



**BARRA RESOURCES LIMITED**

2018 Annual General Meeting

Sean Gregory | Managing Director & CEO



# KEY MESSAGES



## **Mt Thirsty Pre-Feasibility Study underway**

- Advanced, high grade, low capex, undervalued cobalt nickel project
- Highly leveraged to long term cobalt market dynamics
- Product of strategic interest to many tier one multinationals

## **Dual commodity strategy in play with Coolgardie gold projects**

- Burbanks– Maiden Mineral Resource at Main Lode
- Phillips Find – Air core drilling underway at Truth

***Projects all located in WA's stable and ethical goldfields***



# CORPORATE OVERVIEW

## ASX:BAR

- 531M shares outstanding
- Market cap \$21m @ 4.0c
- Cash \$2.9M as at 29 Sep
- 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



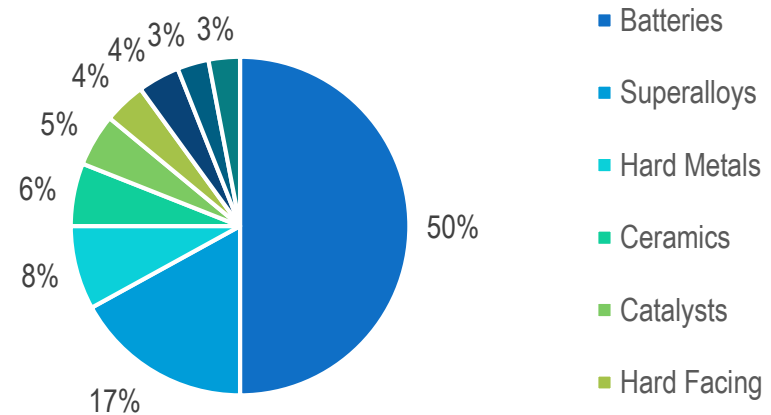


# SUPPLY AND DEMAND POINTS TO HIGHER PRICES FOR LONG-TERM

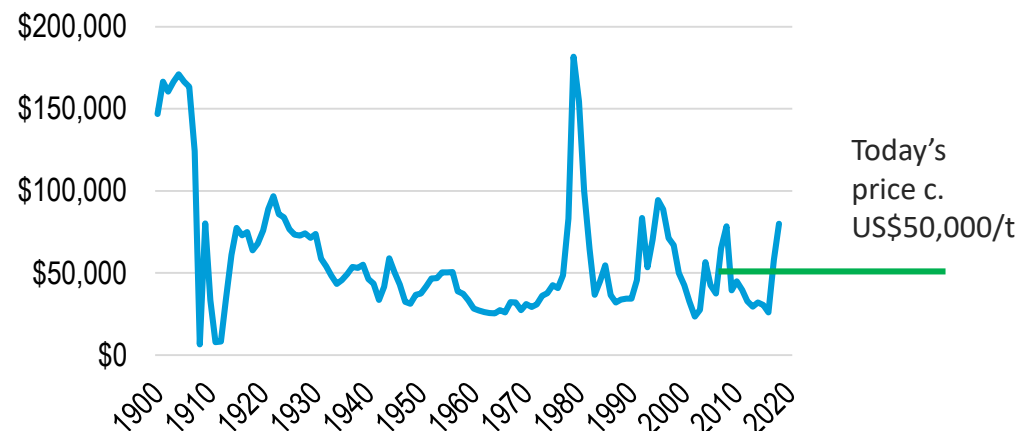


- Electric vehicle revolution is upon us
- Battery chemistry requires cobalt for thermal stability
- Cobalt is scarce with 68% produced in the DRC with sustainability concerns
- We expect an upwards structural shift in long-term cobalt pricing

2017 Cobalt Uses <sup>1</sup>



Long Term Real US\$/t Cobalt Price <sup>2</sup>



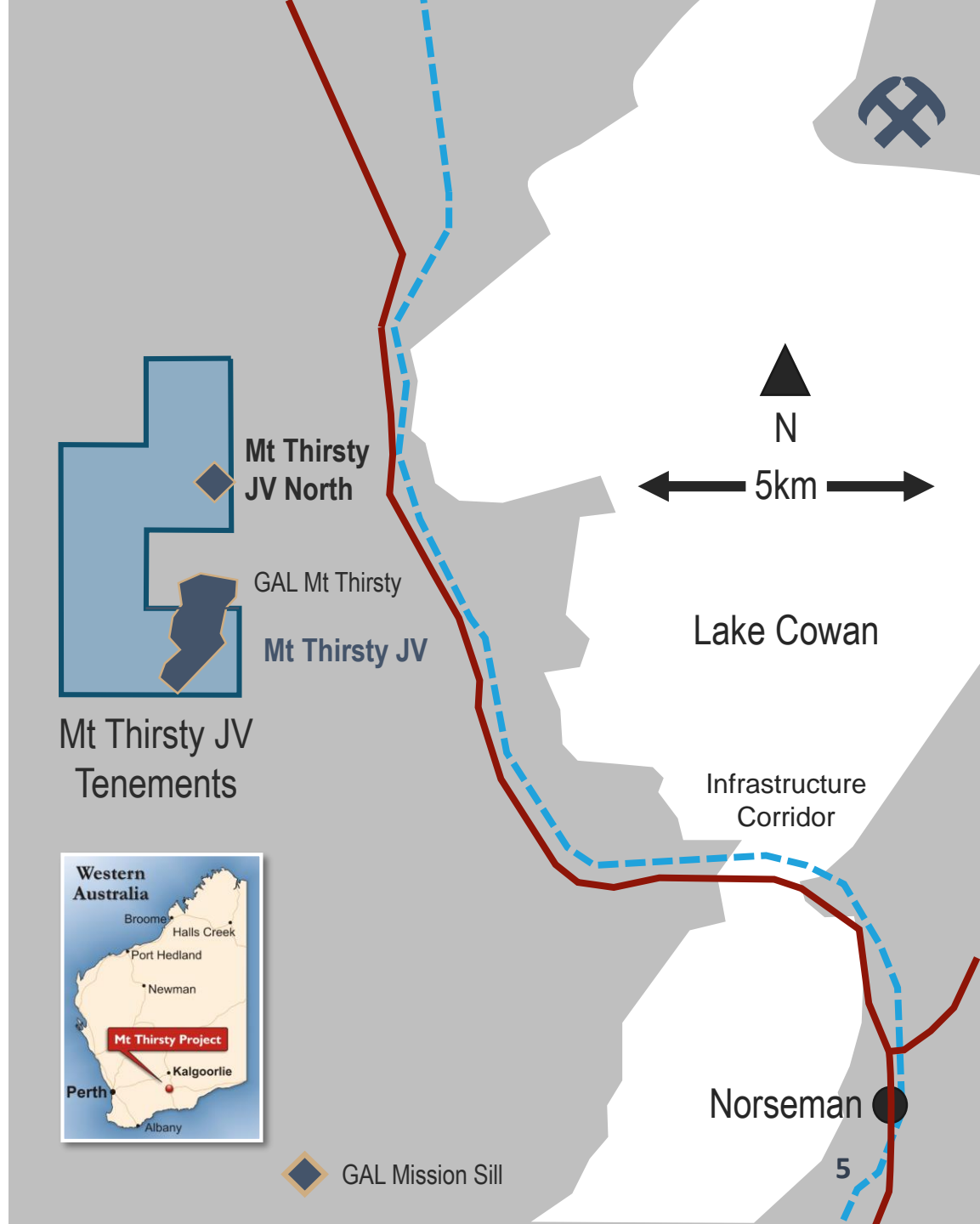
<sup>1</sup> Darton Commodities, Cobalt 27

<sup>2</sup> US Geological Survey

# COBALT VALLEY

## REGIONAL DEVELOPMENT PLAY

- Project is only 16km NW from Norseman town
- Infrastructure all available locally
  - Road
  - Rail
  - Gas
  - Water
  - Town
  - Workforce
  - Fibre Optics
- Mt Thirsty JV Scoping Study identifies 21 year mine life
- 50/50 JV with Conico Ltd
- Galileo Ltd listing highlights additional regional potential





# MT THIRSTY SCOPING STUDY

- Many iterations of design over many years
- Appropriately conservative assumptions<sup>1</sup>
- Robust result: breakeven life of mine cobalt price:
  - US\$44,000/t including capital
  - US\$34,000/t after capital sunk<sup>2</sup>
- A very solid base case to optimise during the PFS

- Opportunities to significantly increase Co and Ni recoveries with simple additions to flowsheet

Parameter	Value
NPV <sub>8</sub>	A\$ 290 M
Co Price	US\$ 72,000 /t
Ni Price	US\$ 15,500 /t
USD:AUD FX	0.74
Co Recovery	73 %
Ni Recovery	21.5 %
Capital Cost	A\$ 212 M incl A\$ 34 M contingency
Operating Cost	A\$ 43 /t
Feed Rate	1.5 Mtpa
MSP Product	6,000 tpa
Life of Mine	21 Years



<sup>1</sup> Refer to ASX Announcement 6/10/17 for full details of the Scoping Study

<sup>2</sup> Breakeven analysis includes Ni credits. See disclaimer on final slide.



# MT THIRSTY PRE FEASIBILITY STUDY



- Base case confirmed as SO<sub>2</sub> agitated atmospheric leaching of whole ore without the need for beneficiation
- Value adding optimisation of leach parameters underway
  - Grind size
  - Temperature
  - Reagent dosing
  - Process water salinity
  - Agitator sizing
  - Residence time
  - Sulphuric acid addition to increase yields
- Permitting progression
  - Mining Lease application in place
  - Native Title negotiations initiated
  - Spring biological surveys complete
- Engineering Scheduled Q1 2019

Sample Details	Co Leach %* Recovery	Ni Leach %* Recovery
Upper Saprolite RC Comp	90	35
Upper Saprolite AC Comp	86	32
Lower Saprolite RC Comp	67	21
Lower Saprolite AC Comp	69	27



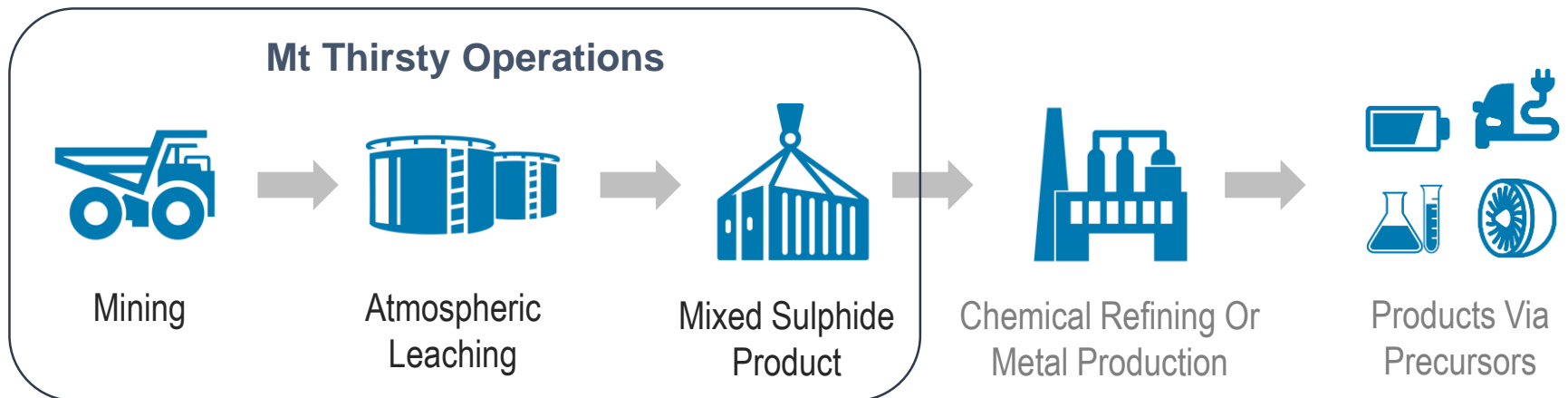
\*Note that recovery losses during precipitation of 3-4% have not been included. Refer to ASX Announcement 22/10/18 for full details.

# PRODUCT VALUE CHAIN

- Mixed Sulphide Product (MSP) selected
- 6,000 tpa = 1 shipping container per day
- Expected payables > 80% of LME metal price
- Suitable for metal, chemical and battery markets
- MSP a preferred intermediary step in all cases
- Does not preclude value-add investment within WA
- Product of strategic interest to many multinationals



MSP	CoS	NiS
Volume	50%	50%
Value	79%	21%

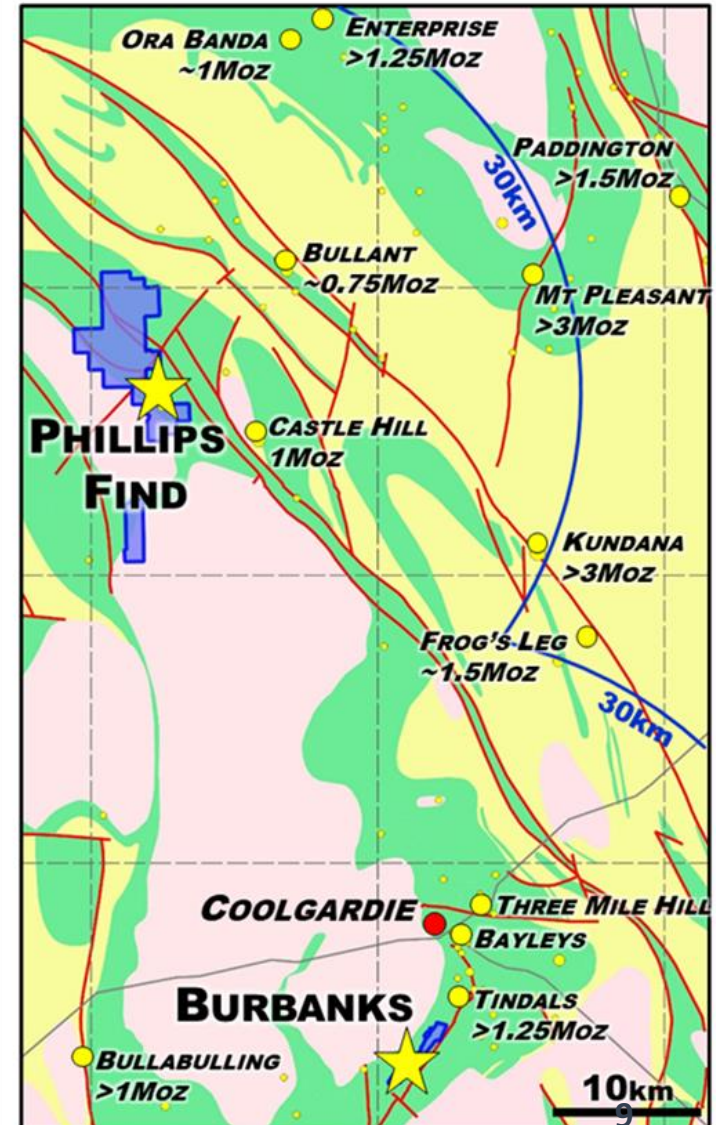




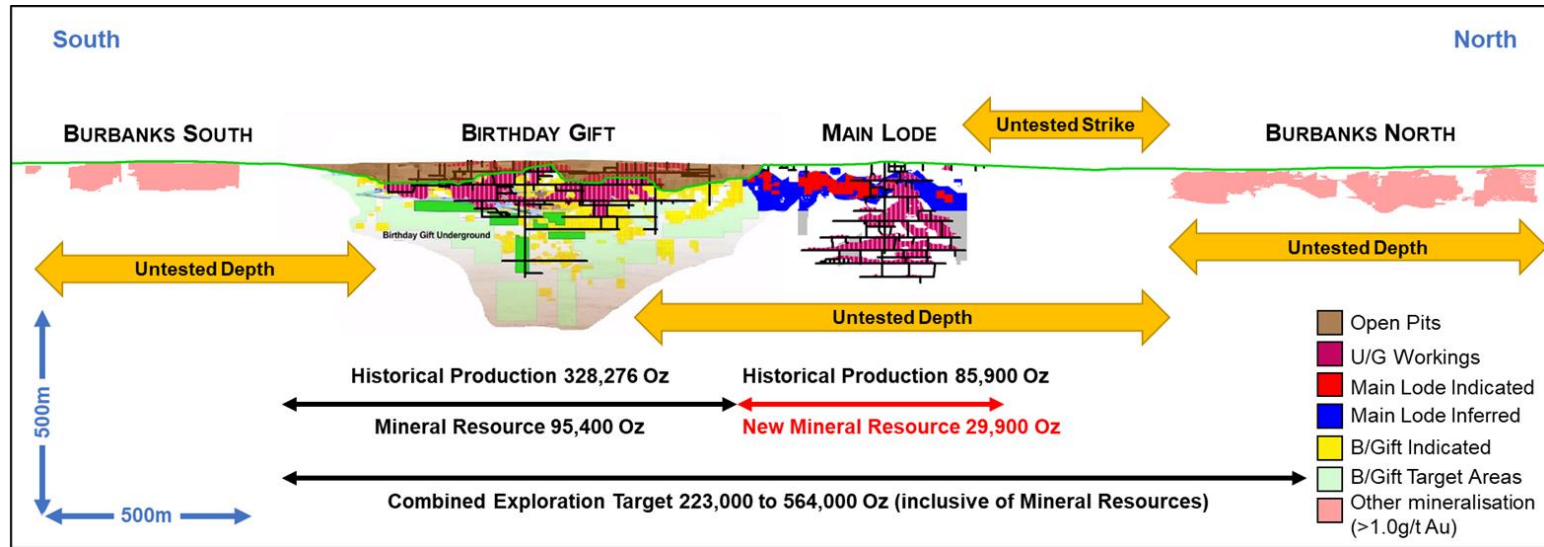
# COOLGARDIE GOLD PROJECTS



- Burbanks – brownfields
  - Maiden JORC 2012 Mineral Resource at Main Lode
- Phillips Find – greenfields
  - Aircore drilling underway at Truth
  - Multi-million ounce gold camps within 30km
- Aim to define critical mass of 500,000oz Au ahead of mining



# BURBANKS – HIGH GRADE SYSTEM



- Birthday Gift re-acquired 2017 for unrestricted access
- >5,000m RC drilling at Main Lode and Kangaroo Hills during 2018
- Maiden JORC 2012 Mineral Resource estimated for Main Lode
- Main Lode – Burbanks North Gap a clear target to expand mineralisation

The potential quantity and grade of the Exploration Target is conceptual in nature as there has been insufficient exploration to estimate additional Mineral Resource. It is uncertain if further exploration will result in an estimation of additional Mineral Resources. Refer to appendix for further details on Mineral Resources and Exploration Target.

**420kOz**

Historical Production

**125kOz**

Mineral Resource

**223–564kOz**

Exploration Target



# PHILLIPS FIND DRILLING UNDERWAY

- Tenement package at an early stage of exploration away from Phillips Find Mining Centre (PFMC)
- Successful mining campaigns in 3 open pits from 1995-2015 at PFMC
- Co-located structural and geochemical targets at Truth and Diablo
- 10,000m air core drilling underway at Truth; drilling through thin alluvial cover.







# THANK YOU

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# APPENDIX: JORC TABLES

Mt Thirsty Mineral Resource				
Category	Tonnes	Co %	Ni %	Mn %
Indicated	16.6 Mt	0.14	0.60	0.98
Inferred	15.3 Mt	0.11	0.51	0.73
Total	31.9 Mt	0.13	0.55	0.86

This information 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 to ASX announcement 8/3/2011.

Exploration Target for the Burbanks Gold Project						
Area	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	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. Refer to ASX:BAR Announcement 21/3/18.

In Situ Mineral Resource for the Burbanks Gold Project										
Area	Cut-Off	Indicated			Inferred			Total		
		kt	Grade	Ounces	kt	Grade	Ounces	kt	Grade	Ounces
Christmas Open Pit	1.0	6	6.2	1,100	4	7.8	1,050	10	6.89	2,150
Birthday Gift Underground Mine	2.5	180	6.0	34,750	325	5.6	58,500	505	5.74	93,250
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:BAR 30/10/18.

# DISCLAIMER & CP STATEMENTS

## **Competent Persons Statement**

*The information in this report which relates to Exploration Targets and Exploration Results for the Phillips Find and Burbanks Projects is based on and fairly represents information compiled by Gary Harvey who is a Member of the Australian Institute of Geoscientists and a full-time employee of Barra Resources Ltd.*

*The information in this report which relates to Exploration Targets for the Burbanks Project is based on information compiled by Allan Kneeshaw who is an independent consultant and is a Fellow of the Australian Institute of Geoscientists (FAIG) and a Fellow of the Australian Institute of Mining and Metallurgy.*

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

*The information in this report which relates to Exploration Results for the Mt Thirsty Oxide Deposit is based on and fairly represents information compiled by Michael Glasson who is a Member of the Australian Institute of Geoscientists and a full-time employee of Tasman Resource Ltd, providing geological services to the Mt Thirsty Joint Venture.*

*The information in this report which relates to the Mt Thirsty Oxide Deposit Mineral Resource is based on information compiled by Alan Miller, a Competent Person and former full time employee of Golder Associates Pty Ltd, who is a member of the Australasian Institute of Mining and Metallurgy.*

*Messers Harvey, Kneeshaw, Bewsher, Glasson and Miller have 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 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). Messers Harvey, Kneeshaw and Bewsher consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.*

## **Birthday Gift Exploration Targets and Mineral Resource**

*The information in this diagram that relates to the Birthday Gift Exploration Target has been extracted from Kidman Resources Limited's KDR:ASX Release dated 25/08/2015 "Initial 99,000oz Resource for Burbanks gold mine in WA", and then updated for mining depletion in Kidman's 2016 Annual Report. The information has not materially changed since then.*

## **Cobalt Sensitivity and Breakeven Disclaimer**

*Refer ASX 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.*

## **Forward Looking Statements Disclaimer**

*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.*