

### **Cobalt Blue 2017 Achievements**

- 1. IPO February 2017
- Scoping Study January June 2017 showed positive project potential (not released to market)
  - ✓ Drilled 22 diamond holes, and 38 RC holes for 12,000 m
  - ✓ Upgraded resource to 54.9Mt at 900 ppm Cobalt = 50,000 t Co
- 3. Commenced Pre-Feasibility Study August 2017 due June 2018
  - Drilling 13,000 m
  - ☐ Upgraded resource due Q1 2018
  - Metallurgical testwork demonstrating high cobalt recoveries



## Why Cobalt Blue?

- Cobalt an essential, high value metal with significant recent price appreciation
- Thackaringa aiming to be a top 5 global producer of cobalt sulphate, largest non DRC mine
- 3. Cobalt Blue only "pure play" ASX listed company with >80% leverage to cobalt
- 4. Australia safe and secure jurisdiction
- Scoping Study completed June 2017
- Commenced Pre-Feasibility Study August 2017



## **Cobalt** – our increasing dependency

#### **Consumer Electronics**

#### SMART PHONE Size = 5.5 Wh

Cobalt: 6grams (\*A\$0.50)



#### **TABLET**Size = 20 Wh

Cobalt 23 grams (\*A\$1.90)



#### LAPTOP

Size = 30 Wh

Cobalt 33 grams (\*A\$2.60)



#### **Technology Disruption**

#### **FIXED STORAGE**

Size = 7 kWh

Cobalt: 3 kgs (\*A\$240)



### BATTERY ELECTRIC VEHICLE

Size = 85 kWh

Cobalt 15 kgs (\*A\$1,200)



#### WIDE BODY AIRCRAFT

A380 shown (4 engine)

Cobalt: 4,500 kgs (\*A\$360.000)



**Evolution of Superalloys** 

1958: BOEING 707

Cobalt: 15 kgs (\*A\$1,200)



#### 1994: BOEING 747

10x cobalt for <4x weight B707

**Cobalt: 650kg** (\*A\$50,000)



#### 2006: Airbus A380

20x cobalt for <6x weight B707

Cobalt: 4,500kgs (\*A\$360,000)





### **Cobalt** – the new energy revolution

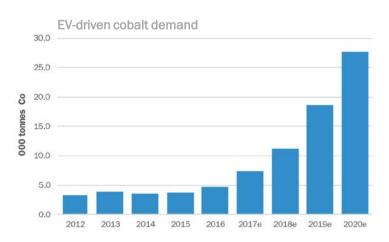
# The New Energy sector is disruptive, rapidly evolving, and delivering returns

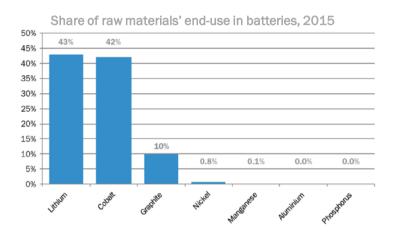
#### **INCREASINGLY INVESTABLE:**

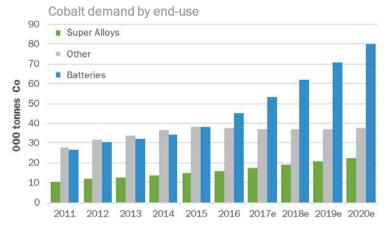
Cyclical winners and losers as the sector progresses.

#### **RAW MATERIALS:**

- Cobalt is a vital component in rechargeable batteries
- EV penetration rate of 1% by 2020 increases auto battery cobalt demand by 44% CAGR





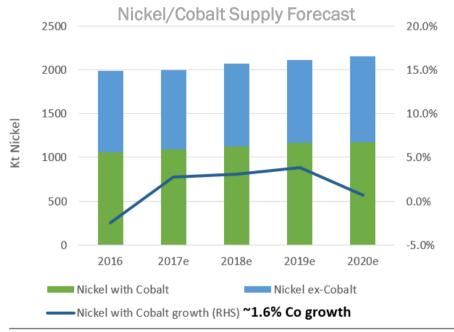


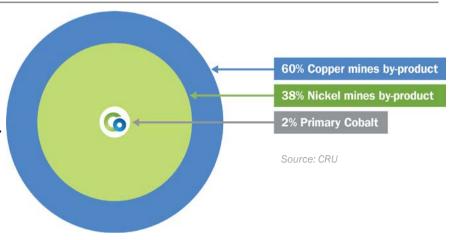


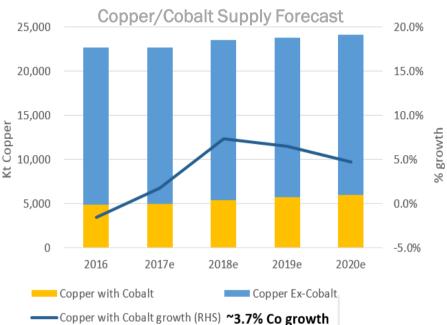
### **Cobalt – less growth**

#### Cobalt supply constrained

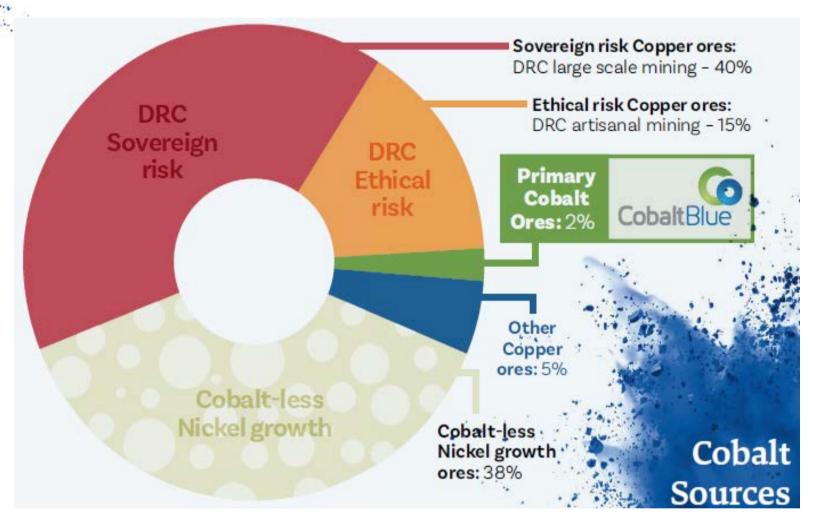
- Cobalt supply growth in copper/nickel byproduct will average 3-4% to 2020.
- Cobalt demand growth will average 9% to 2020.
- Forecast cobalt shortage of 10-20Kt by 2020.
- Cobalt Blue tonnes are required for market balance in the longer term.





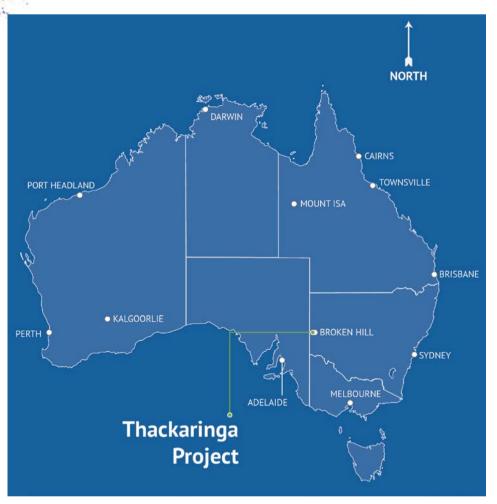


## Cobalt Market - Supply Side at Risk





## **Thackaringa** – historic Australian mining region



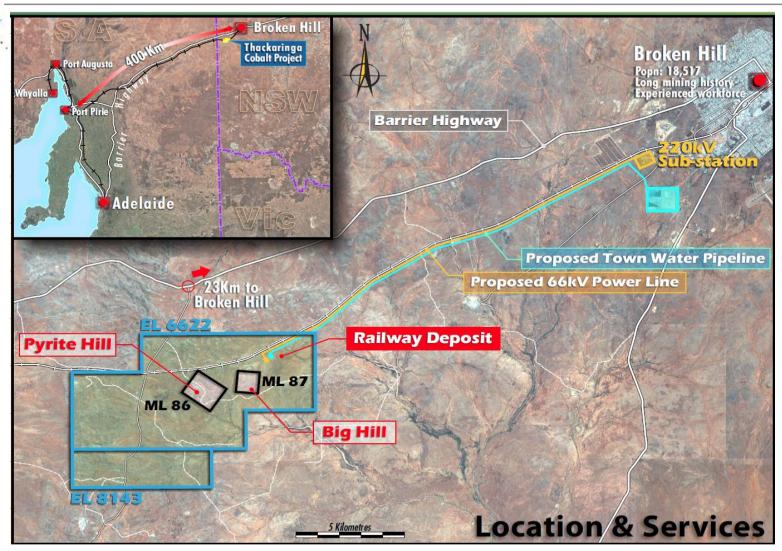
#### Source: Cobalt Blue Holdings

#### Thackaringa - Broken Hill Region

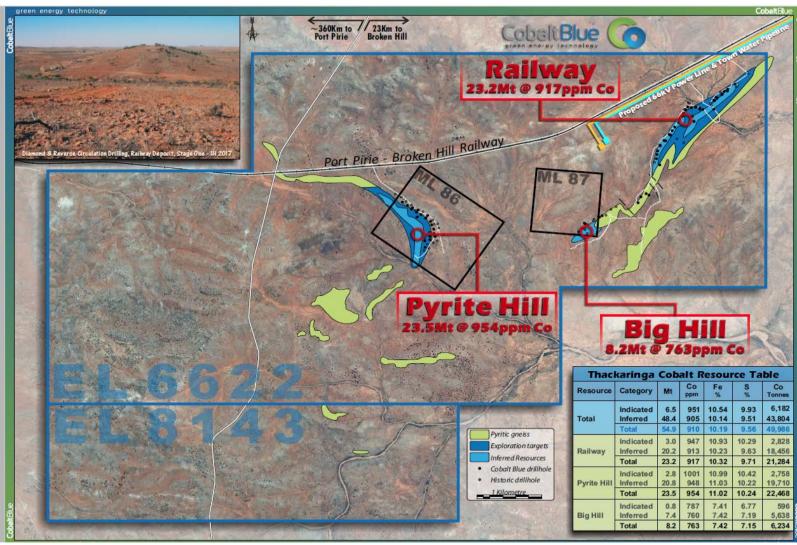
- Active mining area since 1880
- Originally mined silver, lead, and zinc ore
- Foundation township for BHP
- Thackaringa 25 km from Broken Hill (20,000 people)
- 500 km sealed highway to Adelaide
- National rail network



### Thackaringa – People, Power, Water, Road, Rail



# **Thackaringa** – Site Layout

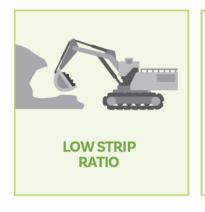


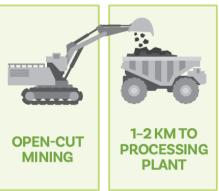
# **Thackaringa** – significant defined resources

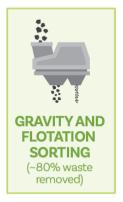
Category	Mt	Co ppm	Fe %	S %	Pyrite %	Co Tonnes	Py Mt	Density
Pyrite Hill (a	t a 500ppm	Co cut-off)						
Indicated	2.8	1001	10.99	10.42	19.54	2,758	0.54	2.87
Inferred	20.8	948	11.03	10.22	19.16	19,710	3.98	2.87
Total	23.5	954	11.02	10.24	19.21	22,468	4.52	2.87
Big Hill (at a	500ppm C	o cut-off)						
Indicated	0.8	787	7.41	6.77	12.7	596	0.1	2.76
Inferred	7.4	760	7.42	7.19	13.49	5,638	1	2.78
Total	8.2	763	7.42	7.15	13.41	6,234	1.1	2.78
Railway (at a	a 500ppm C	o cut-off)						
Indicated	3	947	10.93	10.29	19.29	2,828	0.58	2.87
Inferred	20.2	913	10.23	9.63	18.05	18,456	3.65	2.85
Total	23.2	917	10.32	9.71	18.21	21,284	4.22	2.85
Total (at a 5	00ppm Co o	cut-off)						
Indicated	6.5	951	10.54	9.93	18.63	6,182	1.21	2.86
Inferred	48.4	905	10.14	9.51	17.83	43,804	8.63	2.85
Total	54.9	910	10.19	9.56	17.92	49,986	9.84	2.85

### **Thackaringa** - processing summary

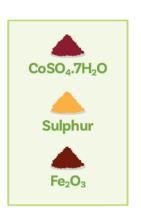
CONCENTRATE CALCINE **PRODUCT RECOVERY** MINE LEACH Mine **Product** Concentrate **Process** ROM 800-1200ppm Co Crush, grind, gravity, float CoSO<sub>4</sub>.7H<sub>2</sub>O Pyro-hydro met Co inside FeS<sub>2</sub> mineral Cons = 0.4 - 0.5% Co95-98% Co recovery Cobalt Sulphate crystals 90-95% recovery 90% S recovery Elemental Sulphur ~150-200 microns Iron Oxide (Fe<sub>2</sub>O<sub>3</sub>) 90% Fe recovery









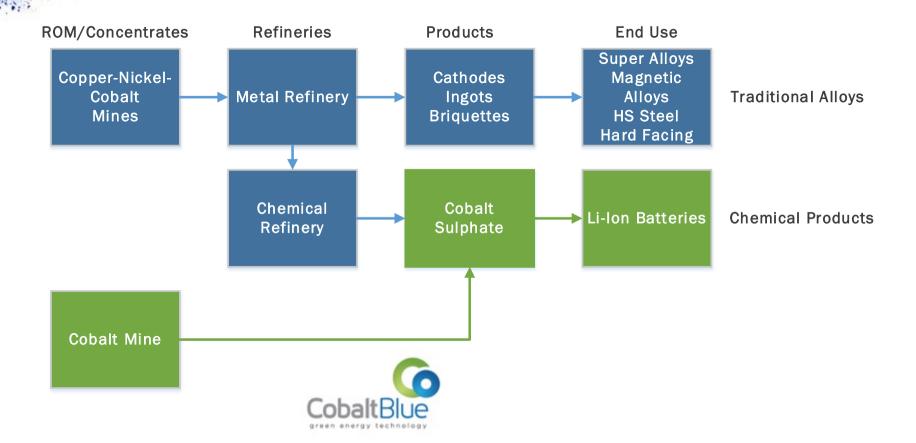


Source: June 2017 Scoping Study – Cobalt Blue Holdings

Minimum target payment terms: 100% LME cobalt pricing
High-grade cobalt sulphate crystals possible for 5-10% premium margin



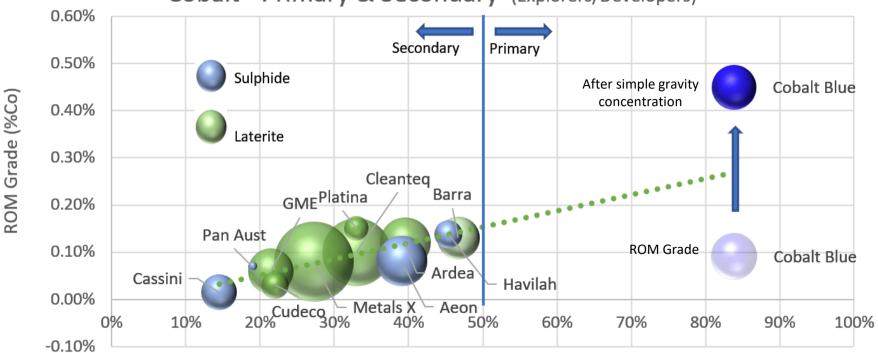
### **Thackaringa** — mine to battery supply chain





## **Thackaringa** – Comparison with ASX peers

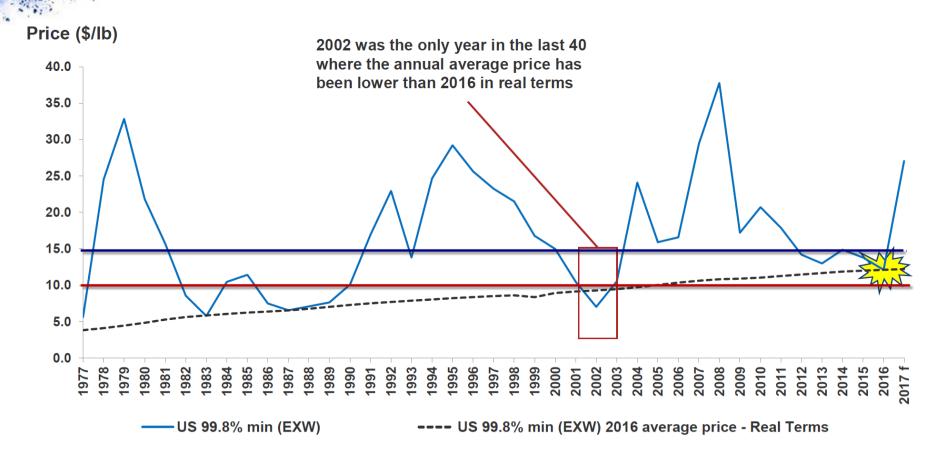




Co (% Revenue Stream)



## **Thackaringa** – Historical Cobalt Pricing





### "FY18 - another big year for Cobalt Blue"

#### >13,000m of drilling targeted for 1H FY18

= One of the largest cobalt exploration commitments on the ASX

ASPIRATIONAL TARGET: Significant improvement in size of the Thackaringa cobalt deposit

= A global top 5 mining operation with 20 year + life

#### **OUR SCHEDULE OF WORK IS AS FOLLOWS:**

Aug 2016 - Feb 2017	1 April 2018	30 June 2018	30 June 2019	
Complete	Stage One	Stage Two	Stage Three	Stage
Cobalt Blue formed  JV & Farm-in  JORC 2012 upgrade  Cobalt Blue listed	A\$2.0m expenditure in the ground delivered.  Delivered: Inferred Resource Upgrade Scoping Study Deliver: Indicated Resource Upgrade Aerial Geophysical Program Target Date: 1 April 2018	A\$2.5m expenditure in ground – Indicated Resource Target Deliver: Preliminary Feasibility Study Target Date: 30 June 2018	A\$5.0m expenditure in ground – Measured Resource + Reserves Target Deliver: Bankable Feasibility Study + Project Approvals Target Date: 30 June 2019	Project Finance



## **Cobalt Blue** – fit for purpose vehicle

- √ Tight Register (95 m shares) + \$5.1m cash
- ✓ Pure cobalt metal focus no nickel, copper, gold Strongest leverage to cobalt amongst listed companies
- ✓ Sustainable, green cobalt Australian based operations, large and clean orebody

#### **Share Catalysts:**

- √ 2 months First cobalt sulphate samples shipped
- √ 4 months Tighter Resource Definition
- ✓ 7 months Pre Feasibility Study = introduce Thackaringa as a world class asset
- √ 19 months Bankable Feasibility Study + stakeholder permits in place = decision to mine

### COBALT BLUE ASPIRES TO BE A TOP 5 GLOBAL MINER



# The Cobalt Blue Management Team

"Extensive expertise in mineral exploration and mine development, investment management, corporate law and energy storage."













#### Independent Chairman - Robert Biancardi

- IBM, Citibank, Westpac and Evolution Healthcare senior management and Director
- Numerous directorships of private companies including Rockridge Private Equity, Hutchisons Child Care (successful ASX listing)
- Board Member of the Heart Foundation of Australia, Diabetes Association and the "Bread & Butter" Project

#### Chief Executive Officer – Joe Kaderavek

- Deutsche Bank, Head of Resources, equities / investment management, resources and energy storage technology focus
- PricewaterhouseCoopers performing operational reviews and strategic assessments across mining, minerals processing, railway and port facilities throughout Australia, North America and Europe: worked extensively on secondment to BHPB and Rio Tinto
- International consulting role focused on renewable energy / battery storage technologies

#### Director - Anthony "Trangie" Johnston

- Geologist with 20 years experience in exploration, project development and mining activities
- Career spans the private, public, consulting and government sectors, with experience both throughout Australia and internationally
- CEO of Broken Hill Prospecting, a diversified minerals sands developer

#### Independent Director – Hugh Keller

- Partner Blake Dawson (now Ashurst) and its predecessor firms until retirement from full time legal practice in 2010.
- Non-executive director of ASX listed Thakral Holdings Ltd and of LJ Hooker Ltd and in both companies was a member of the Audit Committee; Chairman of a large private investment company with over \$150m of net assets.

#### Independent Director - Matt Hill

- CEO ASX/NZX New Talisman Gold Mines Limited responsible for bringing NZ's Highest grade underground gold mine into development
- Corporate advisor with over 20 years experience in Venture Capital/Private Equity, specialising in resource companies and capital markets.



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#### COMPETENT PERSONS STATEMENT

The information in this report that relates to exploration results, Mineral Resources and Targets is based on information compiled by Mr Anthony Johnston, BSc (Hons), who is a Member of the Australian Institute of Mining and Metallurgy and who is a non-executive director of Cobalt Blue Holdings Limited and the Chief Executive Officer of Broken Hill Prospecting Limited. Mr Johnston has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 & 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Johnston consents to the inclusion in the announcement of the matters based on his information in the form and context that the information appears



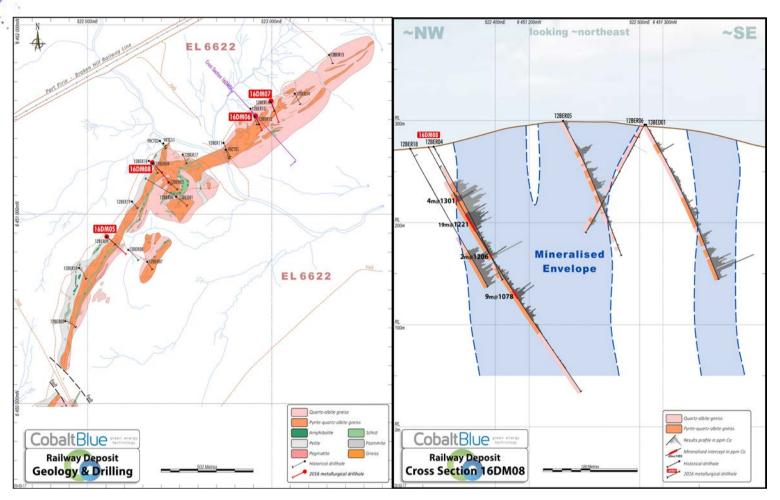


### **Appendix Information**

- 1. Deposit and Resource Cross-Sections
- 2. Conceptual Thackaringa Design
- 3. Site Photos



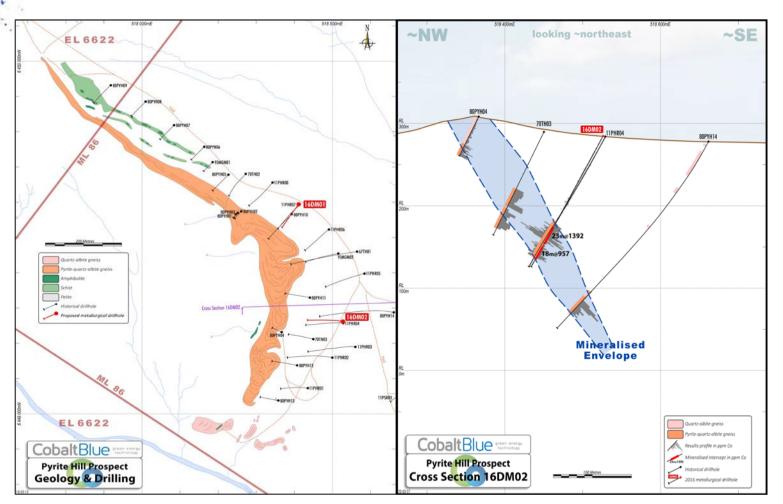
# **Thackaringa** – Railway Deposit



Railway Deposit



## Thackaringa - Pyrite Hill Deposit



Pyrite Hill Deposit

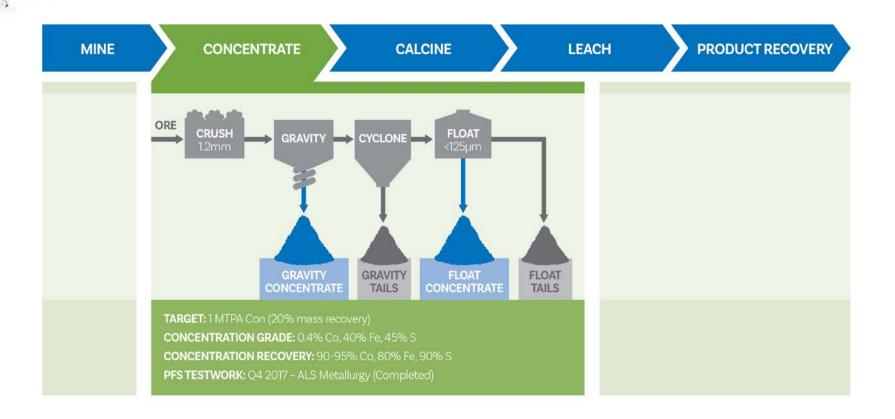


# **Thackaringa** - Mine



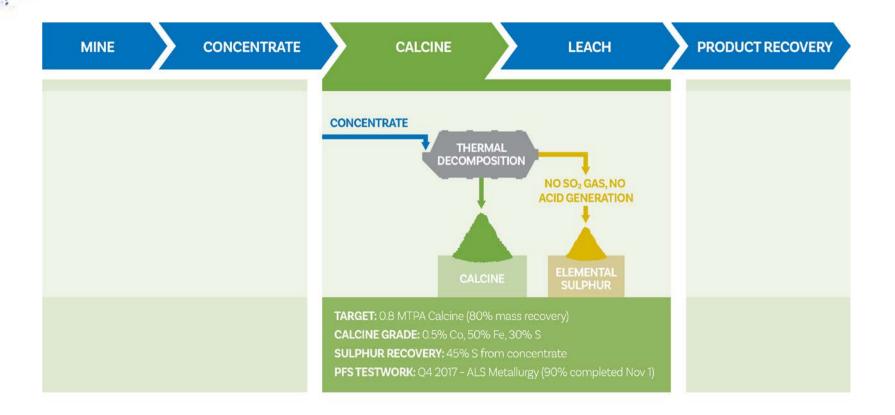


### **Thackaringa** - Concentrate



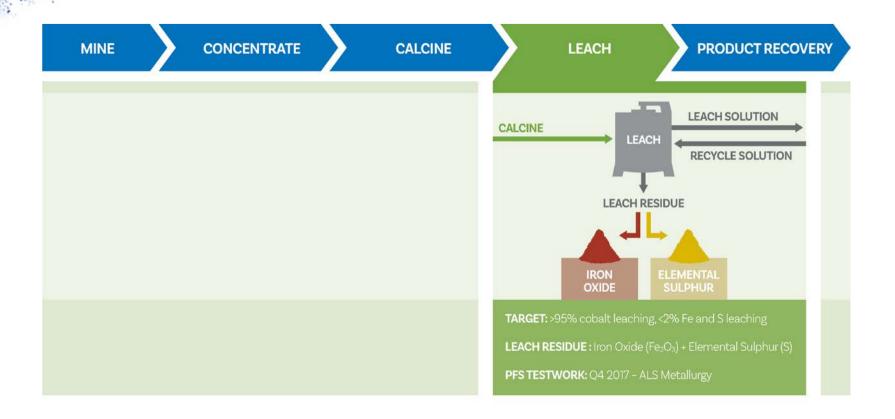
CobaltBlue

## Thackaringa - Calcine



CobaltBlue

## Thackaringa - Leach



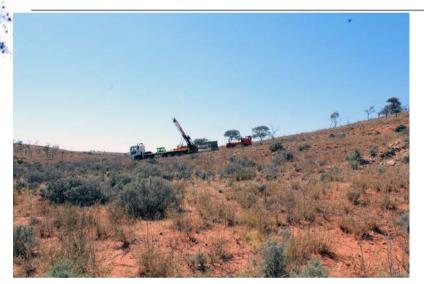
Cobalt Rlue

# Thackaringa – Product Recovery





# **Thackaringa** – site views











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# **Thackaringa** – site views







