



**MALLEE  
RESOURCES  
LIMITED**

# CRITICAL MINERALS FOR A SUSTAINABLE FUTURE

## AVEBURY NICKEL - A TRANSFORMATIVE ACQUISITION OPPORTUNITY

JUNE 2022



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## REFERENCES TO MINERAL RESOURCES 2022

The Mineral Resource estimate including JORC Table 1, sections 1, 2 and 3 and the competent persons statement has been previously reported by the Company in accordance with the 2012 Edition of the 'Australasian Code for Reporting of Exploration results, Mineral Resources and Ore Reserves' (JORC Code) on 8 April 2022 and is publicly available at <https://bit.ly/3jifzIM>. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

## PROSPECTUS

The Company is in the process of preparing a prospectus (Prospectus) for the offer of fully paid ordinary shares in the capital of the Company (Shares) in relation to the capital raising contemplated by the Presentation Materials. A copy of the Prospectus is anticipated to be available by June 2022 and will be available on the Company's website at <https://malleeresources.com.au/>. All offers of Shares for the capital raising referred to in the Presentation Materials will be made in, or accompanied by, the Prospectus. Investors should consider the Prospectus in deciding whether to acquire Shares and any person who wishes to apply for Shares must complete the application form that will be in or will accompany the Prospectus.



# Australia's next nickel sulphide producer

## Class-1 nickel in tier one location

- Substantial nickel sulphide Mineral Resources of 29.3 Mt at 0.9% Ni (264 Kt contained Ni) (JORC 2012)<sup>1</sup>
- Tasmania is an excellent mining jurisdiction
- Readily available, skilled local workforce

## Short term production potential

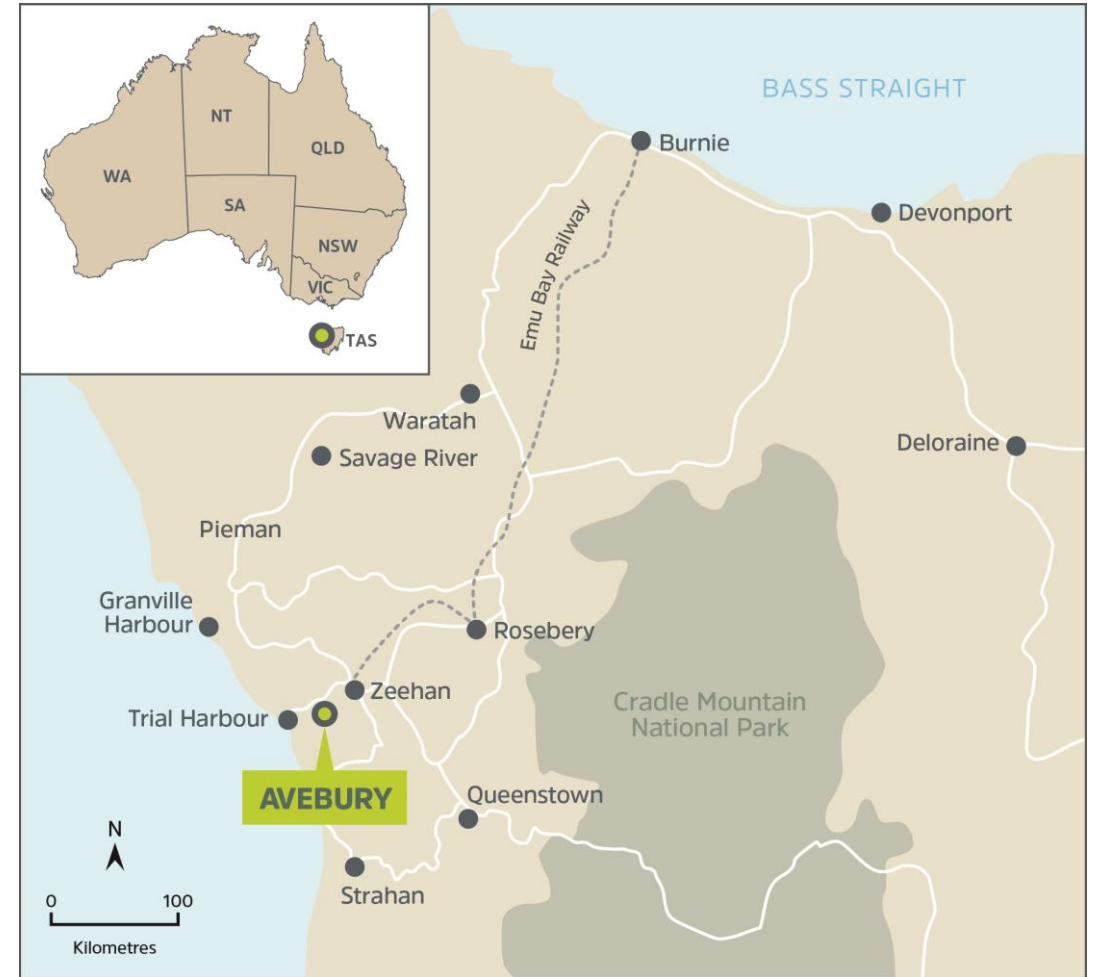
- Mining operations have commenced at Avebury
- Underground mine and processing plant are in excellent condition and allow for a short term re-start to production

## Experienced executive team

- Track record in base, battery and precious metals
- Demonstrated ability to deal with complexity and challenges

## Positioned for a low carbon future

- MYL is aligned with the ICMM Mining Principles and has adopted the Global Reporting Initiative framework (GRI)
- Tasmanian grid power is 100% renewable<sup>2</sup>



### Notes:

1. See page 2 on references to Mineral Resources

2. Tasmanian Government ([https://recfit.tas.gov.au/renewables/100\\_target\\_achievement](https://recfit.tas.gov.au/renewables/100_target_achievement))

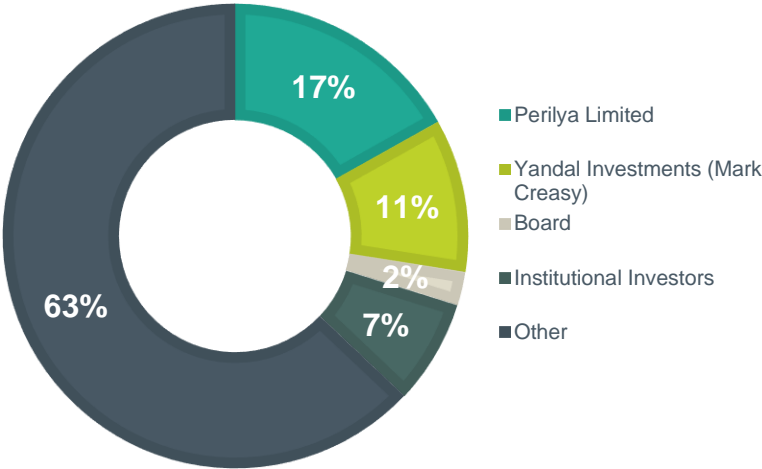


# Corporate snapshot

## Capital Structure

	Current Position	Proforma Position
Shares on issue	▪ 190.1 m.	▪ 419.7 m.
Unlisted Options	▪ 5.3 m.	▪ 5.3 m.
Performance Rights	▪ 4.6 m.	▪ Nil
Cash position	▪ A.\$47.6 m.	▪ A.\$84.0 m.
Debt position	▪ Nil	▪ US\$30.0 m.

## Key Shareholders



## Board



### Jeffrey Moore, Non-Executive Chairman

- B.Sc, MAusIMM, MGSA
- Geologist with extensive technical, managerial and project finance experience
- Former Director and CEO of significant ASX listed mining companies



### John Lamb, Managing Director

- B. Surv(IT), Grad Dip Management, MBA, FAusIMM(CP), GAICD
- Over 30 years experience across mining, construction, forestry and logistics sectors
- Former General Manager of the Avebury Mine and Rosebery Mines in Tasmania. Former General Manager of the Century Zinc Mine in Queensland



### Rowan Caren, Executive Director, CFO & Company Secretary

- B. Com, CA
- Over 30 years experience in natural resources sector providing financial and corporate services
- Extensive Director and company secretarial experience



### Paul Arndt, Non-Executive Director

- B. Sc, MBA, MSc, Grad Dip Engineering
- Managing Director and Chief Executive Officer of Perilya
- Formerly held senior positions with Newcrest, Pasminco and MIM



### Steve Hendel, (Proposed Nominee Director of Hartree)

- B.A, J.D
- Founding Partner and Managing Director of Hartree
- Chairman of Sprague Resources LP. Former Partner at Goldman Sachs

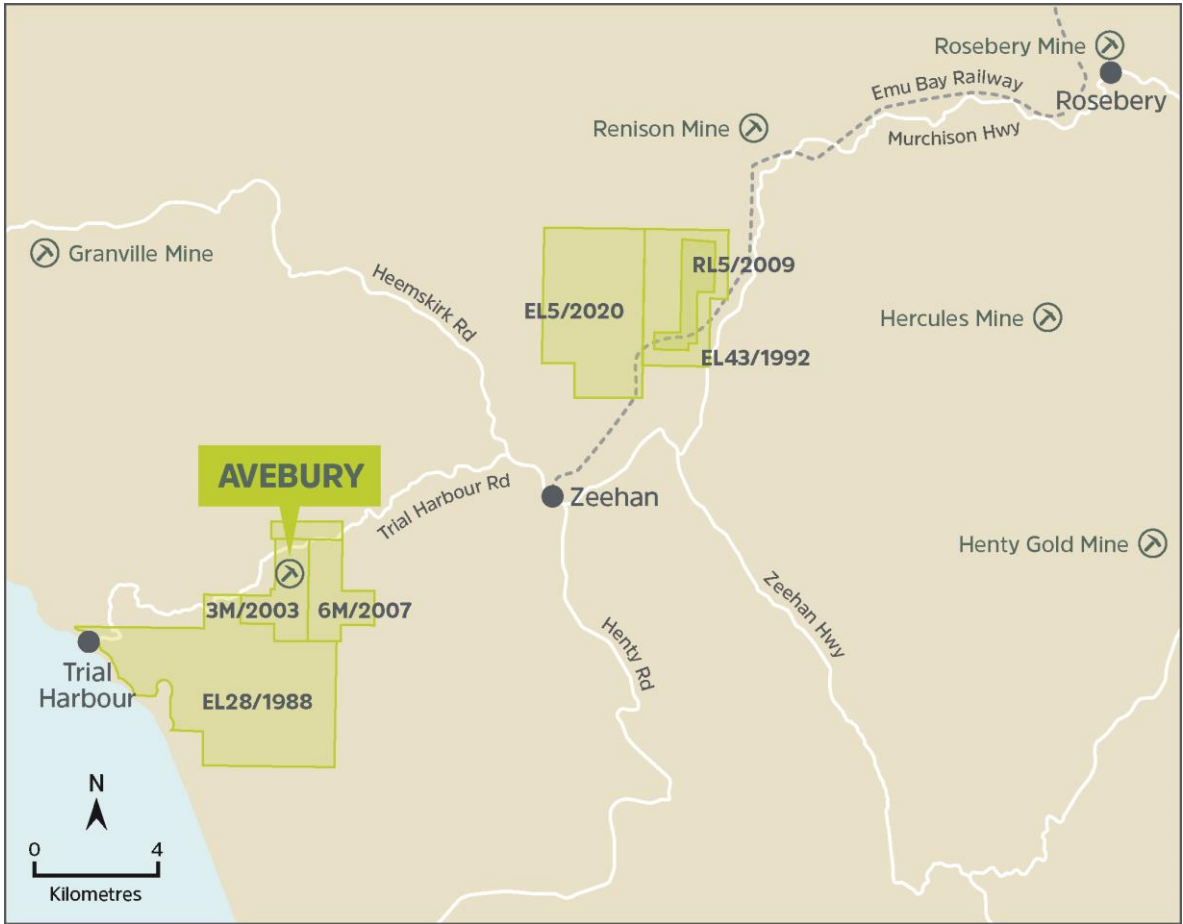
Notes:  
1. Proforma values are as per the notice of meeting published on the ASX on 30 May 2022. The proforma shares on issue, cash and debt positions are forward looking estimates and are subject to uncertainty. These estimates assume effectuation of MYL's DOCA for Allegiance Mining Pty Ltd, a US\$30 M. debt facility being entered into with Hartree and a A\$70 m. equity capital raising (at a price of A\$0.70 per share). Current cash position and debt position as at 8/6/22



# Compelling acquisition of a highly prized asset

Acquisition	<ul style="list-style-type: none"><li>MYL acquires 100% of the shares of Allegiance via a deed of company administration (DOCA)</li><li>The DOCA extinguishes creditor claims and terminates non-governmental royalty agreements</li></ul>
Consideration	<ul style="list-style-type: none"><li>\$85.9 m. in cash and shares</li><li>~\$23.2 m. reimbursement of expenses incurred during the DOCA terms</li><li>~\$5.6 m. of fees payable to the receivers, legal fees and accrued interest</li></ul>
Outstanding Approvals	<ul style="list-style-type: none"><li>MYL shareholder approval</li><li>FATA approvals</li></ul>
Other Proposed Agreements with Hartree	<ul style="list-style-type: none"><li>Life of mine offtake agreement</li><li>Loan agreement</li><li>Hedging agreement</li><li>Security documentation</li></ul>
Hartree Metals LLC (Hartree)	<ul style="list-style-type: none"><li>Secured creditor of Allegiance Mining Pty Ltd (Allegiance) and co-proponent of the DOCA for Allegiance</li><li>Hartree is a metal trader and is part of Hartree Partners, a global energy and commodities firm</li><li>Funds managed by Oaktree Capital Management are the majority shareholder of Hartree Partners</li></ul>

Map of Avebury Tenements





# Avebury assets to be acquired by MYL under the DOCA

*Avebury processing facilities and infrastructure*

Project Interest	<ul style="list-style-type: none"><li>▪ 100%</li></ul>
Licences	<ul style="list-style-type: none"><li>▪ 2 Mining Licences</li><li>▪ 2 Exploration Licences</li><li>▪ 1 Retention Licence</li></ul>
Project Location	<ul style="list-style-type: none"><li>▪ 8km west of the town of Zeehan on Tasmania's western coast within a known mining district</li></ul>
Mineral Resources	<ul style="list-style-type: none"><li>▪ 29.3 Mt at 0.9% Nickel for 264 Kt contained nickel (JORC 2012)<sup>1</sup></li></ul>
Project Status	<ul style="list-style-type: none"><li>▪ Avebury plant and infrastructure established around 2007</li><li>▪ Avebury plant produced for 9 months from 2008 and has been on care and maintenance since 2009</li><li>▪ Plant and site infrastructure remains in excellent condition</li></ul>
Mine and Plant	<ul style="list-style-type: none"><li>▪ 8,500 m of underground development</li><li>▪ 900 ktpa processing plant</li></ul>
Infrastructure	<ul style="list-style-type: none"><li>▪ Access to mine site is via a high quality, purpose-built bitumen road</li><li>▪ Emu Bay Railway is in close proximity to Avebury<sup>2</sup></li><li>▪ Export facility at the Port of Burnie can be efficiently accessed by road or rail</li></ul>

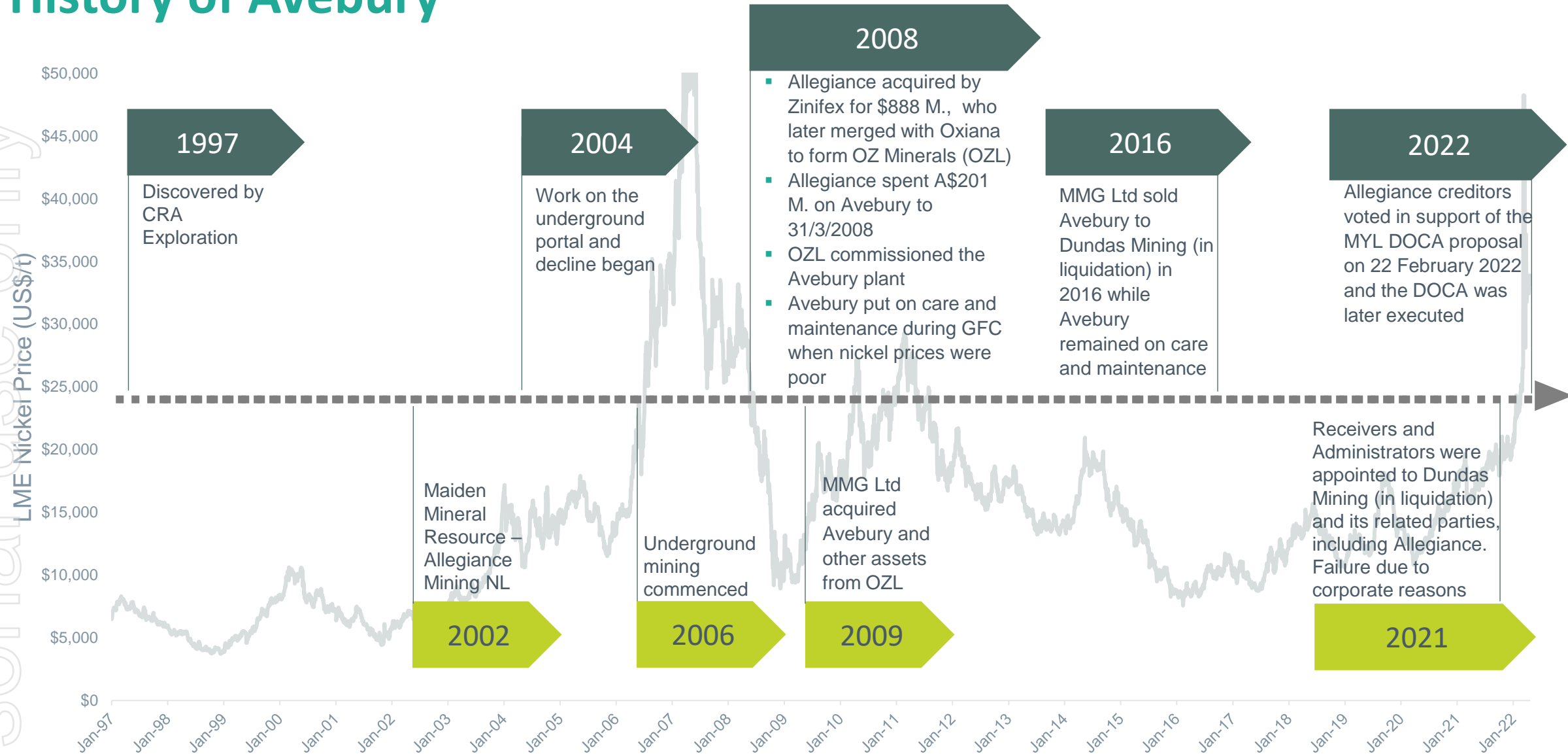


Notes:

1. See page 2 on references to Mineral Resources
2. A rail logistics study has not been completed to date. Upgrades to existing TasRail railway lines or infrastructure may be required.



# History of Avebury



## Notes:

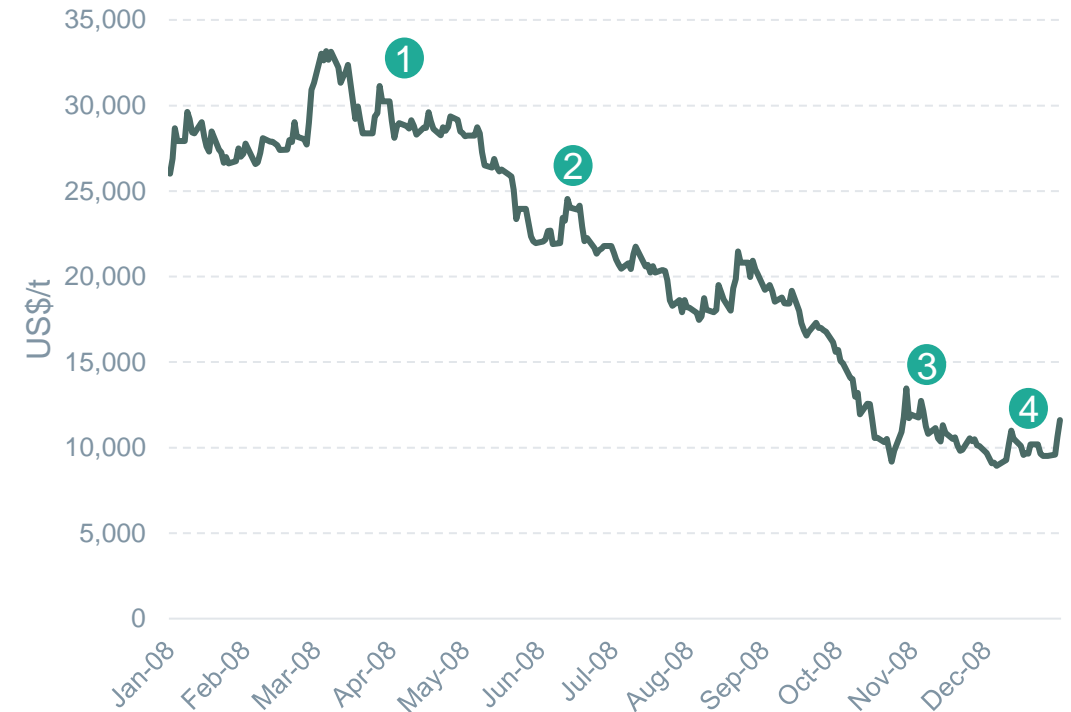
1. Source: Allegiance Mining NL, Zinifex Limited and Oz Minerals Limited ASX announcements.



# Why did production at Avebury cease?

- Avebury was commissioned in 2008 in the global financial crisis. Nickel prices fell 68% during commissioning, below US\$10,000 / t
- OZL announced major cuts to the capital and operating budgets of its mines including Avebury and had difficulty in re-financing its debt facilities
- Less capital equipment and financial resources were available to facilitate the commissioning which allowed no tolerance for commissioning challenges, including the management of arsenic in the Avebury ores. This was further compounded by an offtake agreement which did not allow for the sale of concentrates outside of China, a country which has strict arsenic importation limits
- In December 2008, after producing 10kt of nickel concentrate, OZL announced that the Avebury operation was not profitable and that it would be placed on care and maintenance

2008 LME Spot Nickel Price



- 1 Avebury plant commissioning commences
- 2 First concentrate produced
- 3 OZL suspended pending re-finance of debt
- 4 Avebury placed on care and maintenance

Notes:

1. Source: Allegiance Mining NL, Zinifex Limited and Oz Minerals Limited ASX announcements.

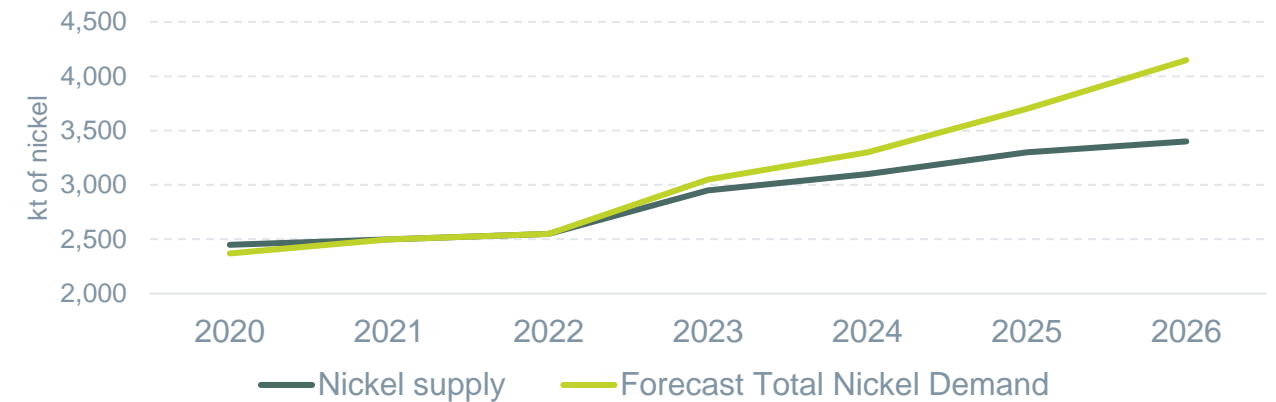




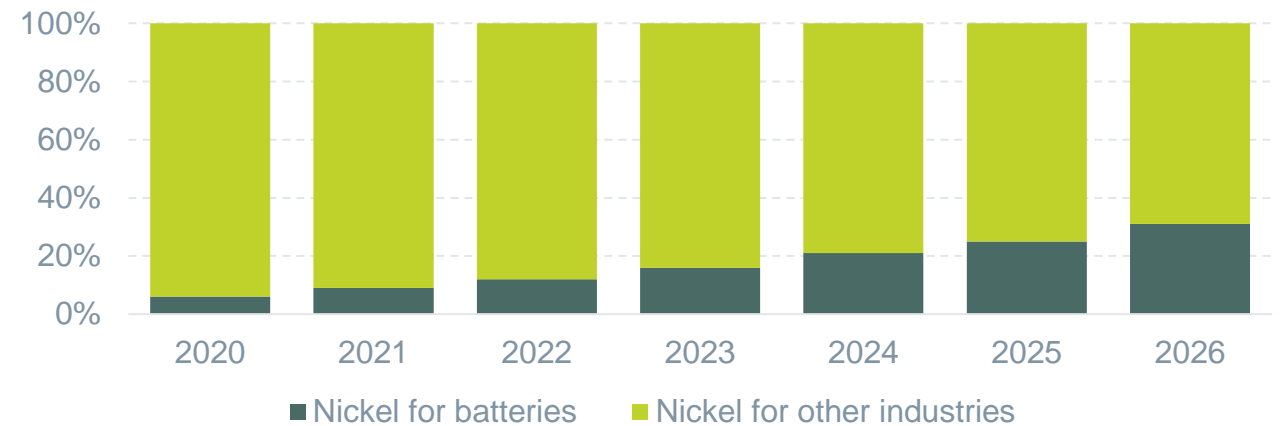
# A favourable landscape for a re-start of Avebury

- **Favourable nickel pricing environment.** Spot LME nickel prices and futures contracts are well above US\$25,000 /t
- **Robust demand outlook.** Demand for nickel in battery technologies provides a robust outlook:
  - ~20 million passenger EV sales in 2025 is expected to grow to over 70 million by 2040<sup>1</sup>
  - High nickel content batteries are the key to longer range, more efficient EV's
  - Downstream users are seeking responsibly sourced Class-1 nickel
- **Short path to re-start.** The care and maintenance program has kept the mine and processing plant in good condition allowing for a start to mining operations. Processing operations will commence once sufficient ore stockpiles are available on the ROM pad

*Global Nickel Supply Capacity & Demand <sup>2</sup>*



*Forecast Global Use For Nickel By End-Use Industry <sup>2</sup>*



**Notes:**

1. Wood Mackenzie
2. Rystad Energy Battery Metals Cube, Rystad Energy research and analytics



# An enviable ESG proposition



MINING WITH  
**PRINCIPLES**

## Environmental

- **Renewable grid power.** A rare opportunity to decarbonise a mining operation
- **Small disturbance footprint.** Key mine infrastructure is established and permitted
- Tailings storage facility permitted. Future tailings to be backfilled into underground mine
- Mine has a waste rock deficit. No surface waste landforms will be created
- **Improving water quality.** Positive site water balance. Avebury wetlands enhancing water quality
- Conservation plans in place to protect local fauna

## Social

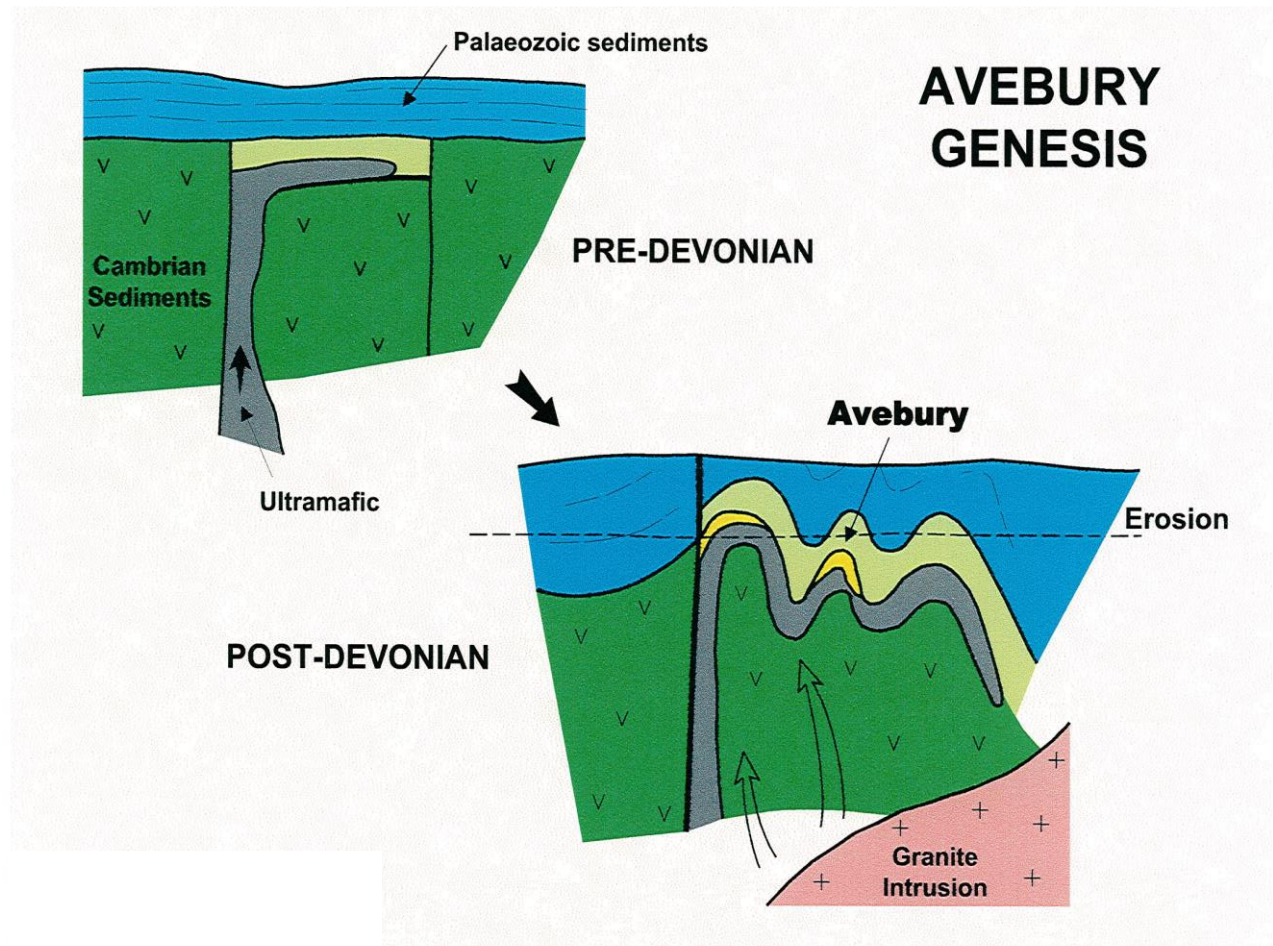
- **Zero LTI within the past 24 months**
- Safety conscious culture with implementation of workplace management procedures
- **Local workforce.** New jobs start with locals
- No native title disputes
- Strong Tasmanian Government support

## Governance

- Aligned with International Council on Mining & Metals (ICMM) Mining Principles
- Global Reporting Initiative (GRI) reporting framework
- ASX Corporate Governance Principles and Recommendations

# Geology of Avebury

## Avebury Genesis Model<sup>1</sup>



Notes:

1. See MYL announcement date 8 April 2022.

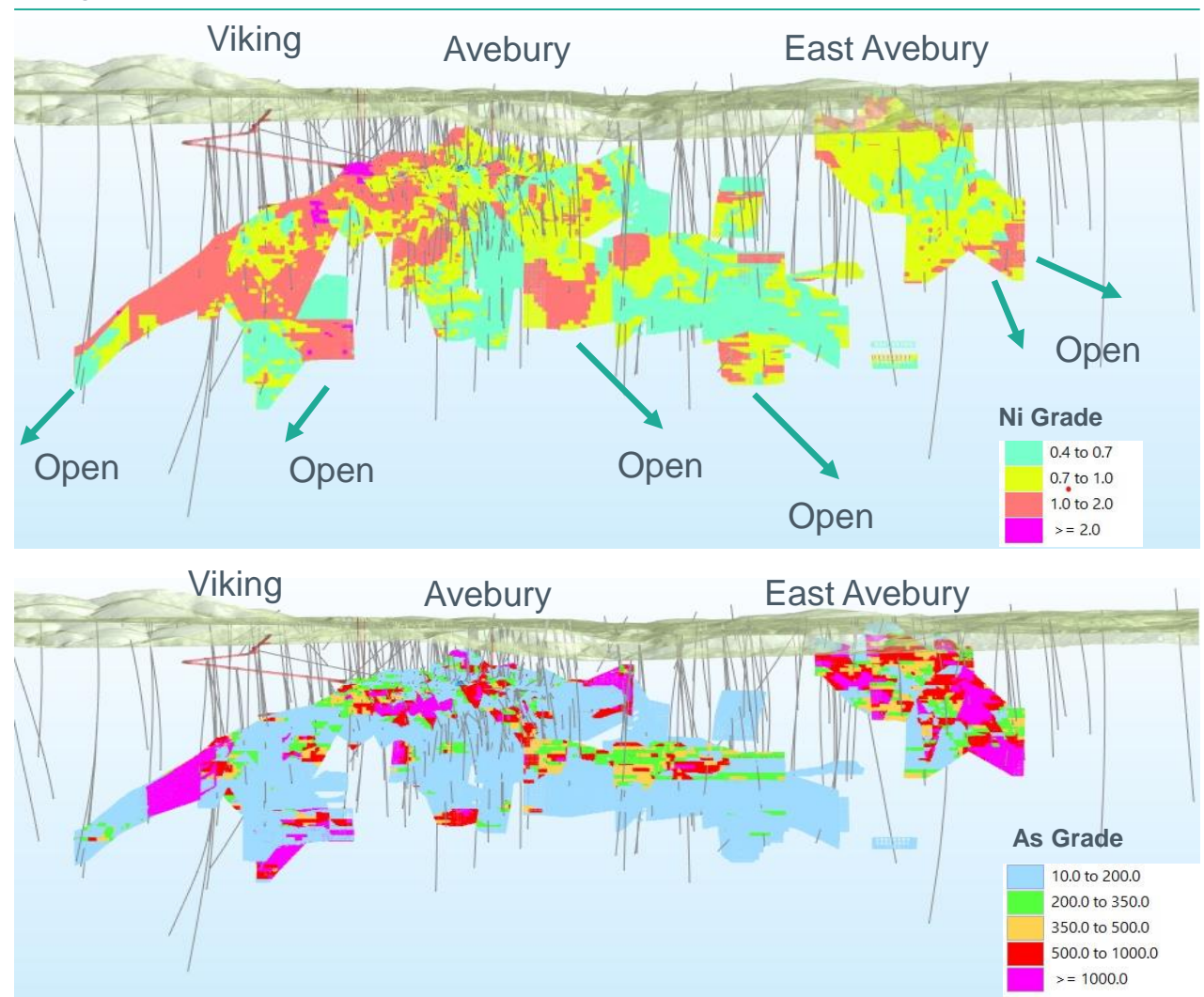




# Enhanced understanding of Avebury

- An ore genesis model developed using all the drilling data, including data acquired post Avebury being placed on care and maintenance, supports the view that Arsenic (As) is within discrete zones within the ore body
- MYL's solutions to managing arsenic
  - Better understanding of As distribution allows for As management in the mine schedule
  - Blending of run-of-mine ore to optimise As grade
  - Blending of concentrate to optimise As grade
  - Proposed Hartree offtake agreement allows for sales of nickel concentrate outside of China, where higher thresholds are permitted, and at a much wider range of grades than previous sale contract
  - An investment in a small leach plant or gravity circuit to remove nickel arsenides from concentrate
- None of these solutions were effectively implemented by the prior operator of Avebury due to a lack of financial resources and the low nickel price environment

*Long Sections of Avebury Block Model for Nickel (Upper) and Arsenic (Lower)*



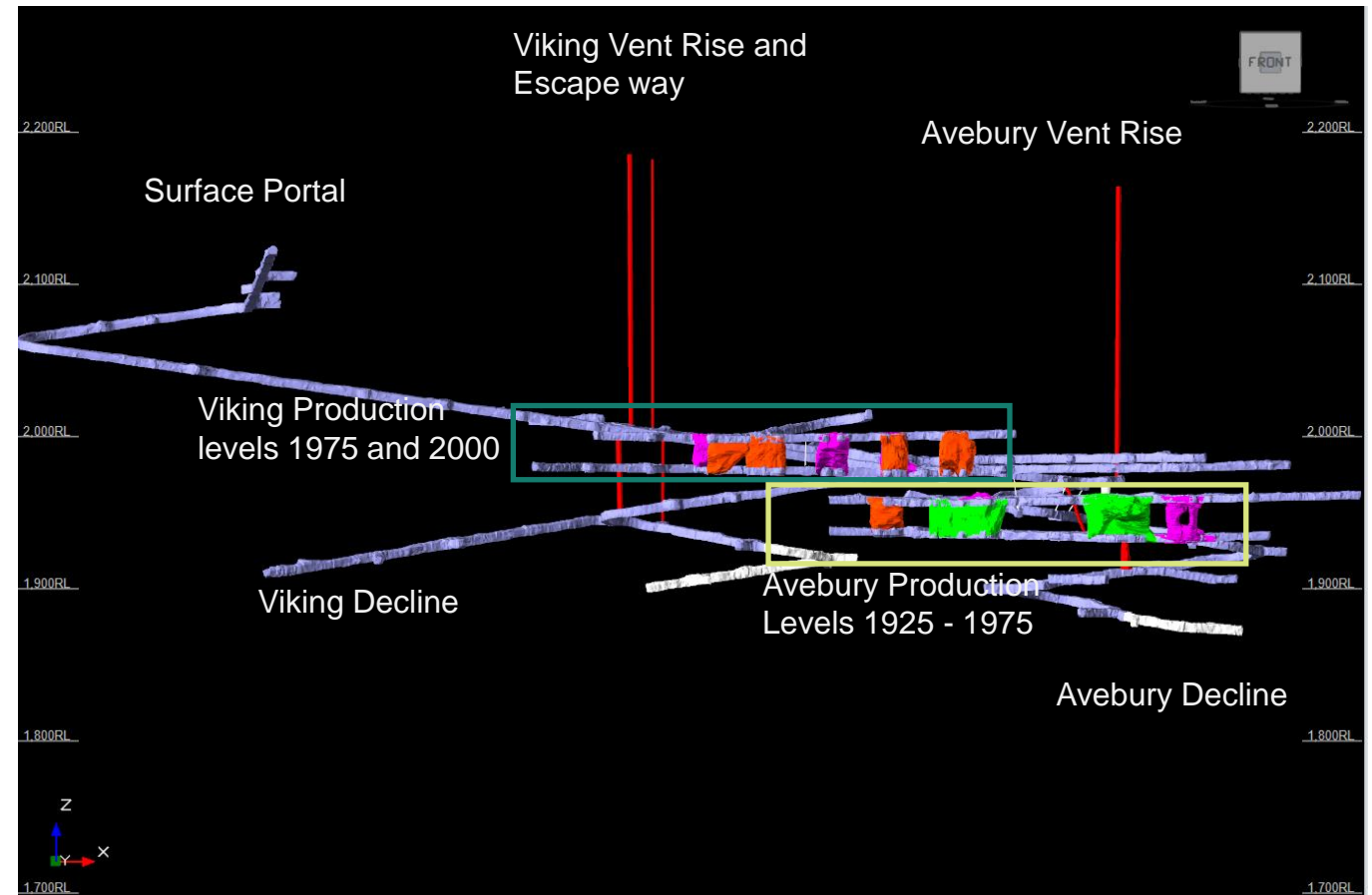
# Advanced underground mine

The Avebury underground is an established, modern underground mine with 8.5 km of underground development, two vent rises, an escape way and underground mine infrastructure

Advantages of Avebury:

- The ore body is close to surface
- Simple longitudinal and transverse stoping mining method will be utilised
- There is a relatively high proportion of stope ore to development ore
- Waste development has been completed well in advance of that needed for mine production (future production flexibility for blending)
- The three Avebury lodes are accessible from the existing decline and underground development, resulting in excellent mine working area flexibility

*Avebury Underground Mine*



# Established mine infrastructure



Underground Water Pumping Station



Avebury No.2 Vent Rise



Underground Electrical Substation



# Modern processing infrastructure

*Grinding and Flotation Circuits*



*Crusher House and Fine Ore Bin*



- Avebury's processing infrastructure is in very good condition with most of the processing equipment housed in sheds to prevent weathering
- Nameplate processing capacity of 900,000 tonnes of ore per annum, with potential for greater throughput identified<sup>1</sup>
- Designed to recover 79% of the nickel in ore to a nickel concentrate, with a nickel grade around 20%. Potential for enhanced metallurgical recovery identified<sup>1</sup>
- Site also includes stores, workshops, an administration building, land holdings and accommodation facilities
- Tailings storage facility is fully permitted and retains storage capacity

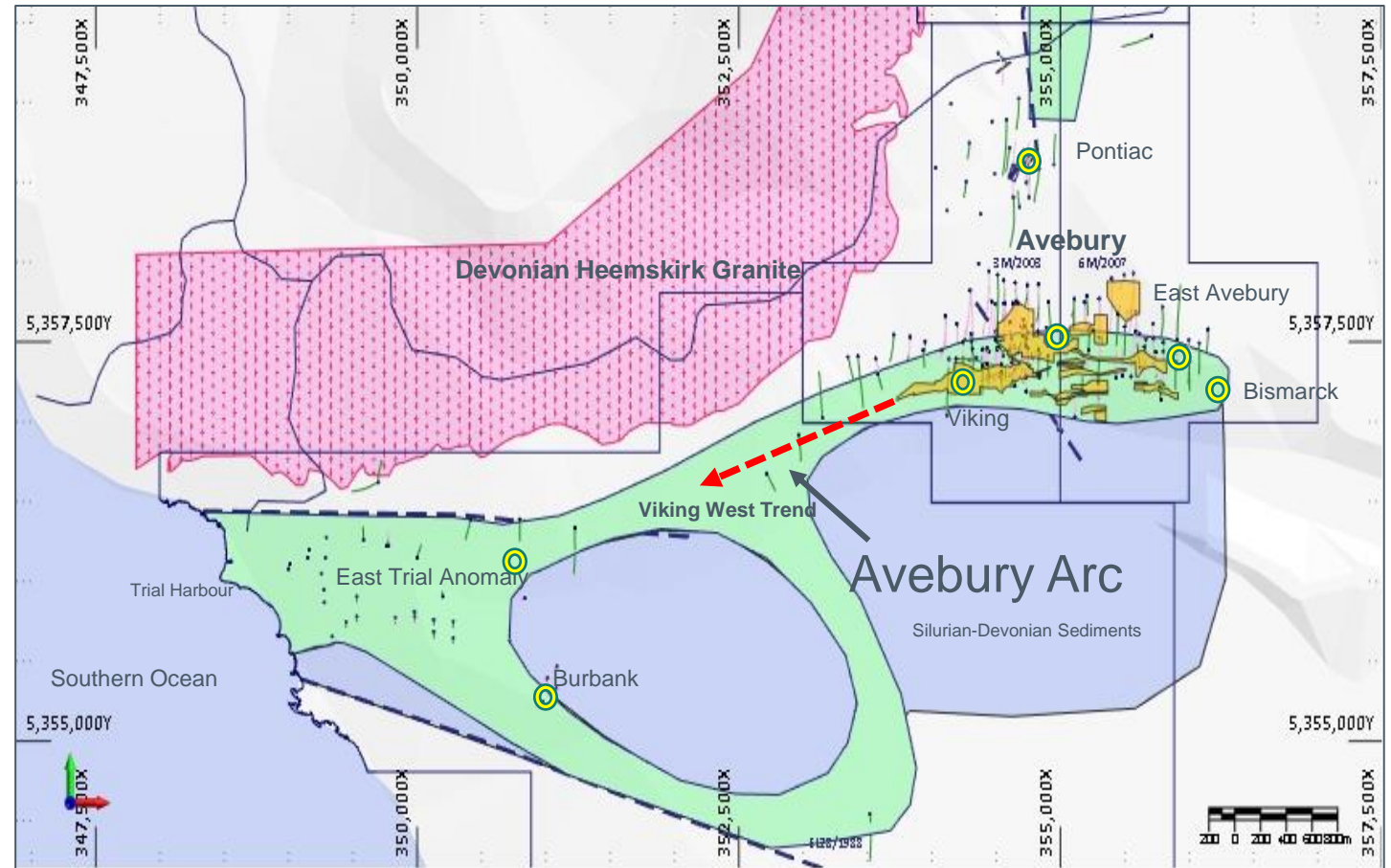
Notes:

1. Capacity enhancement and improved metallurgical recoveries are subject to further technical studies



# Only 12% of the Avebury Arc has been tested<sup>1</sup>

*Avebury Ultramafic Host Rock in the Avebury Region*



- There remains excellent potential for further Avebury-style deposits along the Avebury Arc (ultramafic host rock) as:
  - The Avebury region is underexplored
  - There is extensive source host rock
  - Nickel sulphide formation was due to serpentinization. Over 1km<sup>3</sup> of serpentinite is estimated to be hosted in the Avebury region<sup>2</sup>
  - Magmatic olivine in large ultramafic bodies provide an abundance of nickel to replace serpentinites<sup>2</sup>

Notes:

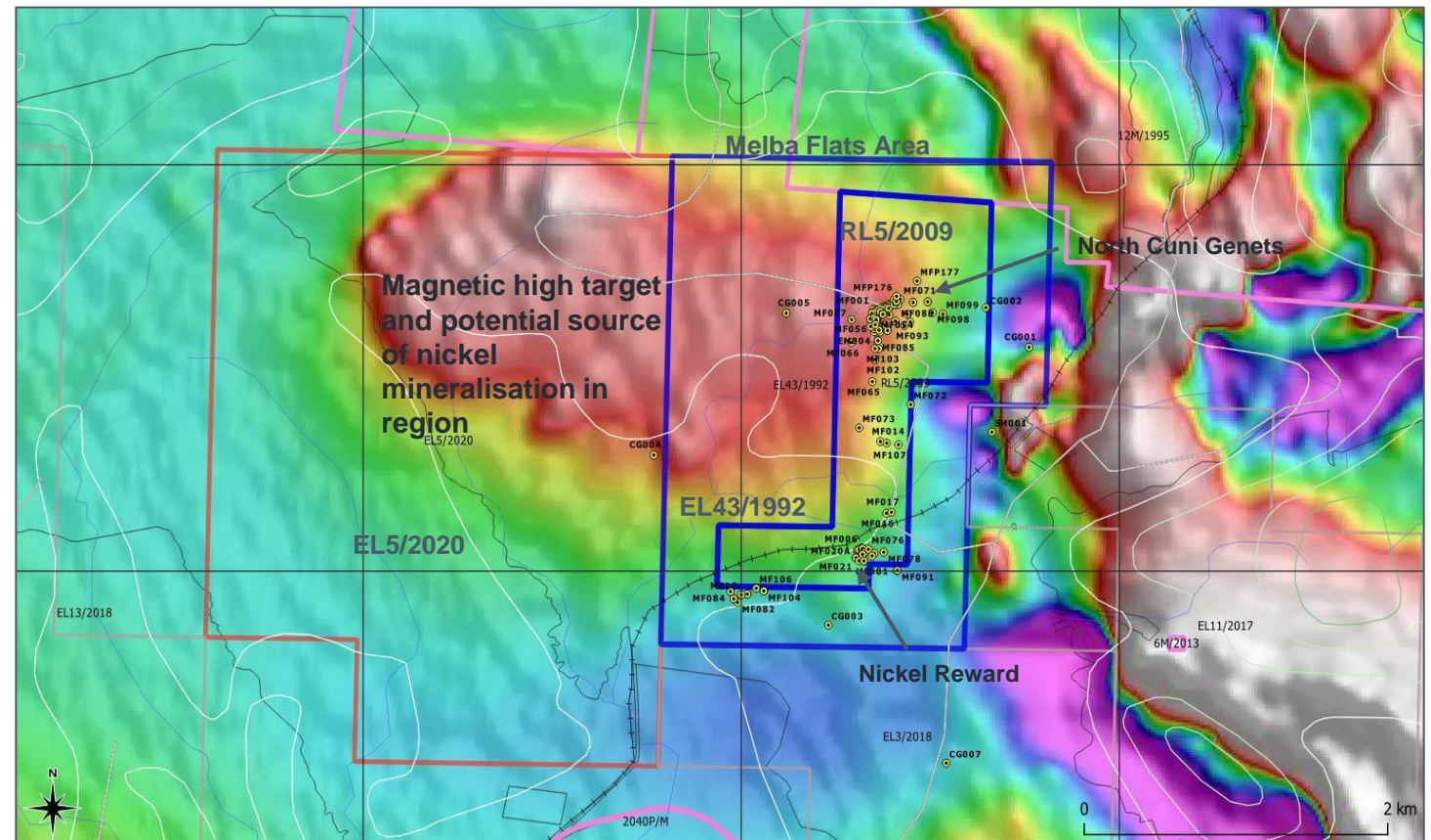
1. Zinifex Limited (2008). No material exploration has been undertaken along the Avebury Arc since 2008
2. Kamenetsky et. al. 2016





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### Avebury Tenements on Airborne Electromagnetic Survey Image

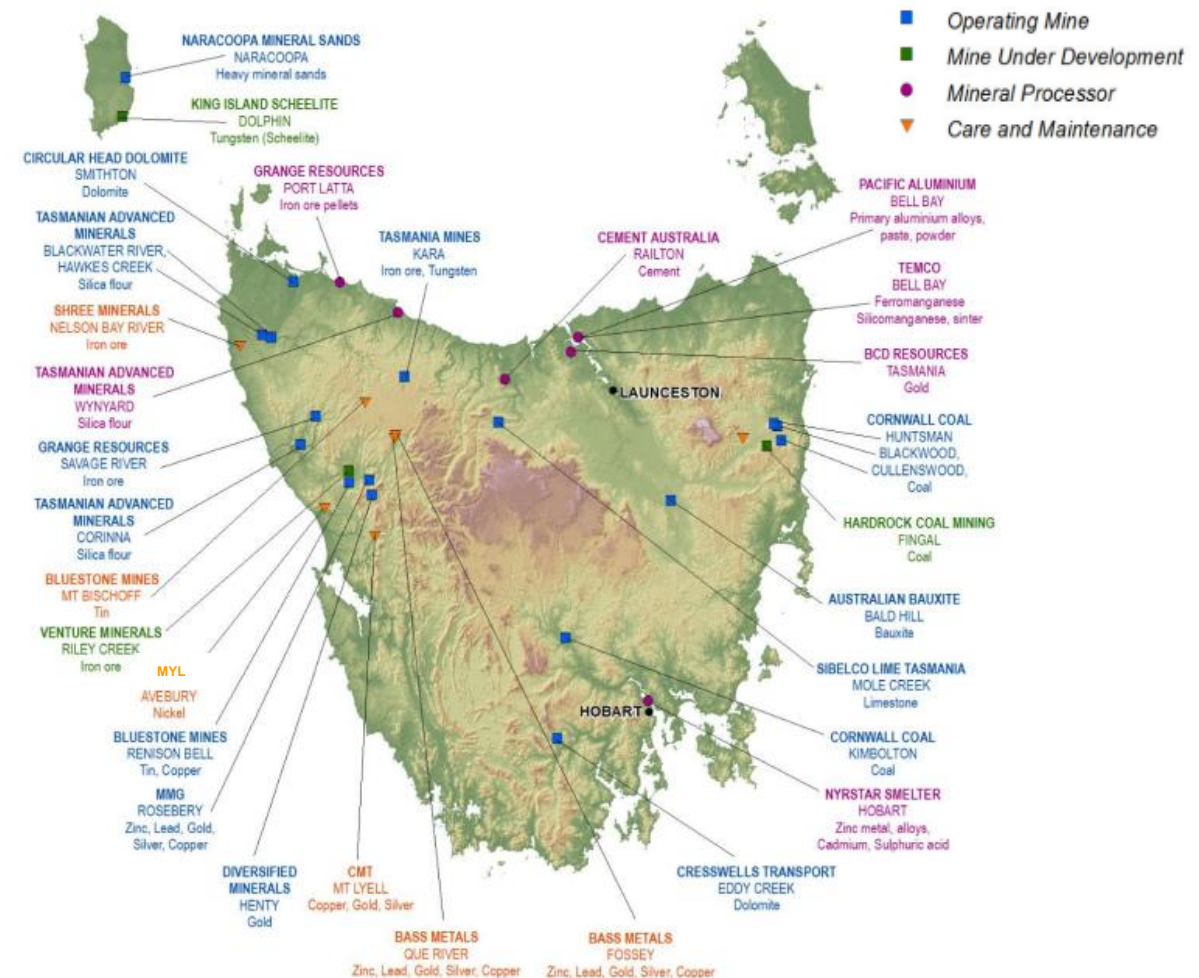




# Tasmania – a world class mining district

- One of the most highly mineralised regions in the world, with an extensive range of mineral deposits
- The mining and minerals processing sector is a key pillar of economic growth in Tasmania and the sector employs around 5,200 people<sup>2</sup>
- The majority of the state's mining operations are located in close proximity to Avebury in Western Tasmania. This includes the Rosebery (zinc, lead, gold, copper and silver), Renison Bell (tin) and Savage River (iron ore) mines
- \$2.8 billion worth of minerals were mined and processed in Tasmania in FY21 with \$2.3 billion of mineral products being exported. This accounted for 61% of Tasmania's exports

Map of Tasmanian Mineral Projects <sup>1</sup>



## Notes:

1. Western Tasmania Export Corridor Plan 2017
2. MRT, TMEC:



# Funding Avebury

- **Limited capital required for re-start.** As little as A\$ 30 M. is required to fund the re-start capital and operating costs
- Under a maximum subscription scenario an accelerated re-start schedule would be pursued, and additional site expenditure would be incurred on:
  - Capital equipment
  - Accelerated exploration activity
  - Stage 2 of the accommodation facility
  - Installation of a paste fill plant
  - A decarbonisation study
  - Expanded concentrate storage facilities, and
  - A debottlenecking study to optimise concentrate production

*Sources and Uses of Funds Presented Under Two Equity Capital Raising Scenarios <sup>1,2</sup>*

	A\$20 M. Minimum Subscription (Amounts in A\$ M.)	A\$70 M. Maximum Subscription (Amounts in A\$ M.)
<b>Sources of Funds</b>		
Existing cash reserves in Australia	33.0	33.0
Existing cash reserves in Myanmar <sup>3</sup>	17.0	17.0
Hartree Facility Agreement	42.0	42.0
Capital Raising	20.0	70.0
<b>Total</b>	<b>112.0</b>	<b>162.0</b>
<b>Uses of Funds</b>		
<i>DOCA Effectuation</i>		
DOCA Effectuation Payments to be refunded to Hartree	8.5	8.5
Repayment of Existing Hartree Facility	51.5	51.5
Avebury site expenditure	14.0	14.0
Payment to Pool C and D creditors	3.5	3.5
<b>Sub-Total</b>	<b>77.5</b>	<b>77.5</b>
<i>Re-compliance</i>		
Avebury site expenditure	30.0	60.0
Expenses of the Capital Raising	1.3	3.8
Administration Costs	1.6	1.6
Working Capital	1.7	19.2
<b>Sub-Total</b>	<b>34.5</b>	<b>84.5</b>
<b>Total</b>	<b>112.0</b>	<b>162.0</b>

1. See table 1.13 in the notice of meeting published on the ASX on 30 May 2022 for disclosures related to sources and uses of funds.

2. Amounts itemised in the table are budgetary, forward looking estimates and represent the best information the Company has available to date. These estimates are subject to change.

3. See announcement date 7 April 2022. The processing of foreign currency transfers from Myanmar has been suspended while local financial institutions understand and implement recent policy changes by the Myanmar authorities. It is likely that further delays will result from this uncertainty within the foreign exchange environment in Myanmar.



# A start to mining operations

*First blast in 13 years at Avebury May 2022*

- Nameplate Avebury processing plant throughput is 900 ktpa or 75 ktpm
- OZL achieved a maximum plant throughput of 70 ktpm when commissioning Avebury in 2008
- MYL will seek to develop a stockpile on the ROM pad in the coming months sufficient to allow for the commissioning of the plant
- MYL plans a graduated commissioning phase to test plant bottlenecks before bringing production up to nameplate capacity



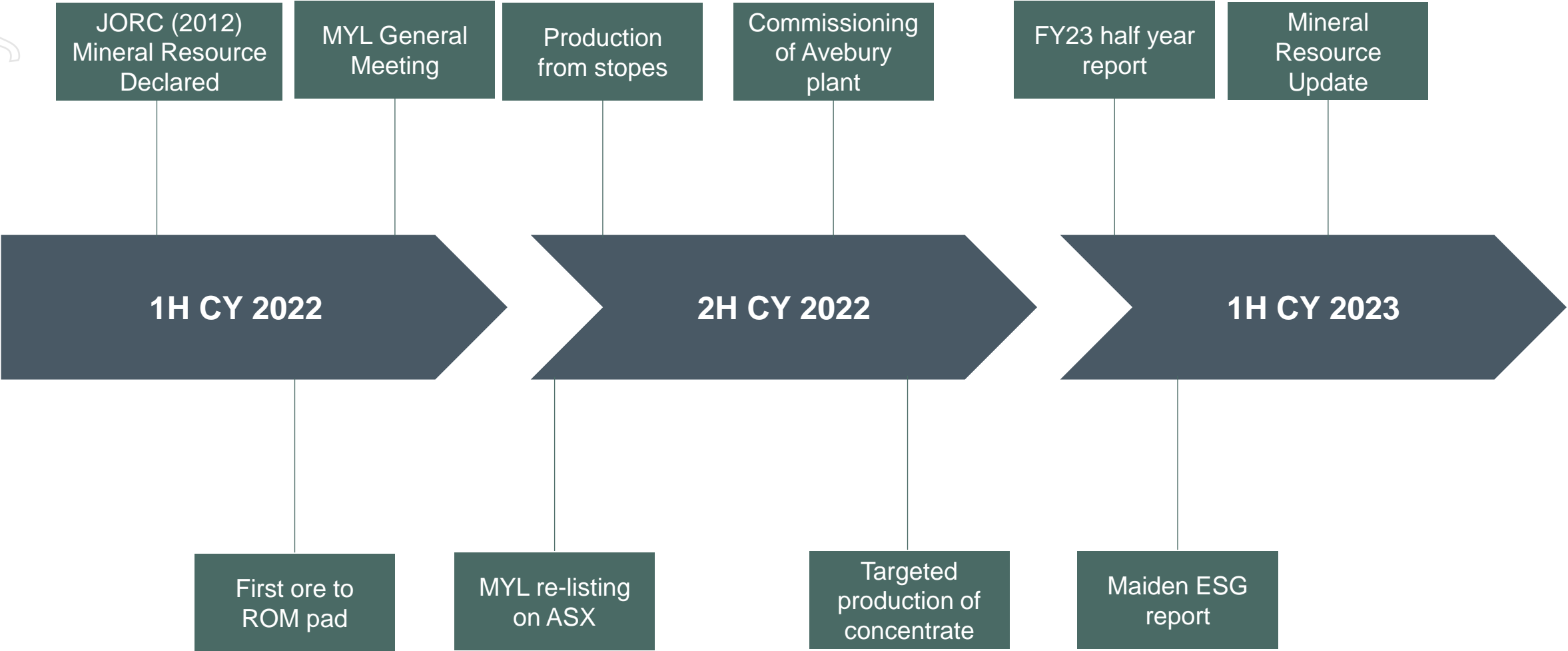
## Notes:

1. See notes on Forward Looking Statements on page 2.





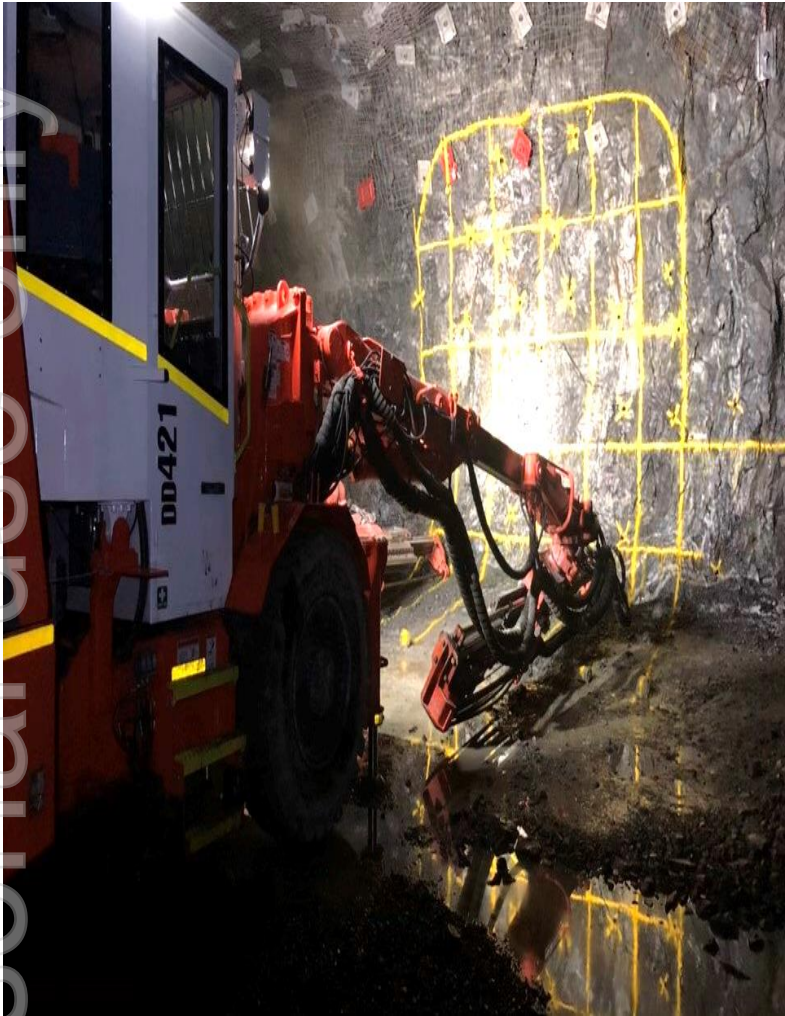
# Indicative timeline



Notes:  
1. Times are indicative only and are subject to change. A re-listing of MYL on the ASX is at the ASX's sole discretion. Accordingly, there is no certainty that MYL will successfully re-list. There can be no guarantee that commissioning of the Avebury plant will be successful and that first concentrate will be produced in accordance with the indicative timeline.



# Snapshots from site



Jumbo drilling



Underground drone survey



Heli-supported geophysics survey



Loader #1 arriving



Mine Rescue training



# Snapshots from site



Underground Bagger



Production Drill Rig



First Ore Truck in 13 Years



ersonal use only



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# Mineral Resource Estimate

*Avebury Mineral Resource estimate, reported from all blocks within Ni > 0.4 % envelope*

JORC classification	Tonnage (Mt)	Ni (%)	Co (ppm)	As (ppm)	Contained Ni (kt)	Contained Co (kt)
Indicated	8.7	1.0	244	378	87	2
Inferred	20.7	0.8	223	297	166	5
TOTAL	29.3	0.9	229	321	264	7

Notes:  
1. See page 2 on references to Mineral Resources

