



**RESOURCES**

*resourcing the new economy  
for a better tomorrow*



# EQ RESOURCES LIMITED

## Webinar - Mt Carbine Tungsten Project Update

21<sup>st</sup> September 2022

**ASX : EQR**



# Disclaimer



## Competent Person's Statement

- The information in this presentation partly relates to the outcomes of the Mt Carbine Bankable Feasibility Study, made available through the Company's website [www.eqresources.com.au/](http://www.eqresources.com.au/).
- The Company confirms that it is not aware of any new information that materially affects the information included in the corresponding market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

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# Mt Carbine: Australia's Only Primary Tungsten Producer

*Tungsten Concentrate from Mt Carbine Operations*

# Mt Carbine: A Globally Significant Business



**Currently in Production**

Australia's **only primary tungsten producer**, consistently **accelerating production**. Open pit production to commence by April Quarter 2023.



**Secured Long-Term Offtake Partnership**

**Secured offtake** via CRONIMET partnership for at least **25,000 tonnes concentrate at fair market value - worth \$400 million** at current pricing. Product globally accepted, shipments to some of the largest Asian, US and European consumers.



**De-Risked**

**Proven production, Proven economics, Fully permitted, Infrastructure in place, Low-cost expansion** ongoing, **Offtake contracts** in place, **Government supported** (3x Grants). **Fully funded** for Open pit production.



**Economic Resource**

Well **above world average grade**, Life Of Mine at 14yr +. Stage 2 BFS Open Cut only uses 18% of Mineral Resource. **Ongoing drilling** expected to **increase Life of Mine**, further **improve costs** and **increase production** rates.



**Positive Market Conditions & Outlook**

**Increasing commodity price** forecast combined with **favourable supply-demand dynamics** underpins Mt Carbine's strategic relevance in the critical minerals sector. Classified as **critical mineral** for its economies by US, UK, EU, Japan, South Korea & India.



**Genuine ESG Performance & Commitment**

EQR is committed to embedding **resource efficiency** to **minimise environmental footprint** and delivering **positive societal impact** while striving to **lead by example** through having the courage to do the right thing and be **accountable**.



**Experienced Leadership & Upskilled Staff in Place**

**Major milestones achieved** keeping the project **on track** and **credible**. Constant staff training ensures a **skilled** and **proficient workforce** with **high capability** that is **locally sourced** with **long-term commitment**.



**Beneficial Re-Use for 2<sup>nd</sup> Revenue Stream**

**Beneficial Reuse** of waste product promotes **Circular Economy commitment** in-line with QLD Government initiatives while generating \$4 million gross revenue in 2020/2021.

# Corporate Overview



## Key Statistics

Share Price	\$0.05 per share
12-month range	\$0.04 - \$0.078 per share
Shares on Issue	1,344 million
Options (unlisted)	111 million
Market Capitalisation	\$67.2 million
Debt* (unsecured)	\$1.5 million (@8% interest p.a.) \$4 million (@7% interest p.a.)
Top 20 Shareholders	59.6%

\*Excl. Offtake Prepayments

## Board & Management

Non-Executive Chairman	Oliver Kleinhempel
Non-Executive Director	Stephen Layton
Non-Executive Director	Zhui Pei Yeo
Non-Executive Director	Richard Morrow
Chief Executive Officer	Kevin MacNeill
Chief Geologist	Anthony Bainbridge

## Share Price Performance



- 1 Feasibility Study Resource Drilling results announced – Announcements: 06 July 2021 ([link](#)), 13 July 2021 ([link](#)), 05 August 2021 ([link](#))
- 2 Updated JORC Mineral Resource announced – Announcement: 23 September 2021 ([link](#))
- 3 Bankable Feasibility Study results announced – Announcement: 13 December 2021 ([link](#))
- 4 AMGC Grant for 2<sup>nd</sup> XRT Sorter announced – Announcement: 25 January 2022 ([link](#))
- 5 Underground Scoping Study results announced – Announcement: 12 April 2022 ([link](#))
- 6 Government \$6M Critical Minerals Grant announced – Announcement: 28 April 2022 ([link](#))
- 7 Early Work Program completion announced – Announcement: 27 June 2022 ([link](#))
- 8 Phase 1 2022 Drill Program and Updated JORC Mineral Resource announced – Announcements: 04 May 2022 ([link](#)), 20 May 2022 ([link](#)), 04 August 2022 ([link](#))

# Board & Leadership Team

Diverse and Experienced Board & Leadership Team



## Oliver Kleinhempel - Non-executive Chairman



- Appointed Non-executive Director 12 August 2019 and Chair on 24 April 2020
- Executive management experience in **project development, finance and commodity trading sectors**
- Corporate experience includes Outotec, Ferrostaal Group and CRONIMET
- Currently an executive director of CRONIMET Holding GmbH

## Stephen Layton - Non-executive Director



- Appointed Non-executive Director 14 November 2017
- +35 years' experience in **equity capital markets in UK and Australia**
- Experience in both principal and director roles with a depth of knowledge in capital raisings, ASX listings and corporate advisory matters
- Currently non-executive director of Mithril Resources Limited, and previously a non-executive director on New Age Exploration Limited (both ASX listed)

## Zhui Pei Yeo - Non-executive Director



- Appointed Non-executive Director 12 August 2019
- Has held executive, management and supervisory roles with a range of experience from **project planning to resource management**
- Has been working at a leading system integrator in the telecommunications industry in South-East Asia
- Currently an **executive director of a steel-product manufacturer**

## Richard Morrow - Non-Executive Director



- Appointed as Non-Executive Director on 16 March 2021
- +30 years' experience as a sharebroker in Melbourne and in London, with a particular interest in the resources space. A long-serving Chairman of **Melbourne Mining Club**, Australia's foremost networking organisation for the Australian resources sector.
- Richard's **investment experience** includes a role as director of Lowell Resources Fund Management, manager of the ASX-listed Lowell Resources Fund. He is a Fellow of the **AusIMM** and an honorary member of the AusIMM Investment Advisory Committee.

## Kevin MacNeill - Chief Executive Officer



- Appointed Interim-CEO & Senior Technical Advisor in May 2019 and permanent CEO in January 2020
- +33-year career dedicated to developing and leading mining projects globally
- Expertise in **project development, mineral processing, specialty processing applications & mining waste processing**
- Held Executive appointments as President of Etruscan Diamonds (part of TSX-listed Etruscan Resources) & founded Specialized Metallurgical Projects Pty Ltd

## Tony Bainbridge - Chief Geologist



- EQR's Chief Geologist, focusing on developing Mt Carbine's underground resource to define & extract 'King-Vein' style mineralisation
- Experience in tungsten projects in South Korea & Africa – including building, owning and managing a tungsten mining operation in South Korea
- Expertise includes **tungsten, gold, resource definition, mine exploration, feasibility studies, mine development, mine production efficiencies, and day-to-day operations**
- Currently director of Asia Intercept Mining Ltd and AMB Exploration Pty Ltd

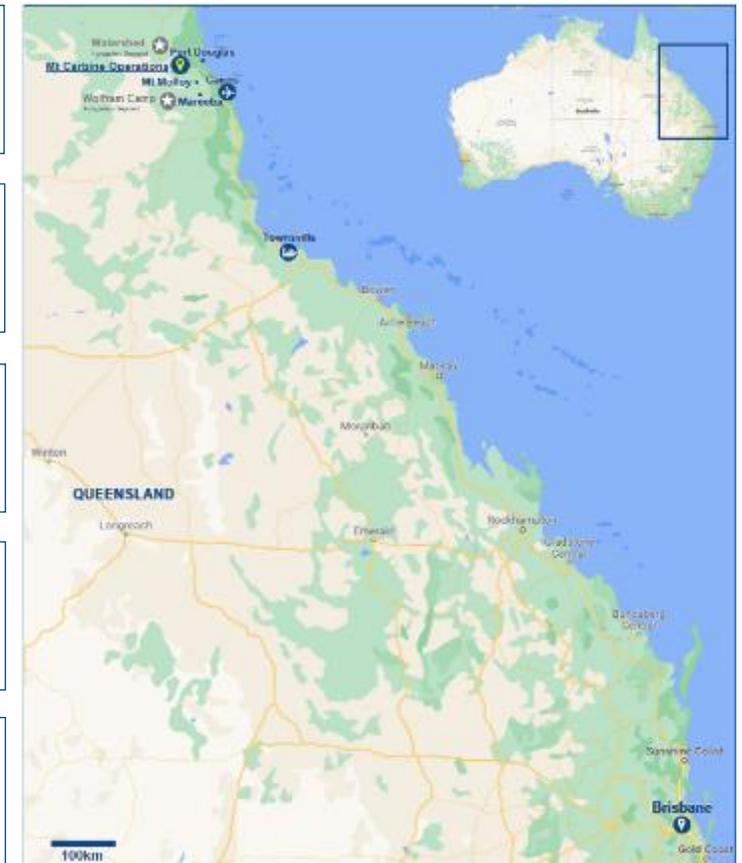
# Mt Carbine's Major Infrastructure Advantages

De-risked Mt Carbine Open-Cut & Modernisation Project is currently Australia's only primary Tungsten mine and is exporting concentrate economically and consistently to global consumers



<p>Road Infrastructure</p>		<ul style="list-style-type: none"> <li>Tungsten concentrate currently produced at site is loaded into bulk bags, sealed and sold ex-gate at Mt Carbine.</li> <li>Sealed, maintained highway ensures consistent trucking access to mine site.</li> </ul>
<p>International Airport &amp; Port</p>		<ul style="list-style-type: none"> <li>Close proximity to international export channels underpins low-cost production.</li> <li>130km via sealed highway to Cairns International Airport.</li> <li>Townsville Port received \$232 million upgrade in 2021, securing its position as largest port in North Australia and the economic gateway to Asia.</li> </ul>
<p>Power Supply</p>		<ul style="list-style-type: none"> <li>2021 upgrade of power supply line &amp; new substation allows plant to operate 24/7.</li> <li>Will accommodate all future growth phases of Mt Carbine as production ramps up with mining of Open Pit.</li> <li>Bulk fuel supply on site through direct local supplier ensures reliability.</li> </ul>
<p>Accommodation, Offices, Buildings &amp; Towns</p>		<ul style="list-style-type: none"> <li>Mt Carbine motel, roadhouse, gas station &amp; caravan park chalets for out-of-town specialist teams. Nearby towns of Port Douglas, Mossman, Mt Molloy &amp; Mareeba allow up-skilled staff to be sourced locally and go home each day.</li> <li>Upgraded onsite Management &amp; Admin offices facilitate hands-on management.</li> </ul>
<p>Water Supply Security</p>		<ul style="list-style-type: none"> <li>Multiple responsible sources of supply including 2 catchment storage dams, 17 investigation- and 1 production boreholes, draining of open pit, recycling of water through plant.</li> </ul>
<p>Mining Infrastructure</p>		<ul style="list-style-type: none"> <li>Completed upgrades in processing facilities positions Mt Carbine as Australia's only primary Tungsten mine currently in production and exporting consistently</li> <li>Processing facilities are designed for steady-state production of 1Mtpa.</li> <li>2x Tomra XRT Ore Sorters secure economic viability of project.</li> </ul>

Perfectly situated within a Critical Minerals Cluster (W, Sn) in Far North Queensland:



# Compelling Economics

Initial BFS (December 2021) already confirmed high margins, low capital intensity & operating cost and speed to market



Parameter	Unit	BFS (Dec '21)
Total Cash Cost (FCA)	A\$/mtu	159
Capital Cost	A\$m	22.9
<b>Pre-tax NPV<sub>8, real</sub></b>	<b>A\$m</b>	<b>131 / 105*</b>
NPV / Capex Ratio	x	5.7
EBITDA Margin (LoM)	%	49%
Payback Period	years	2.25
Strip Ratio	(Waste:Ore)	11.1:1
Concentrate Produced	(t / 50% WO <sub>3</sub> )	26,680

*\*\$131m NPV is Project NPV; NPV attributable to EQR as 50% portion of Joint Venture Scope and 100% of additional ore recovered from Open Pit results to \$105m*

Notes:

- The BFS has been prepared to a -20% to +20% level of accuracy. The production target and financial information in this table must be read in conjunction with the cautionary statement in the relevant ASX Release
- AUD:USD exchange rate of 0.73 was used for currency conversions

# Current Funding Arrangements

CAPEX Funding for Mt Carbine Expansion & Early Works Program



Facility	Amount	Interest p.a. / Cost
<b>CMAI* Grant (Federal Government)</b>	\$6 million	Government Grant support
<b>Sandvik Supply &amp; Finance</b>	\$4.8 million	5.75% interest p.a.; 30% deposit
<b>CRONIMET Offtake Prepayment</b>	\$4.2 million	Interest free; Extension of existing offtake contract
<b>Director / Shareholder Loan</b>	\$1.5 million	8% interest p.a.
<b>Early Works / Phase 1</b>	\$6 million	Spend completed
<b>TOTAL</b>	<b>\$22.5 million</b>	

\*Critical Minerals Accelerator Initiative (see Media Release from Hon Minister, Madeleine King: [Government Support For Critical Minerals](#))

For further details refer to ASX Announcement dated 02 May 2022: [CAPEX Funding For Mt Carbine Expansion Secured](#), and ASX Announcement dated 19 September: [Federal Government Funding for Mt Carbine Reconfirmed](#)



# Tungsten Overview

# Tungsten in a Nutshell

Strategic value due to heavy industrial & military uses, with upcoming battery applications



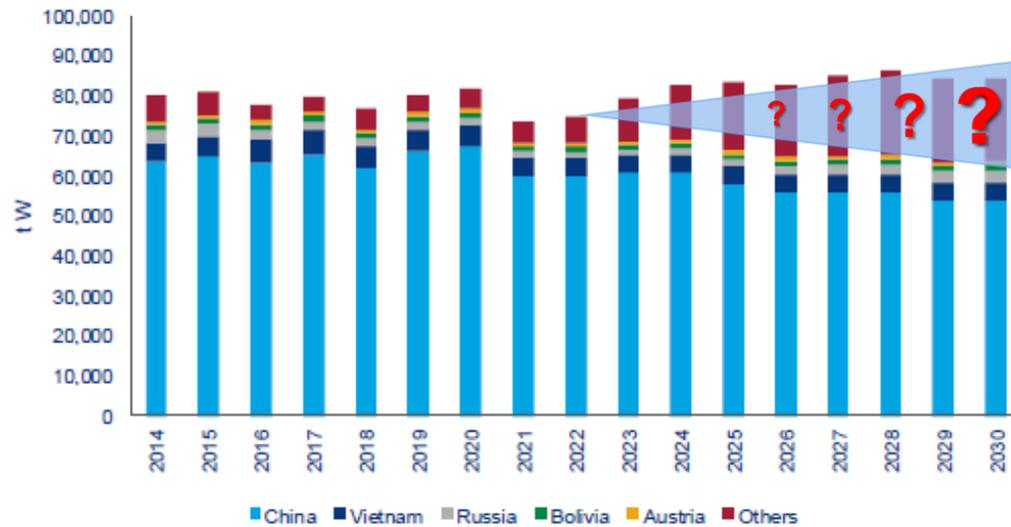
- Classified as 'critical metal' by EU, UK, US, Japan, South Korea & India, and ranking eighth on list of highest global supply risk metals
- Similar to rare earth metals, Tungsten exhibits properties that make it **impossible to substitute**
  - Hardest after diamond
  - Highest melting point

- Very high supply concentration (**5 mines account for 23% of global output**); China, Vietnam and Russia combine >90% of global supply)
- **Supply chain tensions** are now **squeezing** further as **Western World** lose valuable Russian supply sources

- Tungsten has **highly favorable supply-demand dynamics**
- **Steady demand growth** of 2.9% CAGR projected (2020-2030)
- Consistently **rising Tungsten price** for last 24 months while still 25% below all-time-high

# Supply and Demand Dynamics

Heading towards significant supply deficit



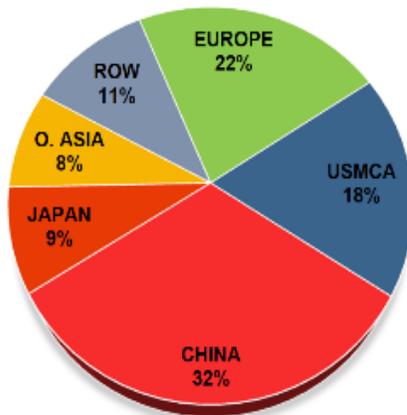
Global demand rebounding from effects of Covid pandemic (8% growth forecasted by 2023 vs 2021).

China remains major producer throughout 2020's, whereas proportion of global production dropping to 64% by 2030 (from >80% in 2020).

New projects need to be identified elsewhere, leading industry analysts suggest following:

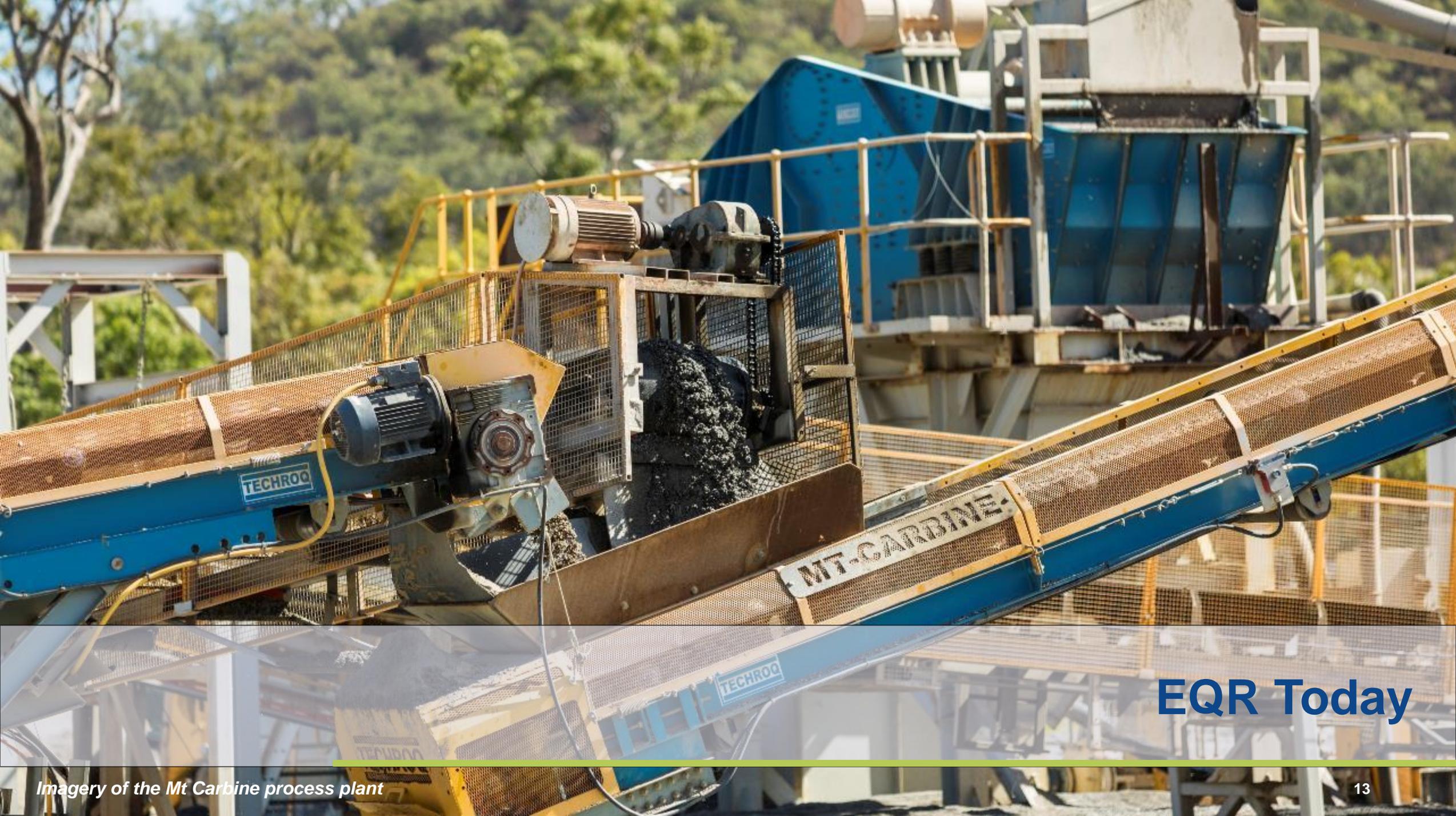
- “Russia to double its 2021 production (2.5 kt W) by 2030”, (EQR view: **‘doubtful’** given sanctions linked to Ukraine invasion)
- “Australia to add 4.5 kt W”, (EQR view: **‘challenging’** this would require 4 projects of the size of Mt Carbine)
- “Kazakhstan to add 3.0 kt W”, (EQR view: **‘likely’** given Chinese direct investment)
- “UK to add 2.5 kt W”, (EQR view: **‘unlikely’** in terms of scale and timing, given continuous delay and plan revision for Hemerdon Mine Restart)
- “South Korea to add 1.8 kt W”, (EQR view: **‘possible’** but likely not before 2024)

## End Use by Region



ITIA forecasted average tungsten consumption growth 2020-2030: **2.9% p.a. / 33,400t W** (approx. 3,340t W p.a. – equals 3x Mt Carbine each year)

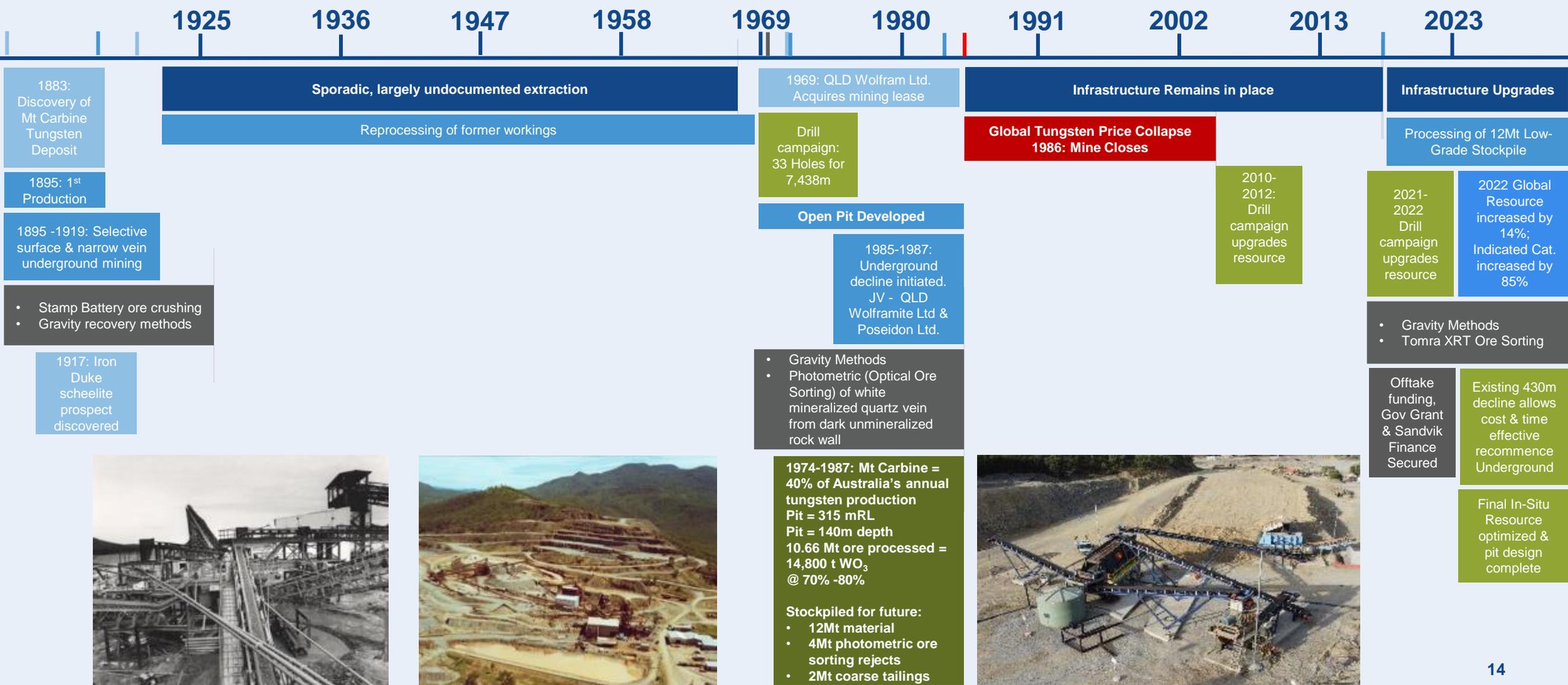
Growth forecast to be underweight in transport (impact of increasing EV sales) but overweight in Mining & Construction, Industrial, Consumer Durables, Defence and Medical



**EQR Today**

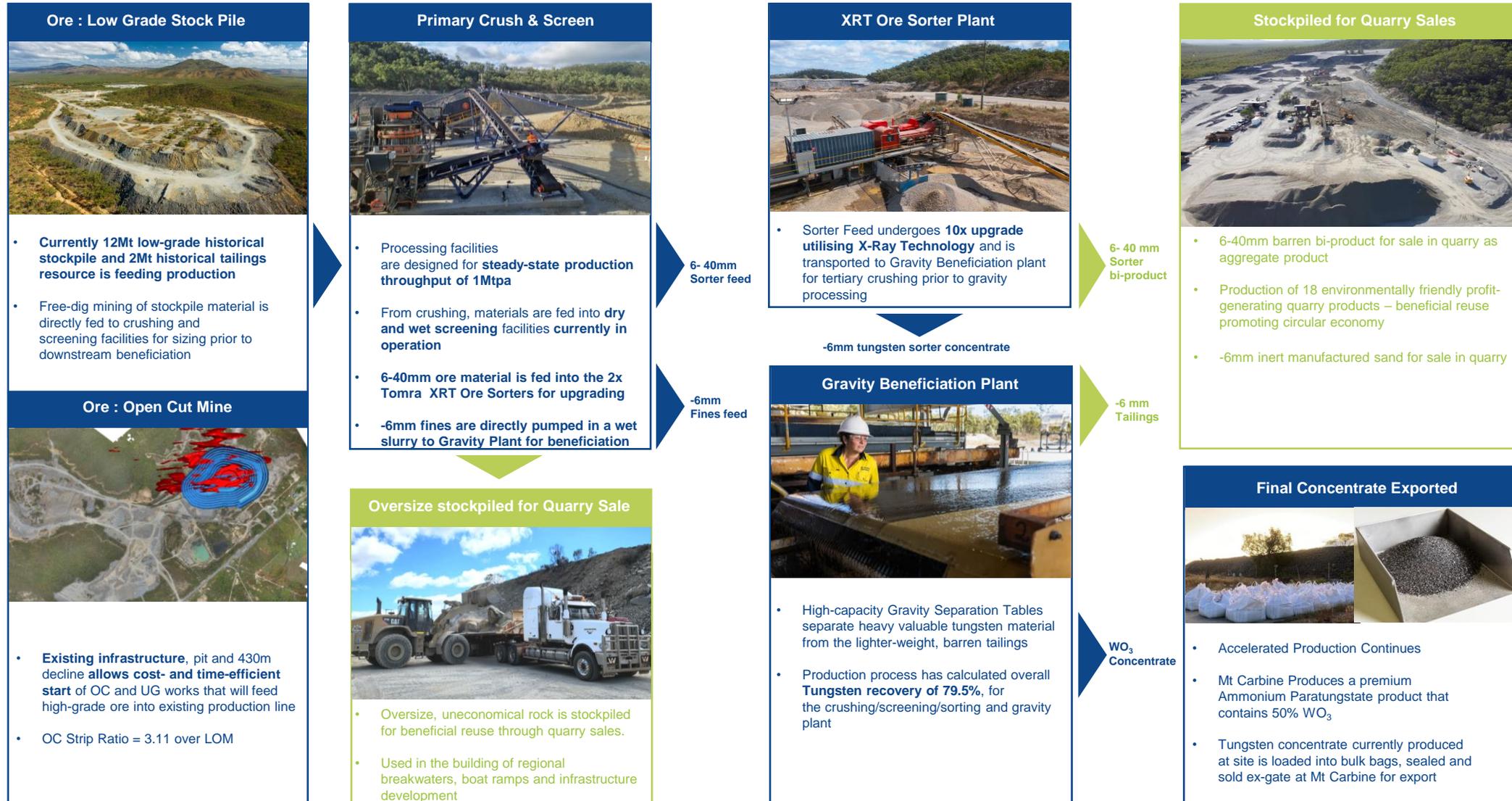
# History of Mt Carbine

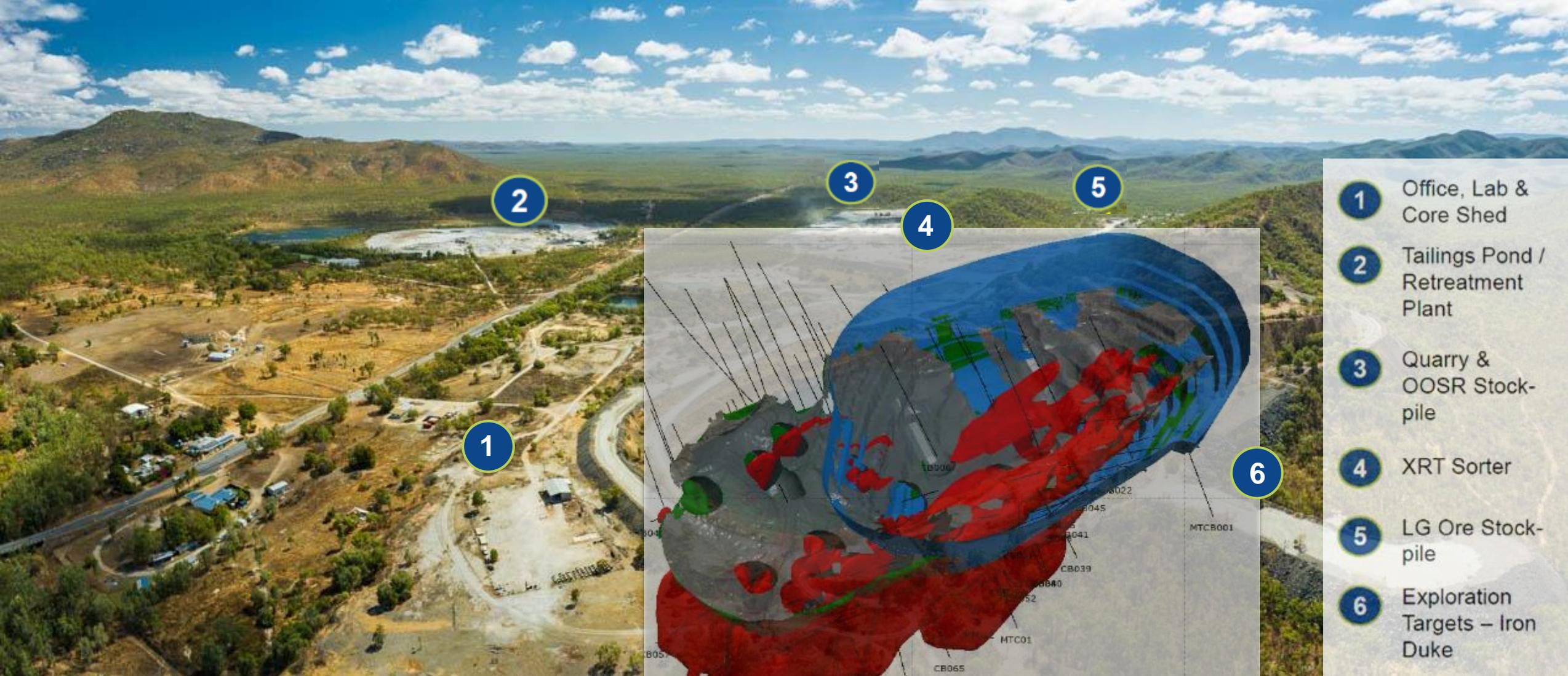
Strong History of Tungsten Production, Historically a World Leader Provides Low Risk Western Tungsten Supply



# Mt Carbine Process Flowsheet

Technologically driven | Economically proven | Actively Producing | Consistently Selling | Environmentally Responsible





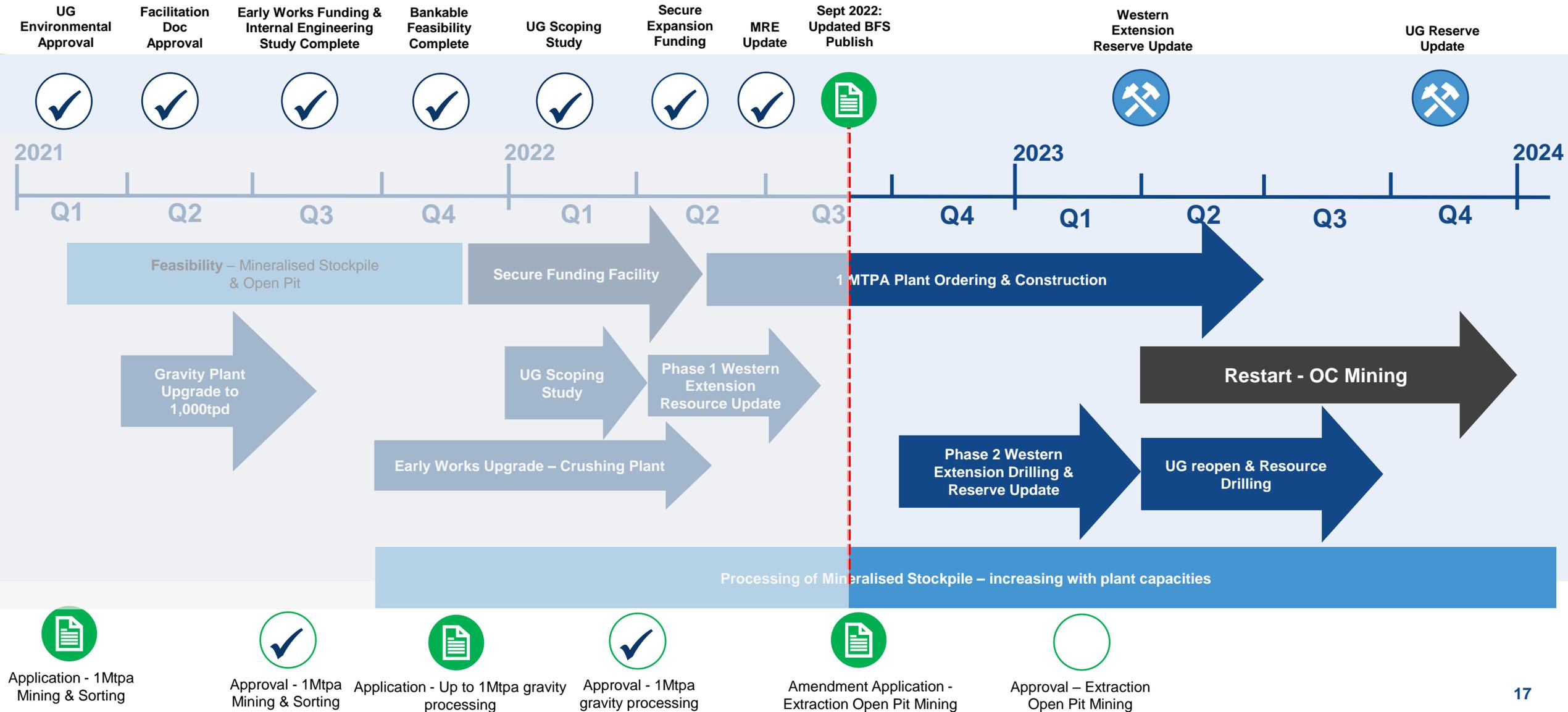
- 1 Office, Lab & Core Shed
- 2 Tailings Pond / Retreatment Plant
- 3 Quarry & OOSR Stock-pile
- 4 XRT Sorter
- 5 LG Ore Stock-pile
- 6 Exploration Targets – Iron Duke

# Mt Carbine Expansion & Development Plan

100% owned by EQ Resources

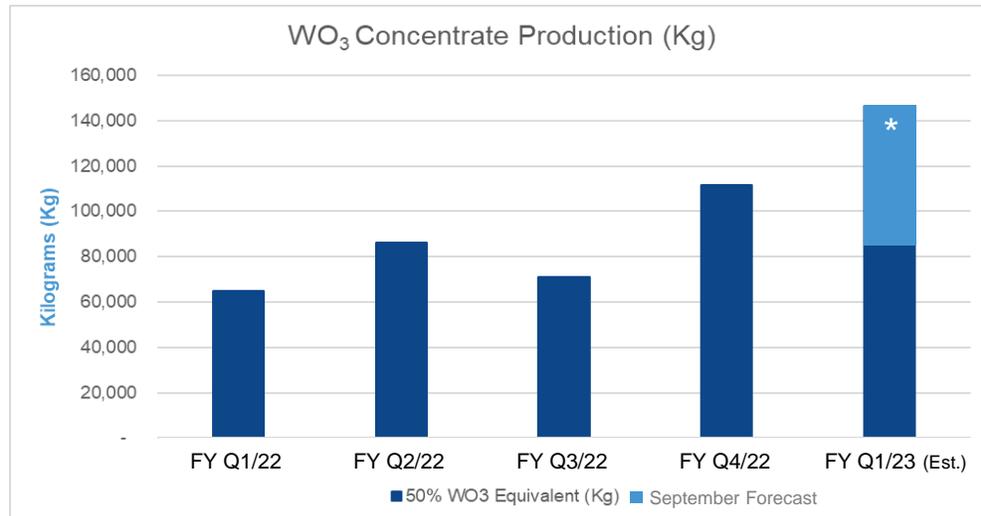
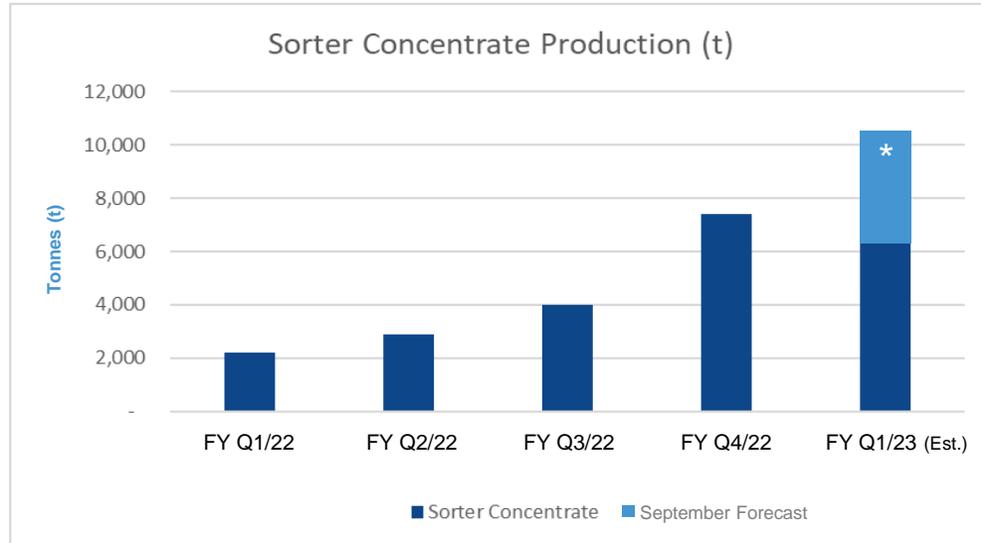
# Development Timeline

Phased approach for early cash flow



# Technologically Driven, Economically Proven

Overcoming Western World difficulties using Sensor Based Sorting



\*Note – July & August actuals are represented with navy blue, the asterisk and light blue represents estimate figures for September production

- ✓ XRT Ore Sorting makes tungsten mining in Australia economically viable
- ✓ Two TOMRA XRT Sorters now fully operational for increased production efficiencies and doubling of sorting throughput
- ✓ Significant OPEX savings
- ✓ 10x upgrade in material grade
- ✓ Technology & program algorithm optimized for Mt Carbine
- ✓ Utilising technically upskilled workforce
- ✓ Environmentally friendly due to lower utilities consumption



# New Tertiary Crushing for Sorter Concentrate

Continuous operations optimisation as per BFS scope



## Key Benefits:

- Allows crushed sorter concentrate to be pumped directly into the Gravity Plant
- Reduced OPEX through electric equipment
- Minimises handling of concentrate

# Mt Carbine Phased Development Plan

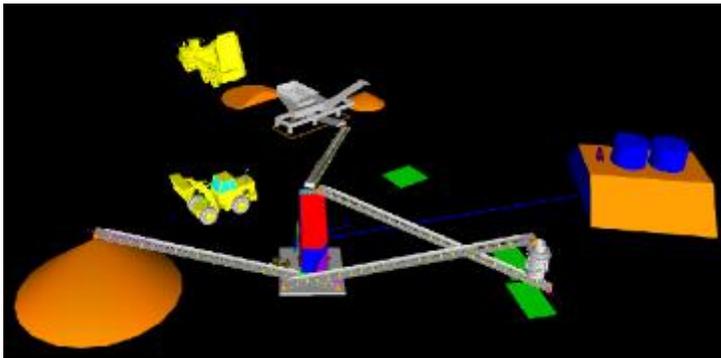
Includes integration of open-cut and processing facility modernisation

## BFS Scope

### Stage 1

**Focus:** Minimal capital expenditure, incremental improvements to increase the mine's productivity and profitability focusing solely on the mining and processing of the Low-Grade Stockpile.

Stage 1 Crushing and Screening Circuit Design



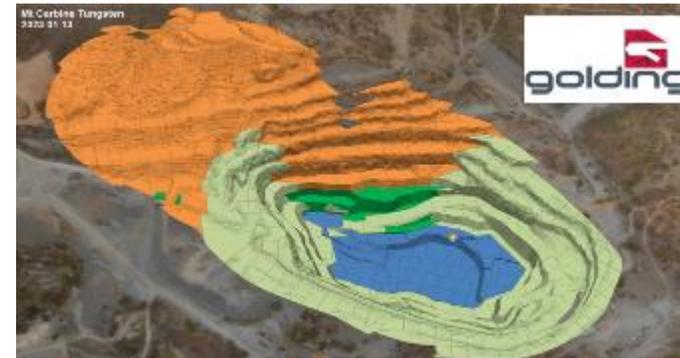
Stage 1 Crushing and Screening Circuit in production



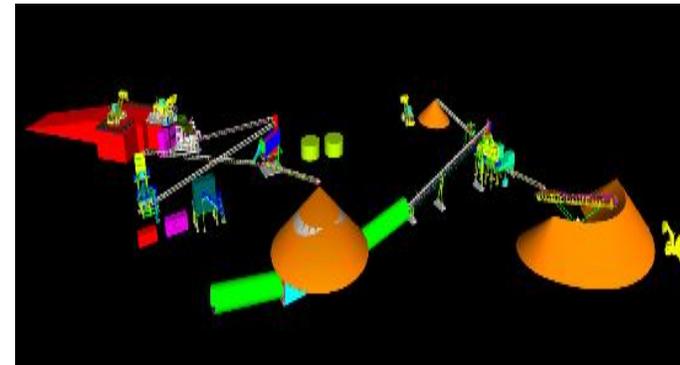
### Stage 2

**Focus:** Commencement of open pit mining. Crushing and screening plant and processing plant will be upgraded to further reduce operating costs and improve the tungsten recovery from the open pit high grade ore.

Stage 2 Projected pit encompassing additional resource



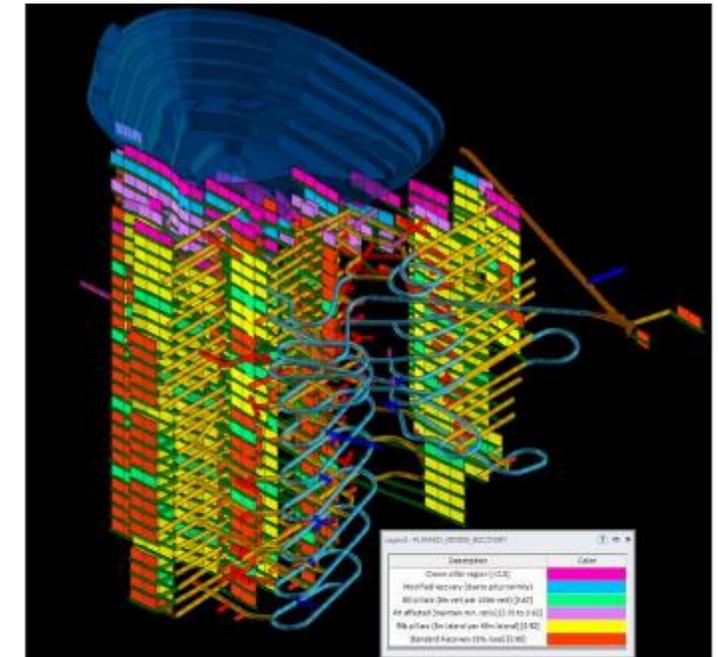
Stage 2 Crushing and Screening & Sorting Circuit Design



### Stage 3

**Focus:** Underground Mining; >82% of current Mineral Resources are not in the Open Cut BFS but rather sit below the planned pit & in the Iron Duke Formation. A full scoping showed a long-life Underground Mine has potential and EQR should complete a PFS on this option.

Stage 3 Projected additional underground resource

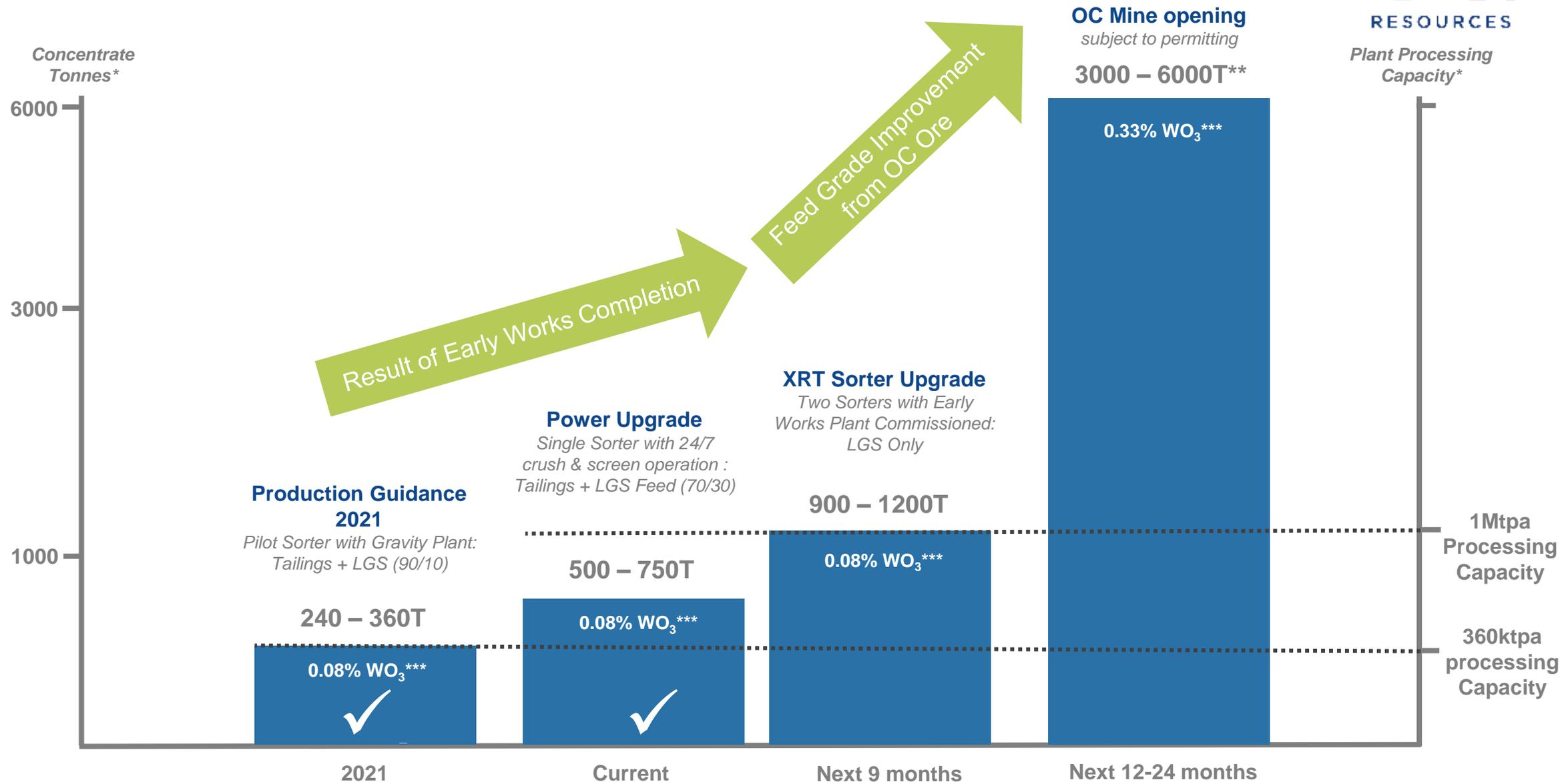


# Mt Carbine Production Ramp-Up



RESOURCES

Plant Processing Capacity\*



\*Basis 50% WO<sub>3</sub> concentrate // \*\*Based on new pit design // \*\*\*Actual / estimated feed grade

# Mt Carbine Mineral Reserves - Increase by 29%

September, 2022	Orebody	Reserve Classification	Tonnes (Mt)	Grade (%WO <sub>3</sub> )	WO <sub>3</sub> (Mtu)	
	Low Grade Stockpile	LGS - Proved	-	-		750,000
		LGS - Probable	10	0.08%		
	In- Situ	Open Pit - Proved	-	-		1,161,693
		Open Pit - Probable	3.54	0.33%		
<b>All</b>	<b>TOTAL</b>	<b>13.54</b>			<b>1,911,693</b>	

December, 2021	Orebody	Reserve Classification	Tonnes (Mt)	Grade (%WO <sub>3</sub> )	WO <sub>3</sub> (Mtu)	
	Low Grade Stockpile	LGS - Proved	-	-		759,750
		LGS - Probable	10.13	0.075%		
	In- Situ	Open Pit - Proved	-	-		898,380
		Open Pit - Probable	1.26	0.713%		
<b>All</b>	<b>TOTAL</b>	<b>11.39</b>			<b>1,658,130</b>	

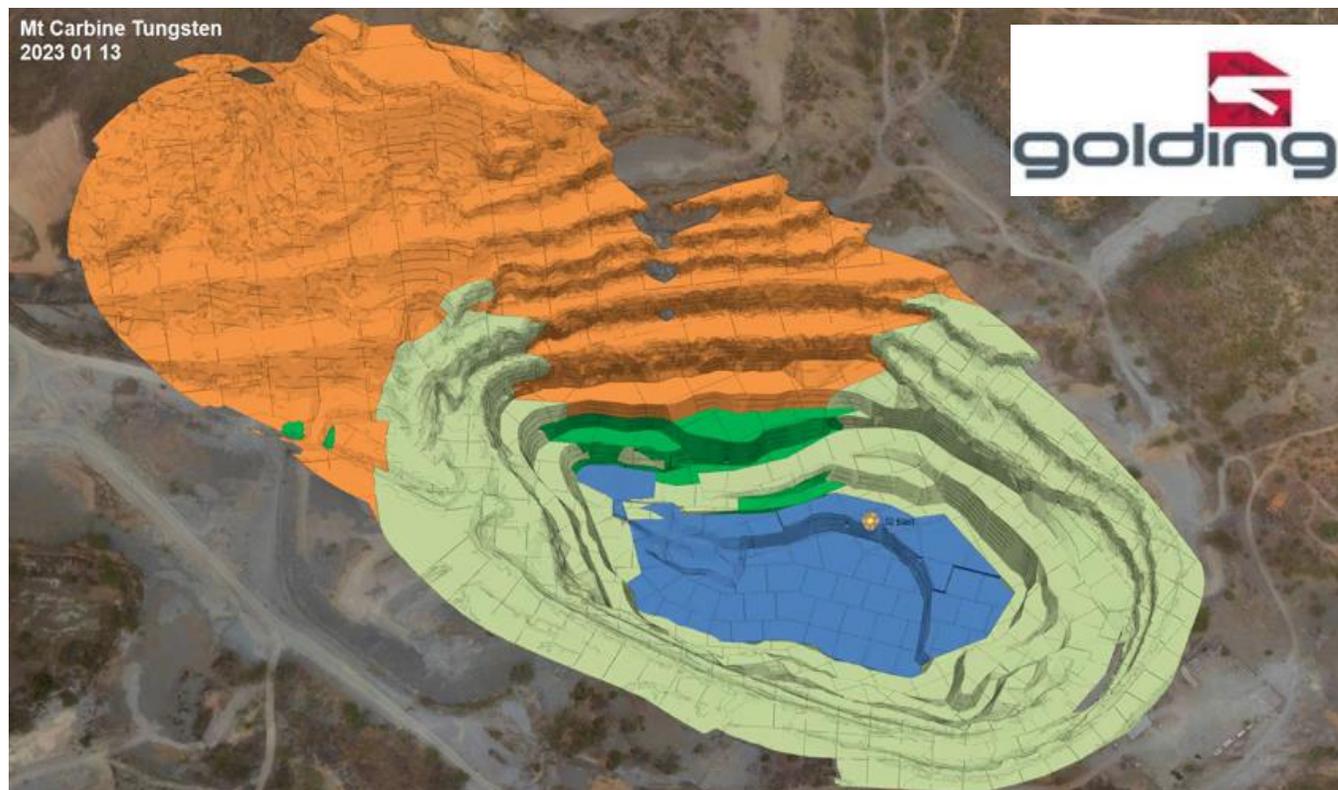
**+29%**

## Key take-aways:

- Increase in Reserves by 263,313 MTU in a smaller pit design as we bring in the 'halo' ore
- Pit designed so 95% of this increase comes into Year 1
- Strip Ratio drops from 11:1 to 3:1
- Reserves are anticipated to grow into Stage 3 Pit

For further details refer to ASX Announcement dated 16 September 2022: [Material Increase In Mount Carbine Ore Reserve](#)

# Projected Pit Encompassing Additional Resource



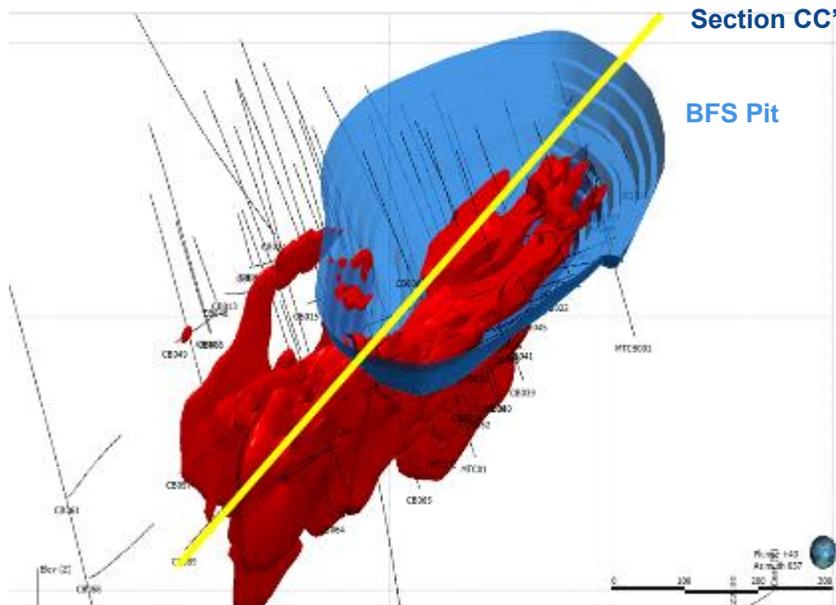
*Note: Shown in Orange is the potential Phase 3 Pit, not incorporated in latest Reserves, requires further drilling (Western Extension)*

Resource Definition	Mining	Dry Processing	Wet Processing	Water Management	Environmental	Investment Evaluation

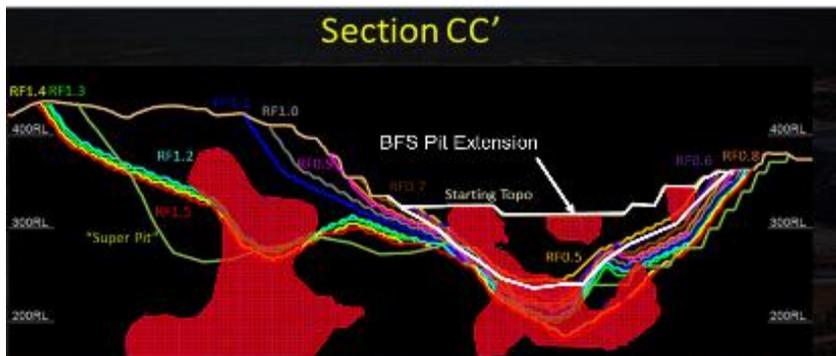
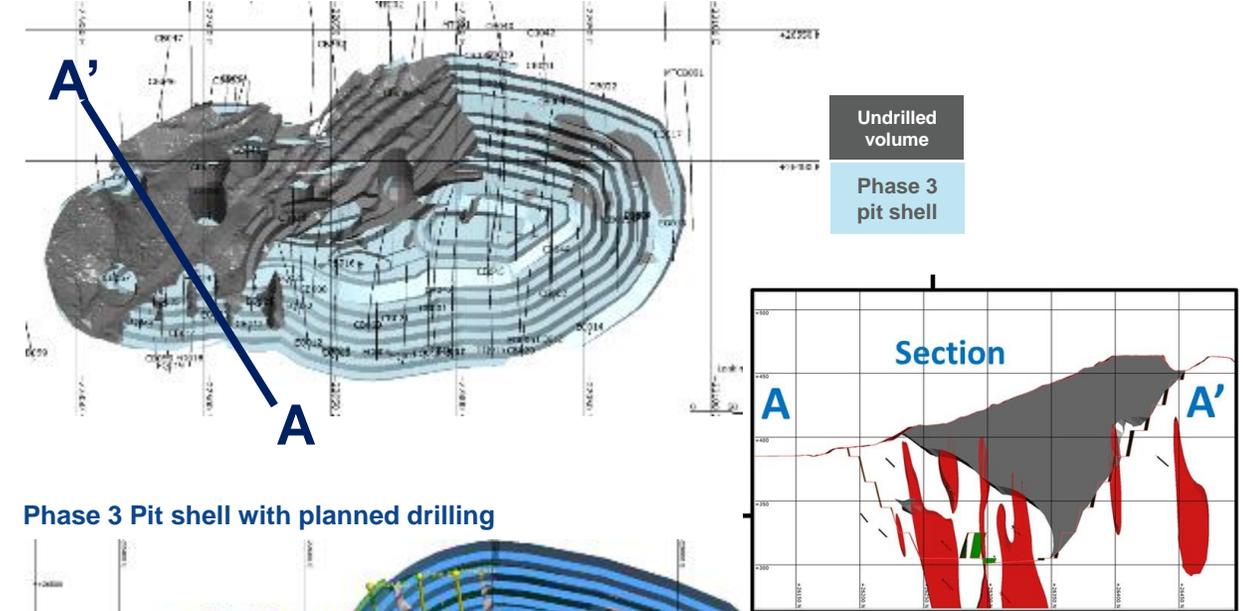
# Optimising the Revised Ore Body

Update of **BFS Economics** is currently underway evaluating the impact of the increased Reserves. Expectation is for **improved economics** from the new pit design.

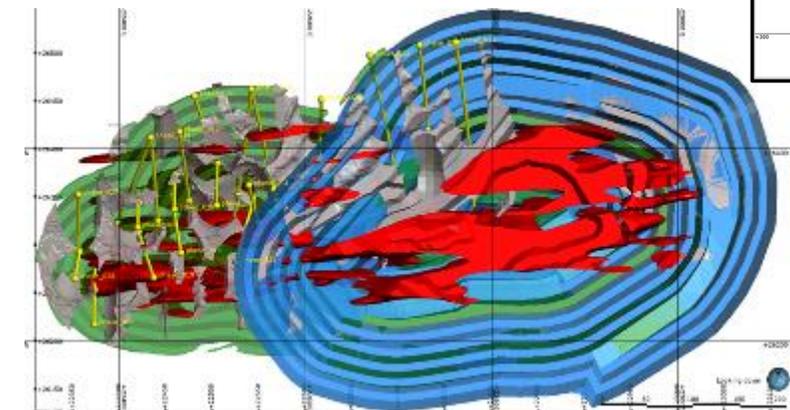
**Infill Drilling.** Phase 3 Pit is 43% undrilled. 5.4Mt block requires 12 holes to be drilled to locate additional ore and bring to Indicated category. This will significantly change the economics of Phase 3 pit positively.



Phase 3 Projected pit undrilled volume plan

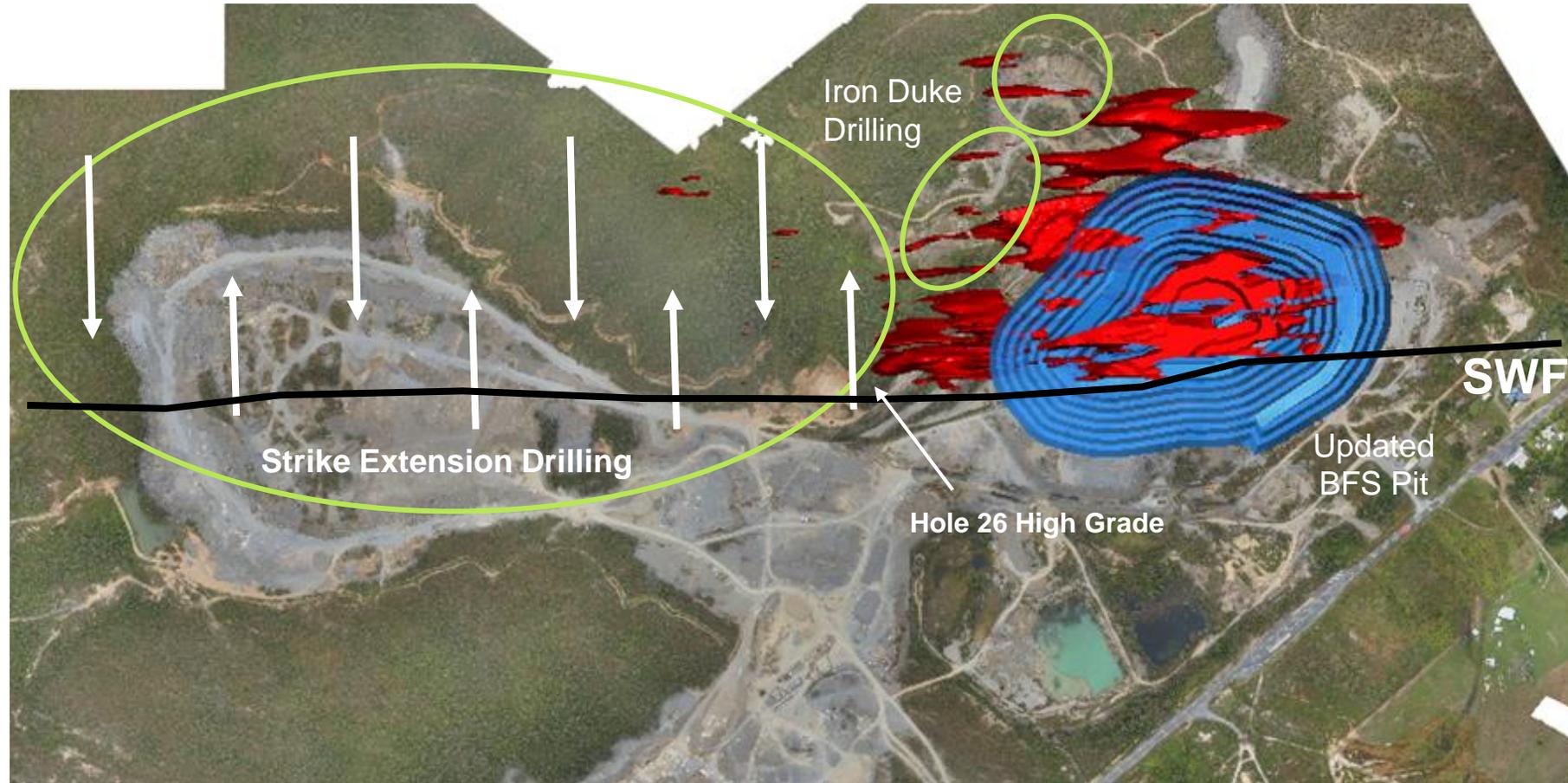


Phase 3 Pit shell with planned drilling



# Brownfield Exploration Program

Planned Extension Drilling

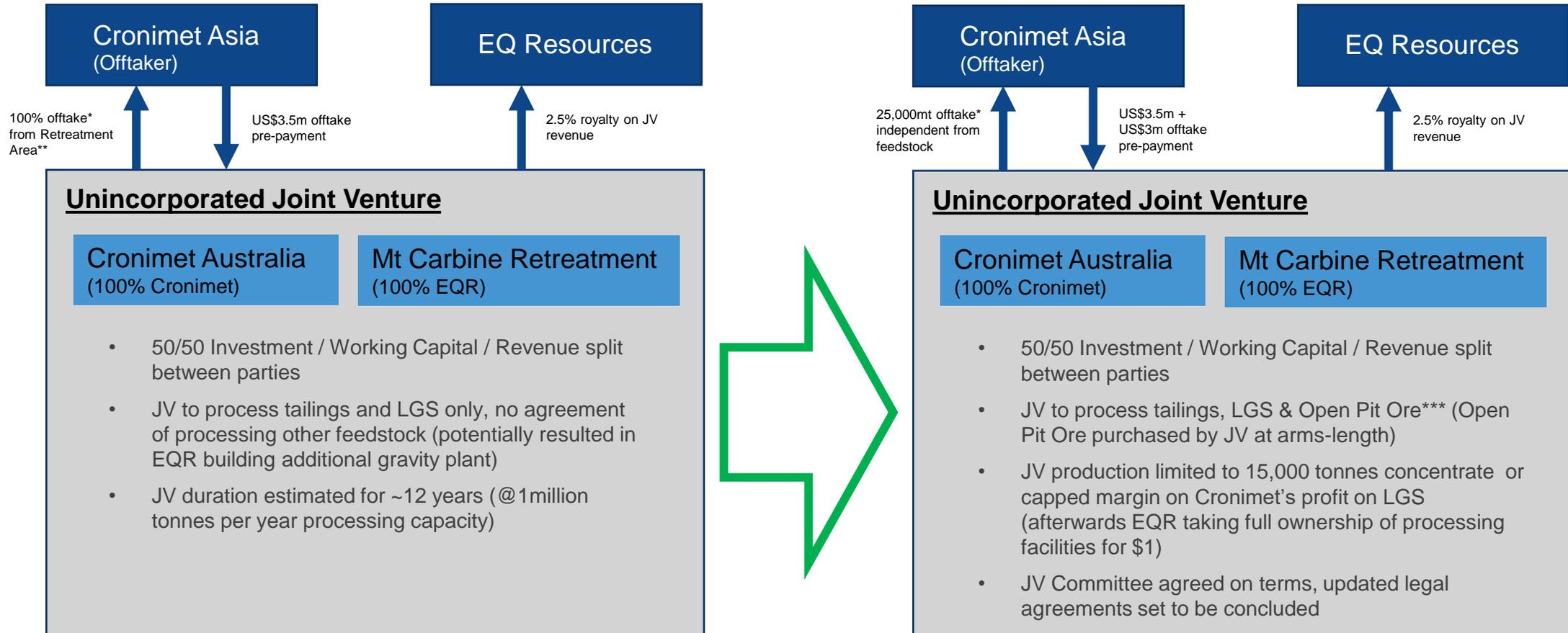


- **Hole 26\* hit high-grade** indicating that there may be more high-grade plunging off to the west
- Target is for **1,200m exploration drilling** to locate any further extensions
- Target is to continue to convert **Iron Duke into Indicated Resources** for UG Potential
- Continued commitment to driving **regional exploration**
- Continued development of further **drill targets**

\*For further details refer to ASX Announcement dated 20 May 2022: [Further High-Grade Tungsten Intercepts In Near-Pit Drilling](#)

# Joint Venture & Offtake Partnership with CRONIMET

Parties concluding mutually beneficial simplification of JV arrangement



- ✓ Acceleration of Open Pit Restart allows EQR to acquire JV plant earlier, without investment into parallel processing line
- ✓ Full value of Open Pit Ore to EQR account
- ✓ JV plant assets being transferred to EQR for \$1 at completion of 15,000mt delivery
- ✓ Additional Cronimet pre-payment secured to support open pit expansion funding
- ✓ Extended offtake & pricing security for JV/EQR (25,000mt concentrate)

\*At fair market value // \*\*Retreatment Area defined as Tailing Stockpile and Low-Grade Stockpile (LGS) // \*\*\*Margin from higher grade open pit ore remains with EQR, EQR operates open pit mine and sells ore to JV

# Strategically Aligned With Key Stakeholders



## Endorsement Through Funding & Grants

Strong support for critical minerals projects in Australia



Queensland METS Collaborative Projects Fund (METS Ignited) ASX Announcement 24 July 2020: [Government Support for Mt Carbine Mine Waste Transformation Initiative](#)  
Advanced Manufacturing Growth Center (AMGC) ASX Announcement 25 January 2022: [Federal Government Co-Invests in High-Tech Ore Sorting](#)  
Critical Minerals Accelerator Initiative (CMAI) ASX Announcement 19 September 2022: [Federal Government Funding for Mt Carbine Reconfirmed](#)

# Additional Revenue Through A Circular Economy



- ✓ **Clean Waste Rock**
- ✓ **Green / Recycled Quarry Products**
- ✓ **Additional Revenue Stream**
- ✓ **2021 financial year: gross revenue of \$4.1 Million**
- ✓ **Successfully completed** one of the **largest contracts** in +30-year quarry history
- ✓ Continued development of **'green aggregates' business** which turns inert waste rock into vital **construction materials** for Far North Queensland; Opening opportunities in the local and regional market as demand for **recycled products** increases

# Mt Carbine Achievements



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