixed Sulphide Product (MSP) selected
- Suitable for metal, chemical and battery markets
- Product of strategic interest to many multinationals



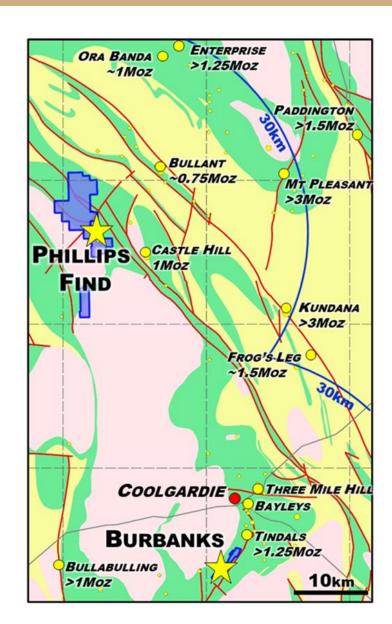


## **COOLGARDIE GOLD PROJECTS**



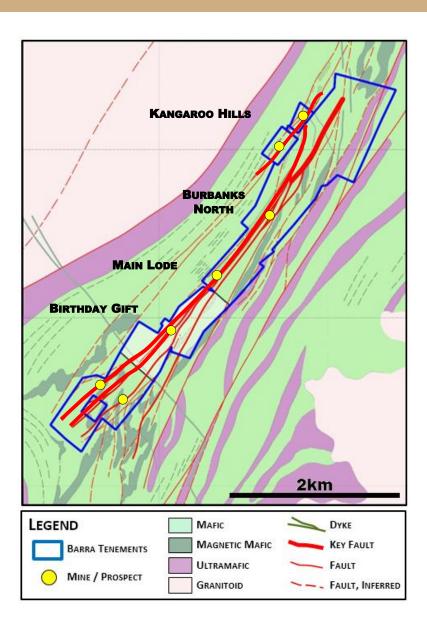
- Burbanks historical high grade underground
- Phillips Find historical open pit
- Multi-million ounce gold camps within 30km
- Aim to define critical mass of 500,000oz Au ahead of mining
- Regional consolidation occurring (e.g. ASX: NST-WGX, IRC-MRP-FML)





## **BURBANKS - GOLD ENDOWMENT**





420<sub>kOz</sub>

Historical Production (Au)

125<sub>kOz</sub>

Indicated and Inferred Mineral Resource (Au)

223-564<sub>kOz</sub>

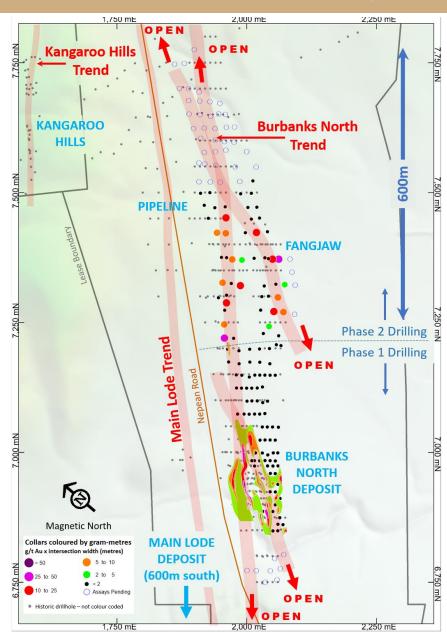
#### **Exploration Target (Au)**

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. The Burbanks Exploration Target was arrived at after evaluation of historic and current exploration drilling and mining datasets including geological and resource modelling, aeromagnetic, new mapping, auger geochemistry, conceptual exploration models and recent mine production data. The information gathered was used to estimate average grades, typical dimensions, average bulk densities, and possible frequency of lode occurrences to estimate the likely ranges of the magnitude of possible extensions to known lodes and repetitions within the same geological domain, limited to a nominal depth of up to 500m. Key target areas were identified, ranked and prioritised. This then fed into the development of a long-term strategy to explore these key target areas with a clear focus on the discovery, delineation and delivery of resources to underpin the establishment of a medium- to long-term mining operation. Barra has a plan of ongoing drilling campaigns using air core, reverse circulation and diamond drilling methods to test these targets followed by Mineral Resource estimation where appropriate over the next four years as market conditions allow. Refer to ASX Announcement 21/3/18.

## BURBANKS NORTH - DRILL RESULTS



- 99 Air Core Drill Holes for 4,055m completed this quarter<sup>1</sup>. Interim Results:
  - BBAC206 20m @ 2.37 g/t Au from 8m
  - BBAC187 8m @ 4.30 g/t Au from 20m
  - BBAC216 4m @ 4.24 g/t Au from 20m
  - BBAC203 13m @ 1.06 g/t/ Au from 44m
  - More to follow (50% of holes received)
- Complements 2016 and 2017 drilling<sup>1</sup>:
  - BBAC038 15m @ 9.87 g/t Au from 12m incl 5m at 24.82 g/t and incl 1m @ 14.8 g/t
  - BBAC055 8m @ 6.22 g/t Au from 13m incl 2m at 20.5 g/t
  - BBAC092 9m @ 4.76 g/t Au from 11m incl 5m at 7.71 g/t
  - BBAC013 4m @ 2.13 g/t Au from 10m and 2m @ 6.1 g/t from 19m and 5m @ 7.89 g/t from 25m
  - BBAC091 6m @ 6.39 g/t Au from 9m incl. 3m @ 11.91 g/t
  - BBAC042 1m @ 8.00 g/t Au from 10m and 1m 31.7g/t from 16m and 1m @ 1.27 g/t from 21m
  - BBAC045 3m @ 9.94 g/t Au from 14m; and
  - BBAC007 3m @ 9.48 g/t Au from 20m
- Mineral Resource estimation to now commence



<sup>1</sup>Refer ASX announcements 25/08/16, 27/07/17, 30/10/18, 8/5/19

## MT THIRSTY NEXT STEPS



- 3<sup>rd</sup> and final phase of the PFS subject to MTJV budget approval:
  - Mine plan optimisation
  - Hydrogeological drilling
  - Tailings test work; and
  - PFS level engineering and cost estimation
- PFS completion planned to align with rising cobalt and nickel prices
- Ongoing discussions with potential development partners who identify the PFS as an investment catalyst







## **THANK YOU**

#### **OFFICE ADDRESS**

6 Thelma Street, West Perth WA 6005

#### **CONTACT NAME**

Sean Gregory

#### **EMAIL**

info@barraresources.com.au

#### **TELEPHONE**

08 9481 3911





### **APPENDIX: CORPORATE OVERVIEW**

- 531M shares outstanding
- Market cap \$14.3m @ 2.7c
- Cash \$2.0M (31/3/19)
- Shareholders
  - > FMR Investments Pty Ltd 15.4%
  - Mineral Resources Ltd 10.8%
  - > >3000 other shareholders
- Experienced board and management
  - Sean Gregory, MD & CEO
  - Gary Berrell, Chairman
  - Grant Mooney, NED & Co Sec
  - Jon Young, NED
  - Gary Harvey, Exploration Manager



### **APPENDIX: BURBANKS JORC TABLES**

Exploration Target for the Burbanks Gold Project								
	Low Range			High Range				
Area	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	625,000	4.0	80,000	650,000	6.0	120,000		
Birthday Gift Mineral Resource	514,700	5.8	95,400	514,700	5.8	95,400		
Total			223,000			564,000		

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. It is uncertain if further exploration will result in an estimation of a Mineral Resource. The Burbanks Exploration Target was arrived at after evaluation of historic and current exploration drilling and mining datasets including geological and resource modelling, aeromagnetic, new mapping, auger geochemistry, conceptual exploration models and recent mine production data. The information gathered was used to estimate average grades, typical dimensions, average bulk densities, and possible frequency of lode occurrences to estimate the likely ranges of the magnitude of possible extensions to known lodes and repetitions within the same geological domain, limited to a nominal depth of up to 500m. Key target areas were identified, ranked and prioritised. This then fed into the development of a long-term strategy to explore these key target areas with a clear focus on the discovery, delineation and delivery of resources to underpin the establishment of a medium- to long-term mining operation. Barra has a plan of ongoing drilling campaigns using air core, reverse circulation and diamond drilling methods to test these targets followed by Mineral Resource estimation where appropriate over the next four years as market conditions allow. Refer to ASX Announcement 21/3/18.

In Situ Mineral Resource for the Burbanks Gold Project										
Area	Cut-Off	Indicated			Inferred		Total			
		kt	Grad	Ounce	kt	Grad	Ounces	kt	Grade	Ounces
			е	S		е				
Christmas Open Pit	1.0	6	6.2	1,100	4	7.8	1,050	10	6.89	2,150
Birthday Gift Underground	2.5	180	6.0	34,750	325	5.6	58,500	505	5.74	93,250
Mine										
Main Lode Deposit	1.0	106	2.8	9,700	254	2.5	20,200	360	2.59	29,900
Total Mineral Resource	1.0/2.5	291	4.9	45,550	583	4.3	79,750	874	4.5	125,300

For full details of the Birthday Gift and Christmas Pit Mineral Resource refer to Kidman Resources Limited's ASX announcement 25/08/15 and then updated for mining depletion in Kidman's 2016 Annual Report. The information has not materially changed since then. For Main Lode Refer ASX Announcement 30/10/18.

### **DISCLAIMER & CP STATEMENTS**

#### Competent Persons Statement

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

The information in this report which relates to Mineral Resources at Main Lode, Burbanks is based on, and fairly represents, information compiled by Mr Andrew Bewsher full-time employee of BM Geological Services Pty Ltd who is a Member of the Australian Institute of Geoscientists.

For full details of the Burbanks Mineral Resources other than Main Lode, refer to ASX:KDR's 2016 Annual Report available to view on asx.com.au.

The information in this report that relates to Exploration Results for the Mt Thirsty project is based on and fairly represents information compiled by Michael J Glasson, a Competent Person who is a member of the Australian Institute of Geoscientists. Mr Glasson is an employee of Tasman Resources Ltd and in this capacity acts as part time consultant to Conico Ltd and the MTJV. Mr Glasson holds shares in Conico Ltd.

The information in this report which relates to the metallurgical test-work for Exploration Results for the Mt Thirsty Project is based on and fairly represents information compiled by Mr Karel Osten who is a Member of the Australian Institute of Mining and Metallurgy and a full-time employee of Wood.

The information in this report which relates to Mineral Resources at Mt Thirsty is based on information provided to and compiled by Mr David Reid, a Competent Person who is a full-time employee of Golder Associates Pty Ltd, and a Member of the Australasian Institute of Mining and Metallurgy.

Messers Harvey, Bewsher, Glasson, Osten and Reid have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code).

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.

#### Forward Looking Statements 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.