



White Cliff Minerals LTD

Australian Energy Metals Presentation Cobalt and Nickel

February 2018

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Forward Looking Statements

- This document contains forecasts and forward looking statements which are no guarantee of future performance and which involve certain risks. Actual results and future outcomes will in all likelihood differ from those outlined herein.
- Forward-looking statements are statements that are not historical facts. Words such as “expect(s)”, “feel(s)”, “believe(s)”, “will”, “may”, “anticipate(s)” and similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to statements regarding future production, resources or reserves and exploration results. All such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include, but are not limited to:
 - a) those relating to the interpretation of drill results, the geology, grade and continuity of mineral deposits and conclusions of economic evaluations,
 - b) risks relating to possible variations in reserves, grade, planned mining dilution and ore loss, or recovery rates and changes in project parameters as plans continue to be refined
 - c) the potential for delays in exploration or development activities or the completion of feasibility studies
 - d) risks related to commodity price and foreign exchange rate fluctuations
 - e) risks related to failure to obtain adequate financing on a timely basis and on acceptable terms or delays in obtaining governmental approvals or in the completion of development or construction activities and;
 - f) other risks and uncertainties related to the Company’s prospects, properties and business strategy.
- Undue reliance should not be placed on these forward-looking statements that speak only as of the date hereof, and we do not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.

Corporate Structure

- Listed in 2007 (ASX Ticker: WCN)
- Energy Metal Projects - Australia
 - Coronation Dam Cobalt and Nickel – WA (100%)
 - Ghan Well Cobalt and Nickel deposit - WA (100%)
 - Coglia Well Nickel and Cobalt – WA (100%)
- Gold Projects- Australia and Kyrgyz
 - Merolia Gold project - WA (100%)
 - Aucu Gold deposit – Kyrgyz Republic (90%)
 - Chanach Copper – Kyrgyz Republic (90%)

Capital Structure – 5 Feb 18

Issued Shares	2,898M
Unlisted Options (1.2c ex price expiring 1 Dec 2018)	30 M
Listed Options (1.3c ex price expiring 31 Dec 2018)	151 M
Unlisted Options (1.0c ex price expiring 31 Dec 2021)	250 M
Unlisted Options (0.5c ex price expiring 31 July 2020)	250 M
Performance Rights (0.8c-1.3c expiring 2018-Dec 2021)	189.3M
Market Cap (at \$0.004 per share) AUD	\$12 M
Cash (31 Dec 2017) – placement in January	\$0.02 M

Major Shareholders

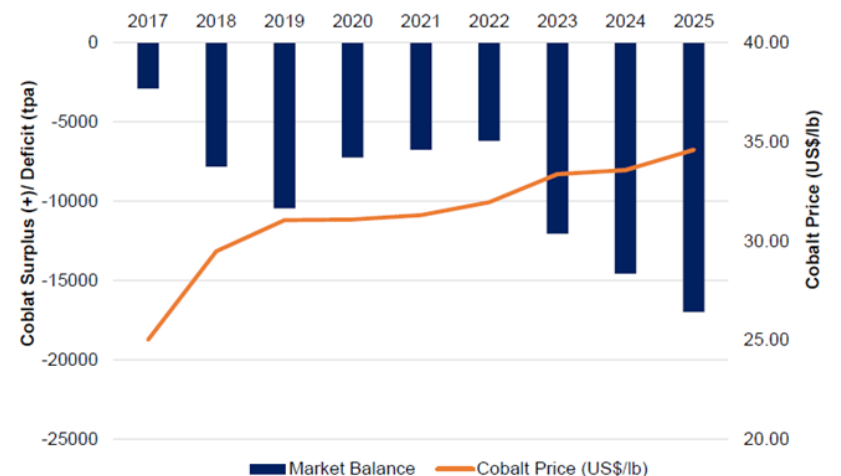
IFM Investors	6.6%
Directors & Founders	4.2%
Top 50	49%

Board of Directors	Experience
Executive Chairman Michael Langoulant	Chartered Accountant, BCom, CA, 30 years in public resource companies as MD, CFO, NED, Company Secretary.
Managing Director Todd Hibberd	Geologist, Chemist, Mineral Economist. NZCS, BSc (Hons), MSc, MAusIMM, MAICD, MSEG. 25 years in gold and base metals mining and exploration, formerly with Newmont, Normandy, St Barbara Mines.
Non-exec Director Rodd Boland	Corporate Advisor, BCom, MBA (Notre Dame), 25 years corporate and financial industry experience, Currently M&A advisor with KPMG

- Multiple Australian **cobalt-nickel** projects - substantial potential
 - High cobalt grade and large scale resource potential
 - Located near major nickel and cobalt refining infrastructure
 - Multiple development options and 100% owned
- Planned exploration programs ready for execution
 - RC drilling designed to **deliver JORC compliant resources**
 - Metallurgical test work to establish recovery and leach kinetics
- Investment rationale
 - Extensive cobalt and nickel mineralisation already **identified**
 - Highly **leveraged** to rising cobalt and nickel prices
 - Restricted cobalt supply but high cobalt demand
 - Ethical cobalt production from a Tier 1 country - Australia

Why Cobalt?

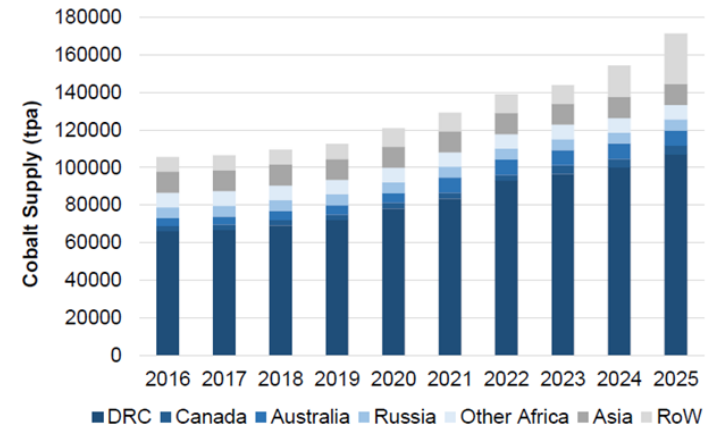
- Strong cobalt price outlook:
 - Limited supply capacity
 - Strong demand growth
 - Structural shift in technology applications (electric vehicles)
- Forecast supply/demand deficit to 2025
 - 2017: US\$60,000/t
 - 2018: US\$70,000/t forecast[#]
 - 2025: US\$75,000/t forecast[#]



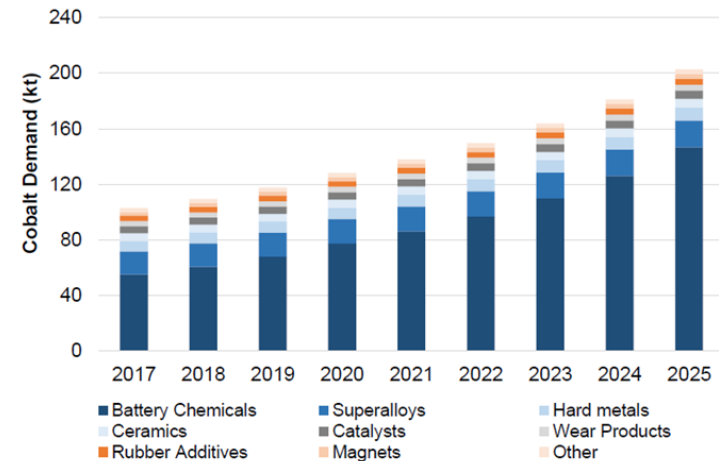
[#] Canaccord Genuity research

Cobalt Supply and Demand Dynamics

- Limited supply capability
 - By-product of copper mining
 - By-product of nickel mining
 - Inelastic supply curve
 - Sensitive to sovereign risk
 - 56% supply from DRC²⁰¹⁶
- Strong demand curve
 - Structural shift in technology applications (electric vehicles)
 - Rapid growth in battery market from low base
 - = long term demand growth



Source: Canaccord Genuity estimates

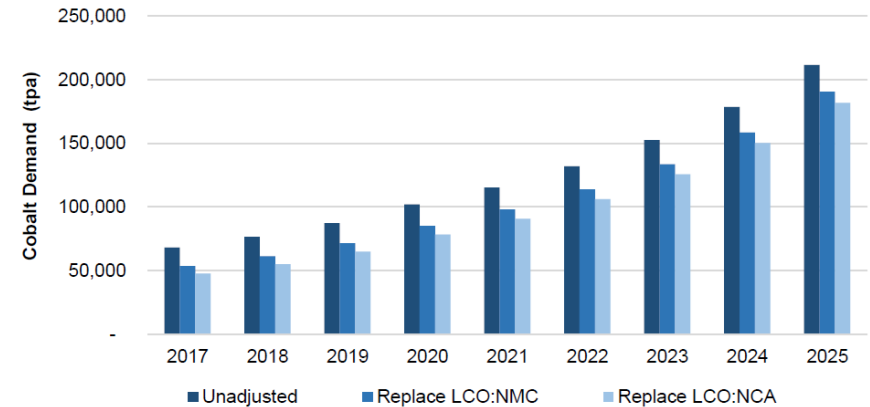


Source: Canaccord Genuity estimates

Cobalt: Here to Stay

- Substitution risks - electronics

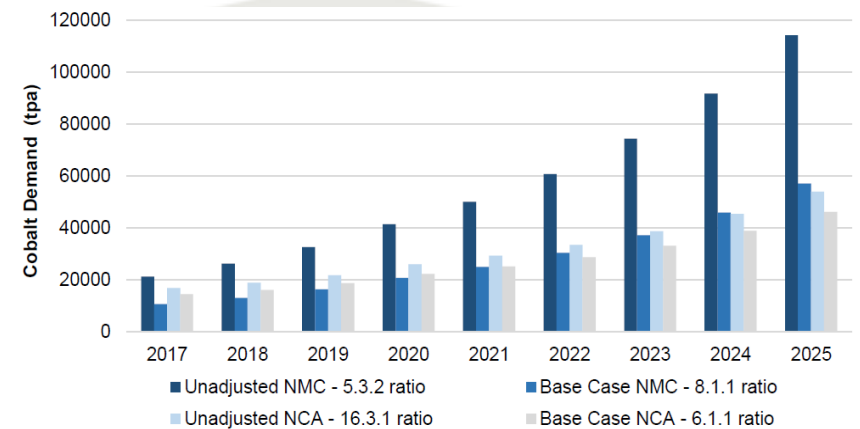
- Changing battery type:
 - LCo replaced with NMC
 - LCo replaced with NCA
- Low probability of rapid replacement of LCo due to industry incumbents



Source: Canaccord Genuity estimates

- Substitution risks (e-vehicles)

- Change of cathode composition:
 - Replace cobalt with nickel
 - Similar energy densities but:
 - Faster discharge rates
- Cobalt demand still projected to grow under all scenarios



Source: Canaccord Genuity estimates

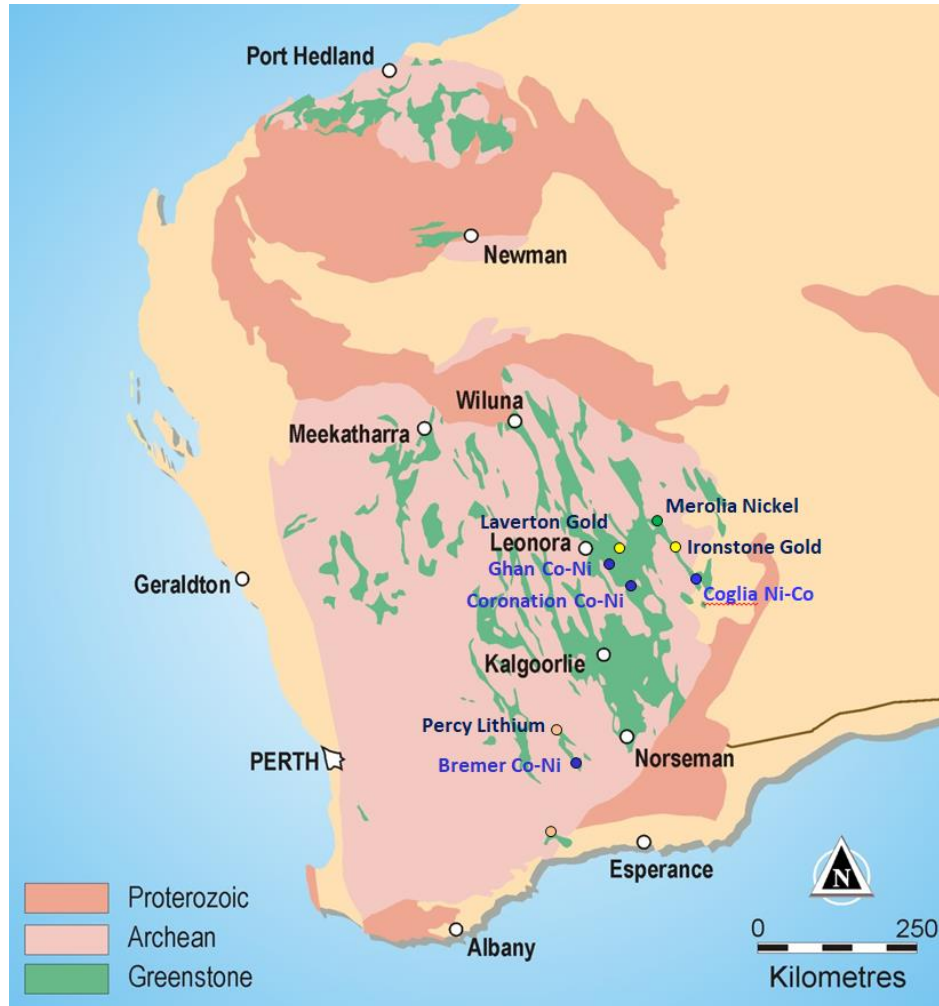
Investment Overview

- High value ore
 - 0.1% Cobalt: \$ 75/t USD
 - 0.8% Nickel: \$100/t USD
 - Total: \$175/t USD
 - Gold equivalent grade[#] ~4 g/t
- Orebodies have scale potential
 - 20 -100 million tonnes
- Low mining cost potential
 - Shallow ore
 - Low strip ratio
 - Large scale
- Simple metallurgy
 - Acid leach process
 - Proven technology
 - Implemented at Glencore's Murrin-Murrin processing facility in Western Australia
- Acid plant within 30-90 km
- Development options:
 - Sale to Glencore PLC
 - Sale to GME Resources
 - Co-develop with GME
 - Full mine development

[#] At gold \$US1250/Oz, Nickel 12500/t and Cobalt 75,000/t – 10/01/2018

- **Coronation Dam, Western Australia**
 - Near surface cobalt-nickel mineralisation 5.7km long, and 1 km wide
 - Cobalt assays up to 0.68 % cobalt including:
 - 16 metres at **0.42% cobalt** and 1.0% nickel
 - 24 metres at 0.23% cobalt and 0.8% nickel
- **Ghan Well, Western Australia**
 - Near surface cobalt-nickel mineralisation 11km long and to 1.8km wide
 - Cobalt assays up to 0.76 % cobalt including:
 - 12 metres at 0.14% cobalt and 0.78% nickel
 - 11 metres at 0.14% cobalt and 0.99% nickel
- **Coglia Well, Western Australia**
 - Nickel and cobalt mineralisation 7.5km long and 1-2km wide
 - Drill assays up to **3% nickel** and **0.25% cobalt** including:
 - 16 metres at 0.16% cobalt and 0.65% nickel
 - 12 metres at 2.2% nickel and 0.06% cobalt

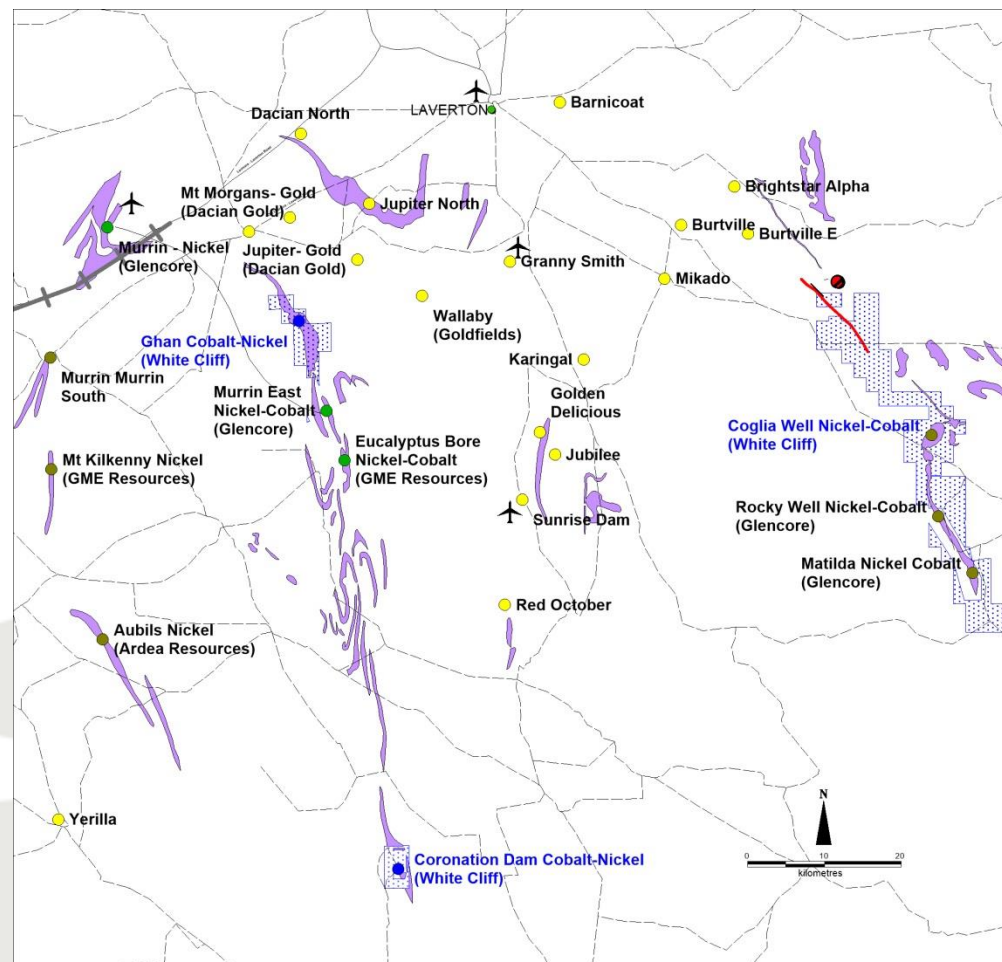
Location and Infrastructure



- Western Australia
 - Tier 1: World class location
- Close to regional mining support hubs
 - 250km to Kalgoorlie
 - 760km to Perth
- Excellent access roads
- Adjacent to operating mine
 - Camp/Power/Fuel
 - Mill/Plant
- Within 40km of rail
- Within 30km of acid plant

Regional Mining Activity

- Murrin nickel-cobalt deposit
 - Total resource: 330 Mt at 1% nickel and 0.064% cobalt
 - Murrin East: 66.4 Mt at 1.1% nickel and 0.09% cobalt
 - Glencore PLC
- NiWest nickel-cobalt deposit
 - Total Resource: 81Mt at 1.03% nickel and 0.06% cobalt
 - Eucalyptus Bore: 35Mt at 1% nickel and 0.06% cobalt
 - GME Resources
- Regional mines
 - Mt Morgan Gold (Dacian)
 - Wallaby Gold (Goldfields)

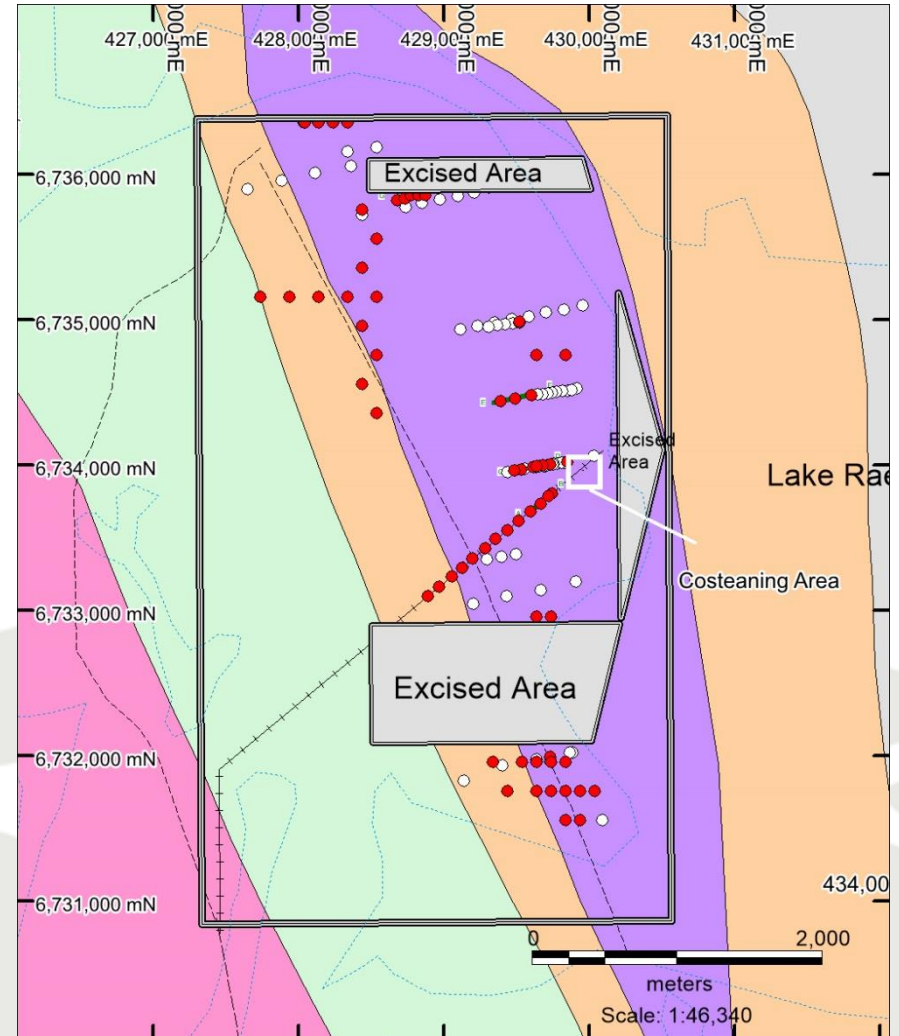


Coronation Dam Cobalt Project (100%)



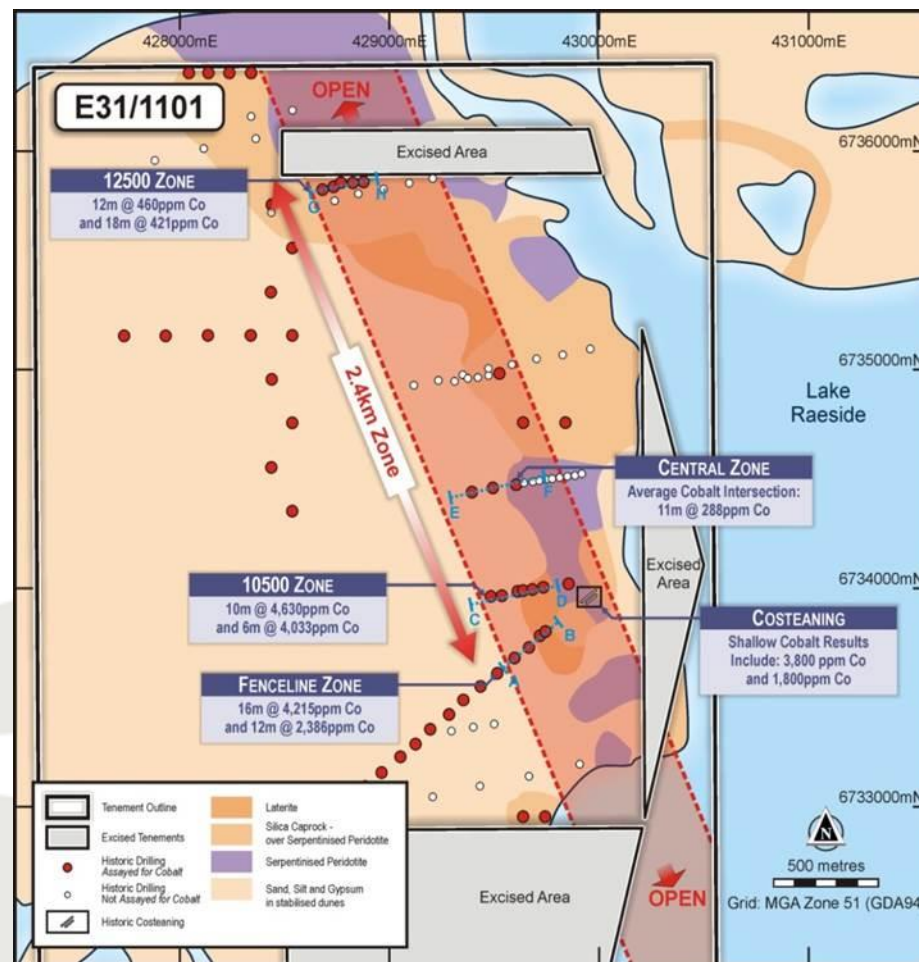
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- 16 km² tenement
- Extensive shallow cobalt-nickel oxide blanket
 - High cobalt grades
 - Scale potential
- Near mining infrastructure
 - 90km from Murrin-Murrin nickel-cobalt plant (Glencore PLC)
 - 45km from Mt Kilkenny proposed cobalt-nickel plant (GME Resources)
- Extensive mineralisation identified including:
 - 16 metres at **0.42% Co** and **1.0% Ni**
 - 10 metres at **0.46% Co** and 1.2% Ni
 - 24 metres at 0.23% Co and 0.8% Ni
 - 28 metres at 0.13% Co and 0.74% Ni
 - 32 metres at 0.12% Co and 0.92% Ni



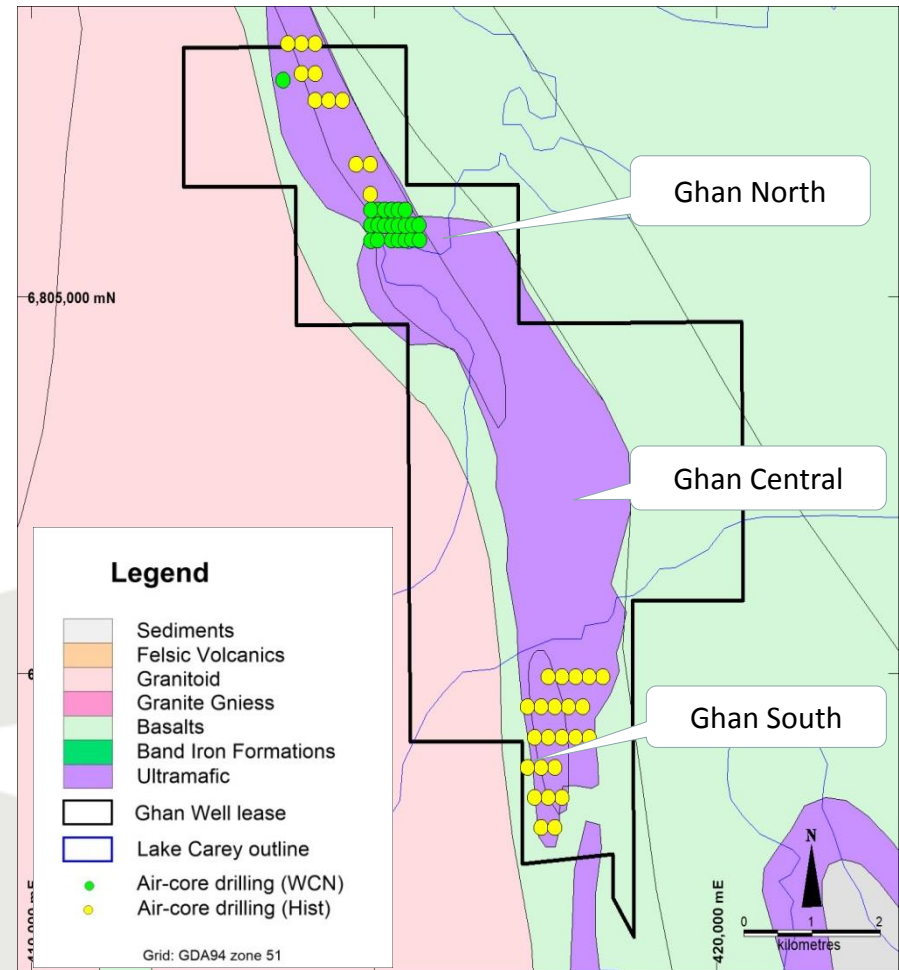
Coronation Dam Cobalt - Exploration

- Substantial scale target
 - 5.7 km long ultramafic unit
 - 1km wide
- Limited wide spaced drilling
 - 126 holes, 63 RC and 63 RAB
 - Total of 4,581m
 - Drill lines 500 to 1000m apart
- Proposed drilling
 - 3,000m Air-core drilling
 - Test extents of resource
- Proposed metallurgy
 - Test upgrade characteristics
 - Test acid heap leachability



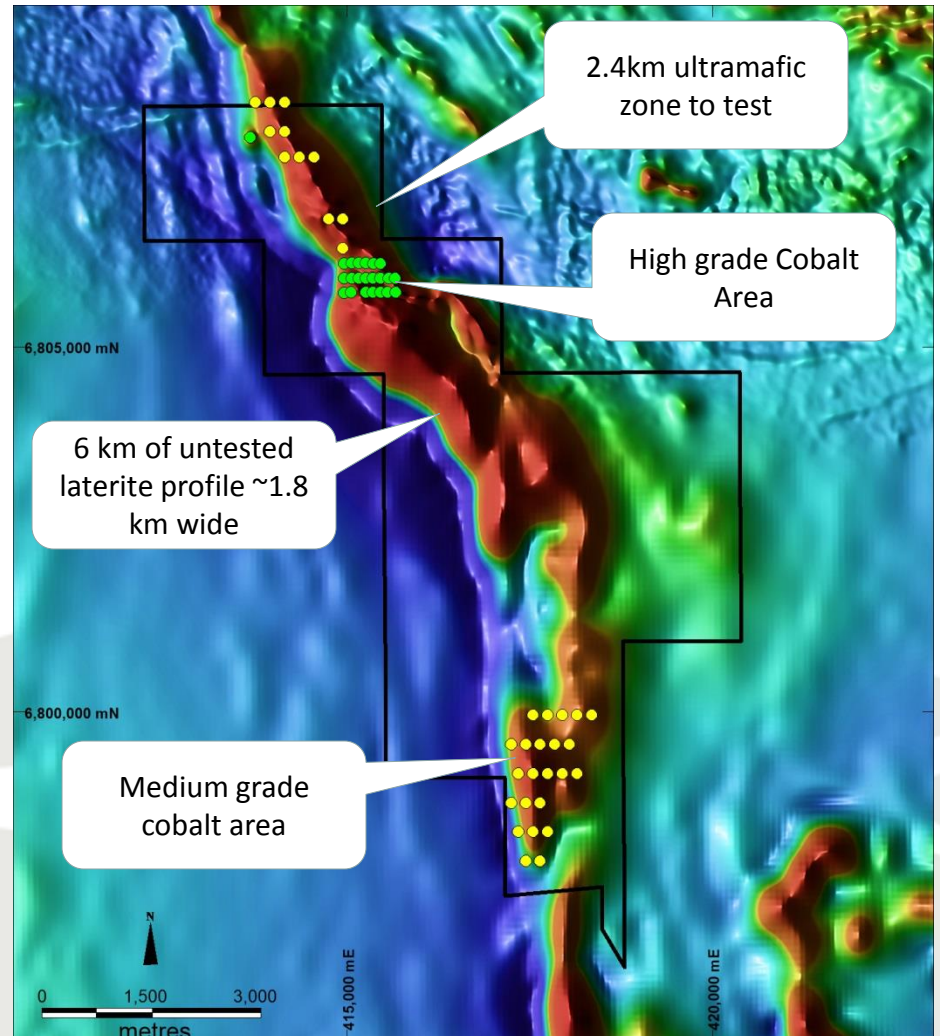
Ghan Well Cobalt Project (100%)

- 39 km² tenement
- Extensive cobalt-nickel layer
 - Shallow oxide ore
 - Large tonnage potential
- Near mining infrastructure
 - 26 km from Murrin-Murrin nickel-cobalt plant (Glencore PLC)
 - 35 km from Mt Kilkenny proposed cobalt-nickel plant (GME Resources)
- Extensive mineralisation including:
 - 6m at **0.21% Co** and 0.78% Ni
 - 4m at **0.27% Co** and 0.75% Ni
 - 8 m at 0.16% Co and 0.83% Ni
 - 12m at 0.15% Co and 0.78% Ni
 - 11m at **0.15% Co** and **0.99% Ni**



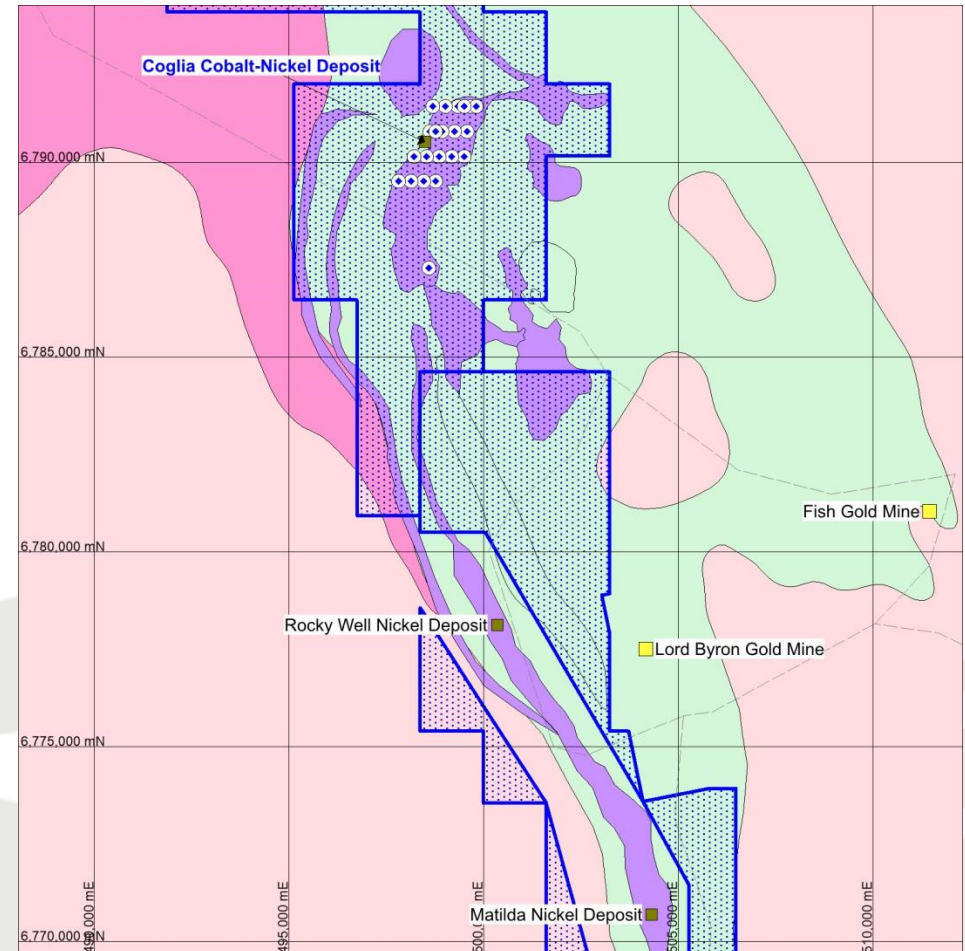
Ghan Well Cobalt - Exploration

- Large scale target
 - 11,000m long ultramafic target
 - 600 - 1,800m wide
- Limited existing drilling
 - 54 RC holes, 2,557 metres
 - 6.3 km completely untested
 - 5.3 km sporadically tested
- Proposed drilling
 - 3,000m Air-core drilling
 - Test extents of resource
- Proposed metallurgy
 - Test upgrade characteristics
 - Test acid heap leachability



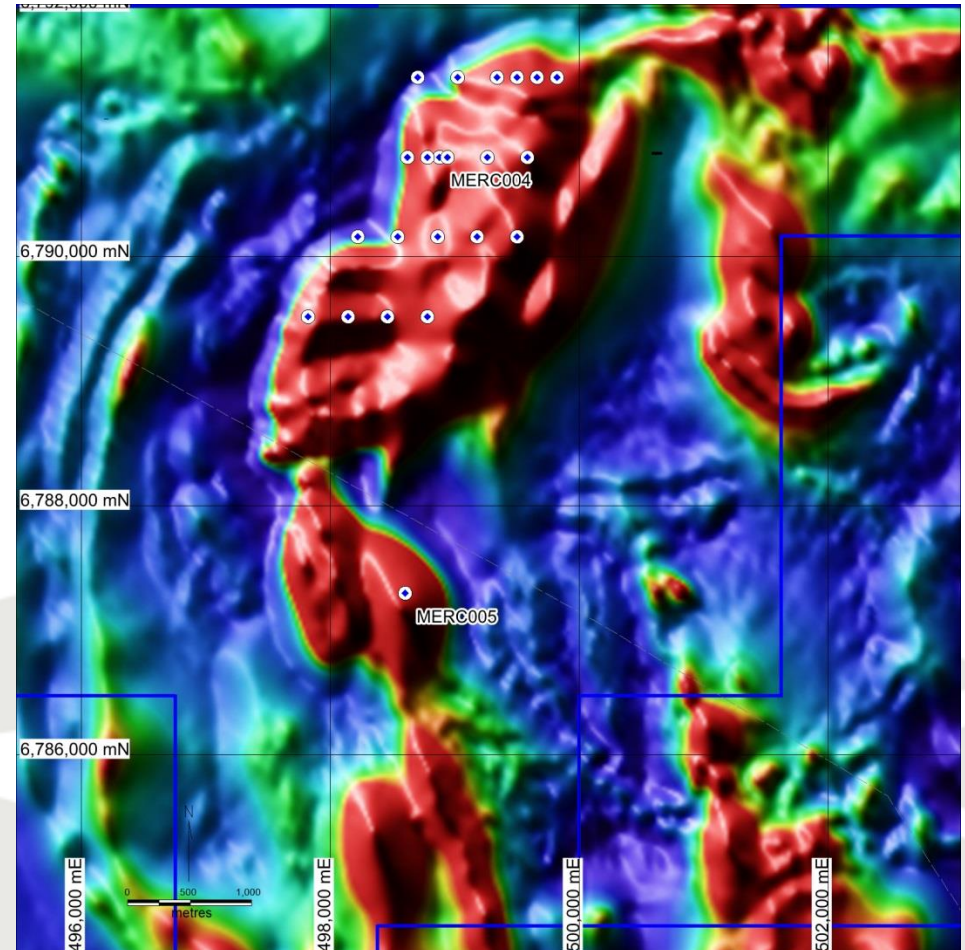
Coglia Well Nickel-Cobalt Project (100%)

- Substantial scale target
 - 70 km² tenement
 - 7.5 km long ultramafic unit
 - 1-2km wide
- Adjacent Glencore's Rocky Well and Matilda Ni-Co deposits
 - 29Mt at 0.11% Co and 1% Ni
- Extensive mineralisation identified including:
 - **16 metres at 0.16% Co & 0.65% Ni**
 - **12 metres at 2.2% Ni & 0.06% Co**
 - **4 metres at 3.0% Ni & 0.06% Co**



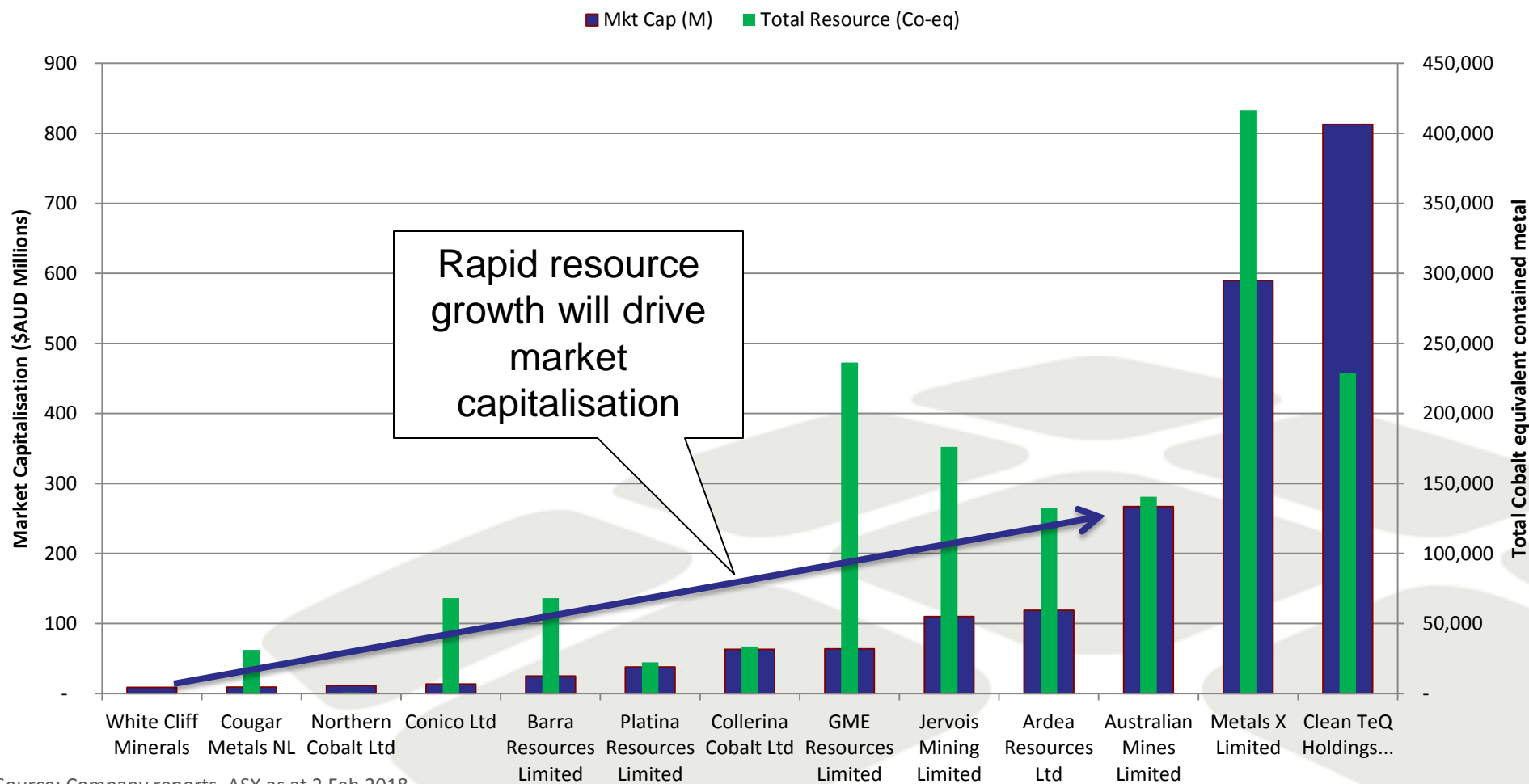
Coglia Well Nickel-Cobalt – Exploration

- Limited wide spaced drilling
 - 22 RC holes for 2,065m
 - Drill lines 640 metres apart
 - Strongly Mineralised
- Proposed exploration
 - 3,000m RC drilling program
 - Test extents of resource
 - Test strong cobalt results on southern half of tenement
- Proposed metallurgy
 - Test upgrade characteristics
 - Test acid heap leachability



Australian Cobalt-Nickel Peer Comparisons

Market Capitalisation and Co-equivalent total contained metal



Source: Company reports, ASX as at 2 Feb 2018

- Multiple Australian **cobalt-nickel** projects - substantial potential
 - High cobalt grade and large scale resource potential
 - Located near major nickel and cobalt refining Infrastructure
 - Multiple development options and 100% owned
- Planned exploration programs ready for execution
 - RC drilling designed to **deliver JORC compliant resources**
 - Metallurgical test work to establish recovery and leach kinetics
- Investment rationale
 - Extensive cobalt and nickel mineralisation already **identified**
 - Highly **leveraged** to rising cobalt and nickel prices
 - Restricted cobalt supply but high cobalt demand
 - Ethical cobalt production from a Tier 1 Country- Australia

Important Information

Competent Person Statement

- The information in this report that relates to Exploration Targets is based on information compiled by Mr Todd Hibberd, B.Sc Hons (Geol), MSc (mineral economics), Dip Bus, Member AusIMM, Member AICD and an employee of White Cliff Minerals Limited. Mr Hibberd has sufficient experience that is relevant to the style of mineralization 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. Mr Hibberd consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

Exploration Results and Mineral Resource Reporting

- The information in this report that relates to Exploration Results is extracted from the following announcements:
 - announcement entitled “**Significant Cobalt Mineralisation Identified at Ghan Well Prospect**” dated 29 May 2017;
 - announcement entitled; “**Substantial Cobalt-Nickel Mineralisation identified at WA project** ” dated 29 January 2018 and;
 - announcement entitled “**Cobalt and Nickel Mineralisation identified at Cogleia Well**” dated 5 February 2018.
 - The above announcements are available to view at <http://wcminerals.com.au/asx-announcements/>
- The Company is not aware of any new information that materially affects the information included in the above announcements relating to relating to Exploration Results and Mineral Resources and all material assumptions and technical parameters underpinning the exploration Mineral Resource 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 original market announcements

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