

POSITIONED FOR GROWTH

- Advanced Kalgoorlie-Kambalda based gold, copper and nickel projects
- Commanding land position in Tier 1 location
- Pipeline of activity provides pathway to development and commercialisation
- Premier mining jurisdiction provides low capital development options

Graeme Gribbin, Chief Executive Officer
AMEC INVESTOR BRIEFING | APRIL 2024

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ABOUT LEFROY EXPLORATION



WHAT WE DO AND HOW WE DO IT

-  Near-term gold focussed exploration across existing 635km² Kalgoorlie-Kambalda land package
-  Proven track record of discovery with existing resource of +1.1 million ounces across four projects
-  Opportunity to rapidly grow resource through targeted systematic exploration programs
-  Balanced and diverse pipeline of exploration targets leading to new discoveries

IMMEDIATE STRATEGIC OBJECTIVES



Near mine extensional drilling targets



Grow resource base



Advance known and emerging targets

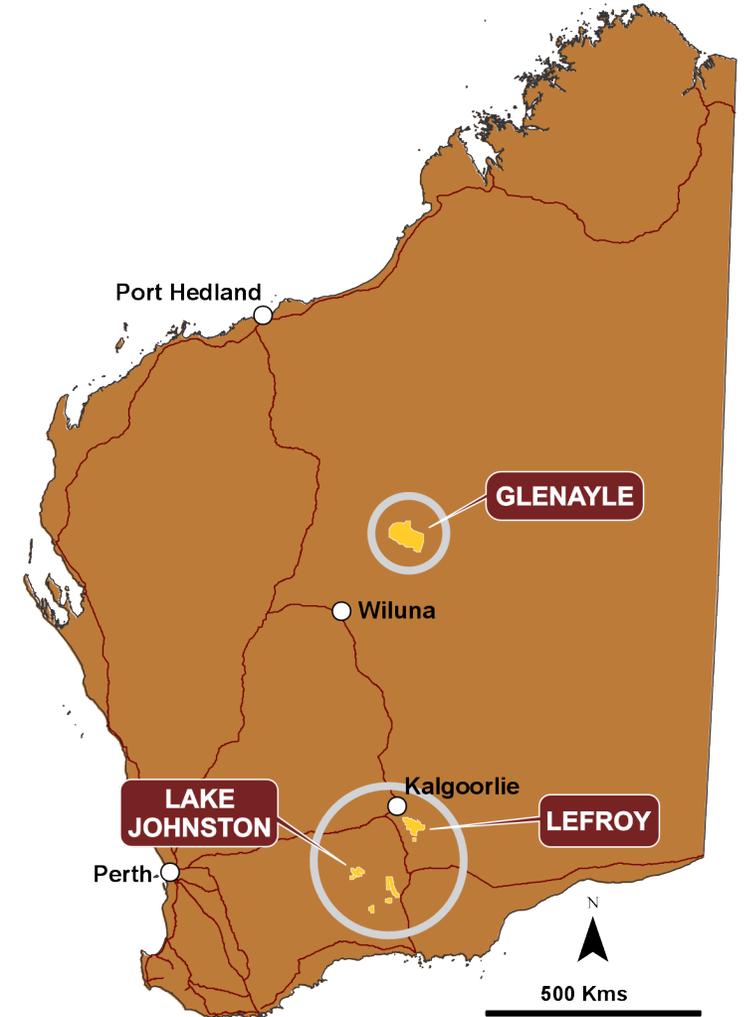


Figure 1: Lefroy's diverse portfolio of high-quality exploration and development assets in Western Australia

COMMANDING LAND HOLDING



PRIME REAL ESTATE IN KALGOORLIE-KAMBALDA

- Large **635km² contiguous tenement package** in world-class Kambalda–Kalgoorlie mining district
- Only 20km from Kambalda and 35km from Kalgoorlie – two established and well serviced **mining centres**
- Close to **existing transport infrastructure, towns and highly active workforces**
- **Nearby gold and nickel processing facilities** for cost-effective, low-capex, fast-tracked development
- Historic exploration has identified multiple, highly prospective targets fuelling immediate exploration activity
- Strategic **Location 45 acquisition** has rewarded with transformative assets:
 - Mt Martin Gold Mine (501,000oz Au @ 1.79g/t)
 - Goodyear Nickel Deposit (14,780t Ni @ 3.78%)

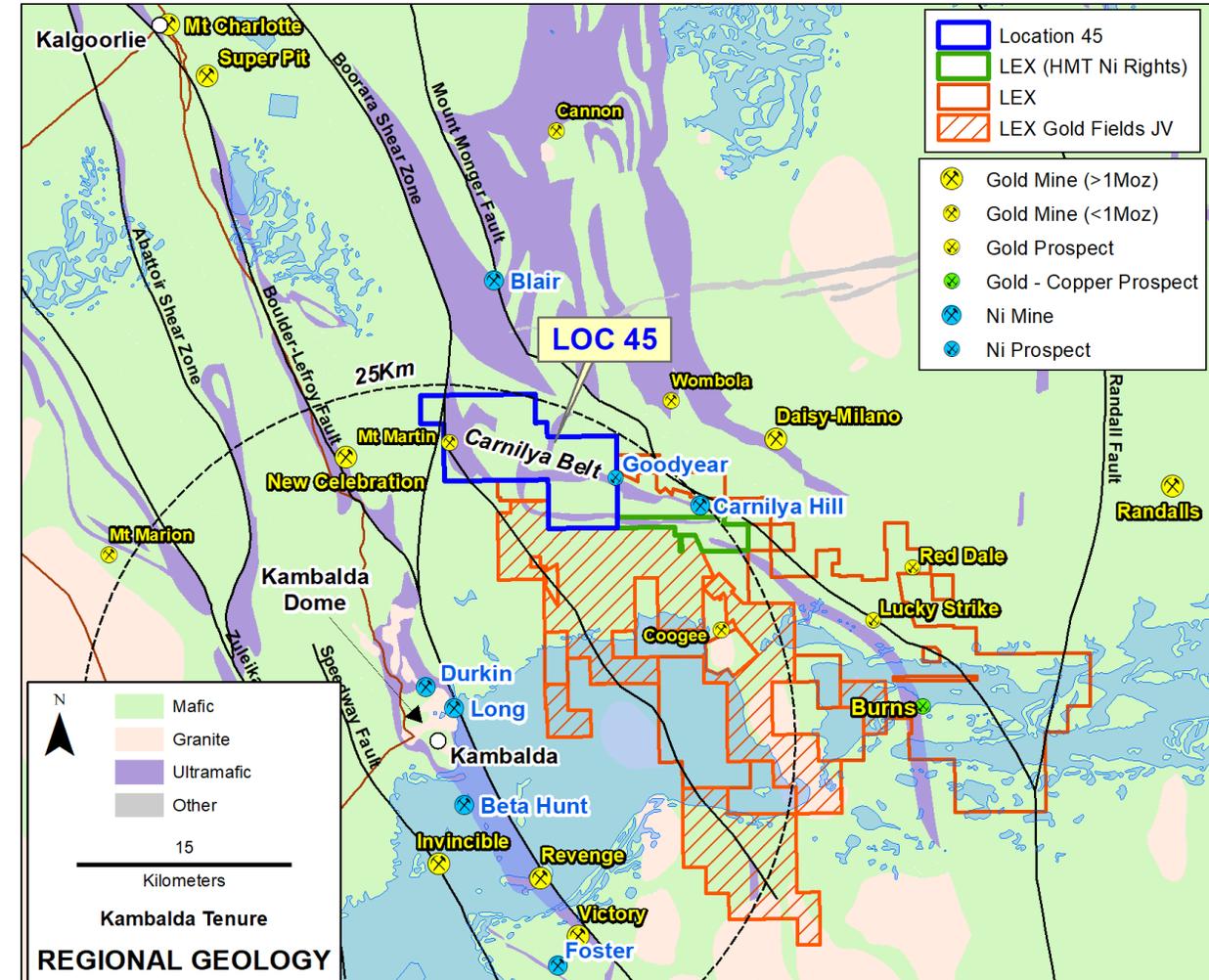


Figure 2: Location of Mt Martin Gold Mine within freehold property, Location 45, in relation to Kalgoorlie, Kambalda and other Lefroy Gold Project assets of the 635km² contiguous land package

A GROWING PRECIOUS AND BATTERY METALS MIX



GOLD AND GOLD-COPPER ASSETS

LOCATION 45 - MT MARTIN (Au)

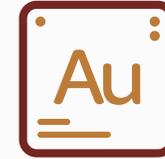
- JORC 2012 Resource (8.72Mt @ 1.79g/t Au for 501,000oz)
- Presents significant near-term growth potential.

BURNS CENTRAL PORPHYRY (Au, Cu)

- Maiden MRE released May 2023
- Contains 43Mt for 497,000oz Au; 58,000t Cu

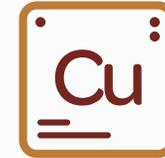
LUCKY STRIKE (Au)

- Contains 1.27Mt @ 1.95 g/t for 79,600oz Au



1.1Moz

GOLD



58kt

COPPER



15kt

NICKEL

NICKEL ASSETS

➤ LOCATION 45 - GOODYEAR

- Adjacent to the prolific Kambalda nickel district
- JORC 2012 Resource (392,000t @ 3.78% Ni for 14,780t Inferred)
- Open along strike with significant regional anomalism

➤ CARNILYA SOUTH

➤ LAKE JOHNSTON

➤ GLENAYLE

STRATEGY AND PATHWAY TO GROWTH

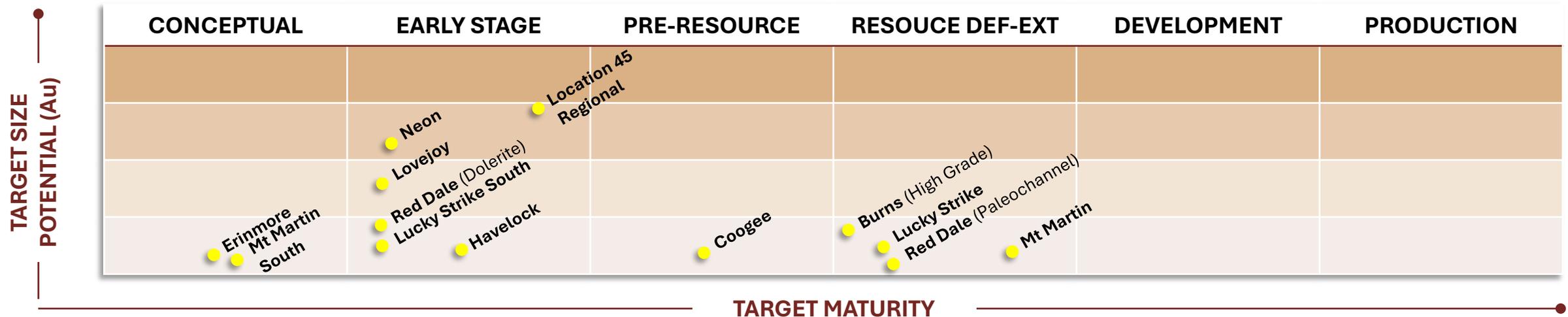


CLEAR COMPANY GOALS

- Growing the resource base with an ongoing view towards near-term commercialisation.
- Generate targeted, systematic exploration programs with measurable success hurdles.
- Maintain a balanced, diverse exploration pipeline of targets leading to new discoveries.

DIVERSE EXPLORATION TARGET PIPELINE

- Resource growth, extension and discovery within the Mt Martin and Lucky Strike project areas.
- Advancing pre resource exploration targets with significant upside and discovery potential at Lucky Strike South, Havelock, Erinmore and Coogee.
- Early-stage exploration targeting frontiers across the entire Location 45 area, Western Lefroy JV and Lake Johnston project areas.



ADVANCING HIGH GRADE TARGETS



RESOURCE GROWTH POTENTIAL

- Advanced targets at Lucky Strike immediately along strike from existing resource.
- Shallow targets along strike and down plunge of high-grade results last drilled in 2020.
- Significant exploration upside at Havelock
- Initial 2500m RC drilling program to commence mid-April.
- Resource update for Mt Martin scheduled for June quarter 2024.

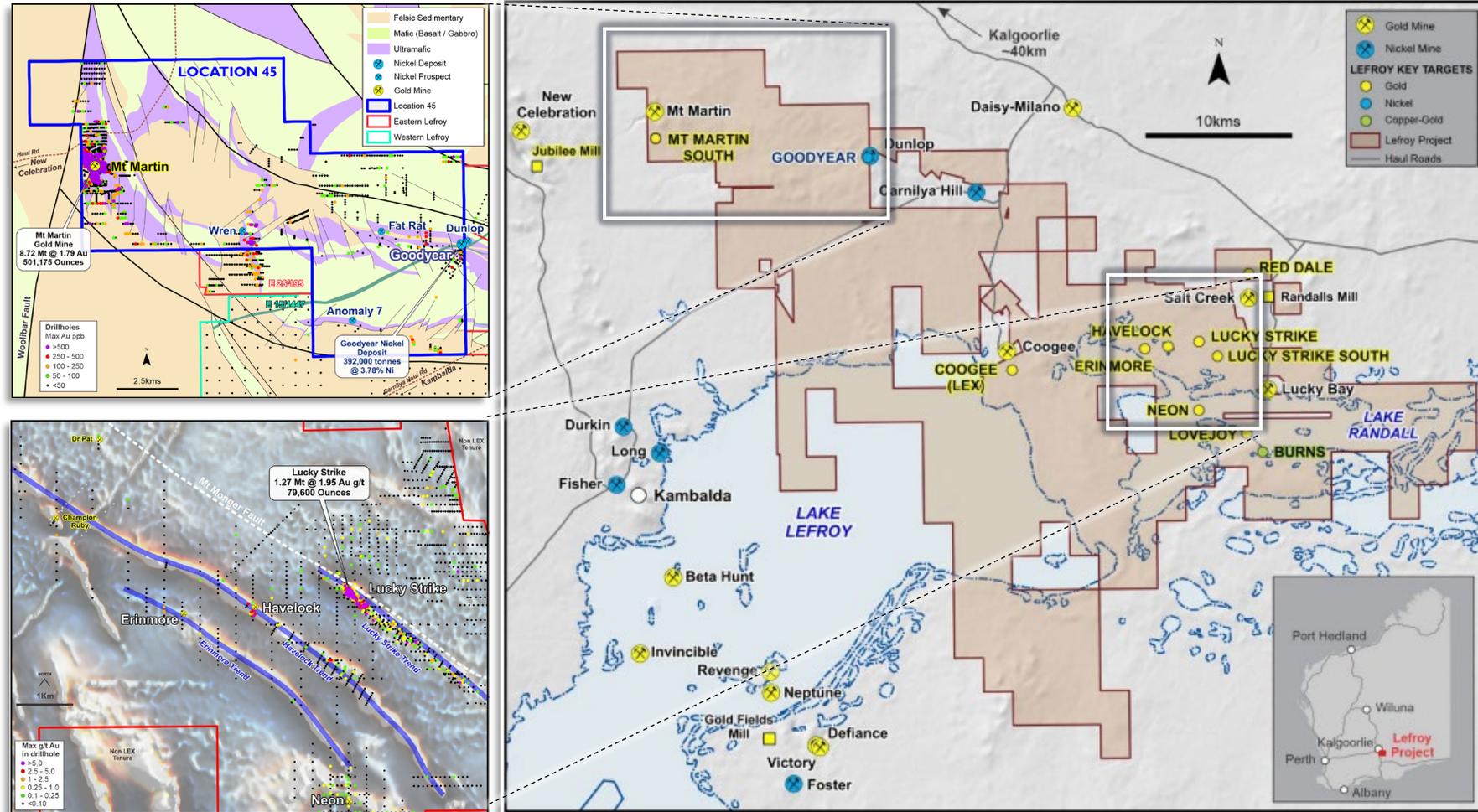


Figure 3: Lefroy tenure and key targets in the Kalgoorlie-Kambalda district

LUCKY STRIKE – BY NAME AND NATURE



TESTING ALONG AN ESTABLISHED TREND

- Gold mineralisation trend defined by wide spaced AC drilling with 3km strike length
- Several high-grade gold intersections within 150m (vertical depth) from surface remain untested down plunge and along strike
- Over 15km of significantly undertested BIF host rocks prospective for high-grade gold mineralisation.
- Existing resource discovered in 2020 by LEX
- MRE of 1.27Mt @ 1.95 Au g/t for 79,600 ounces
- Located approx. 35km northeast of Gold Fields' St Ives processing plant and 5km southwest of Randalls' Processing Plant

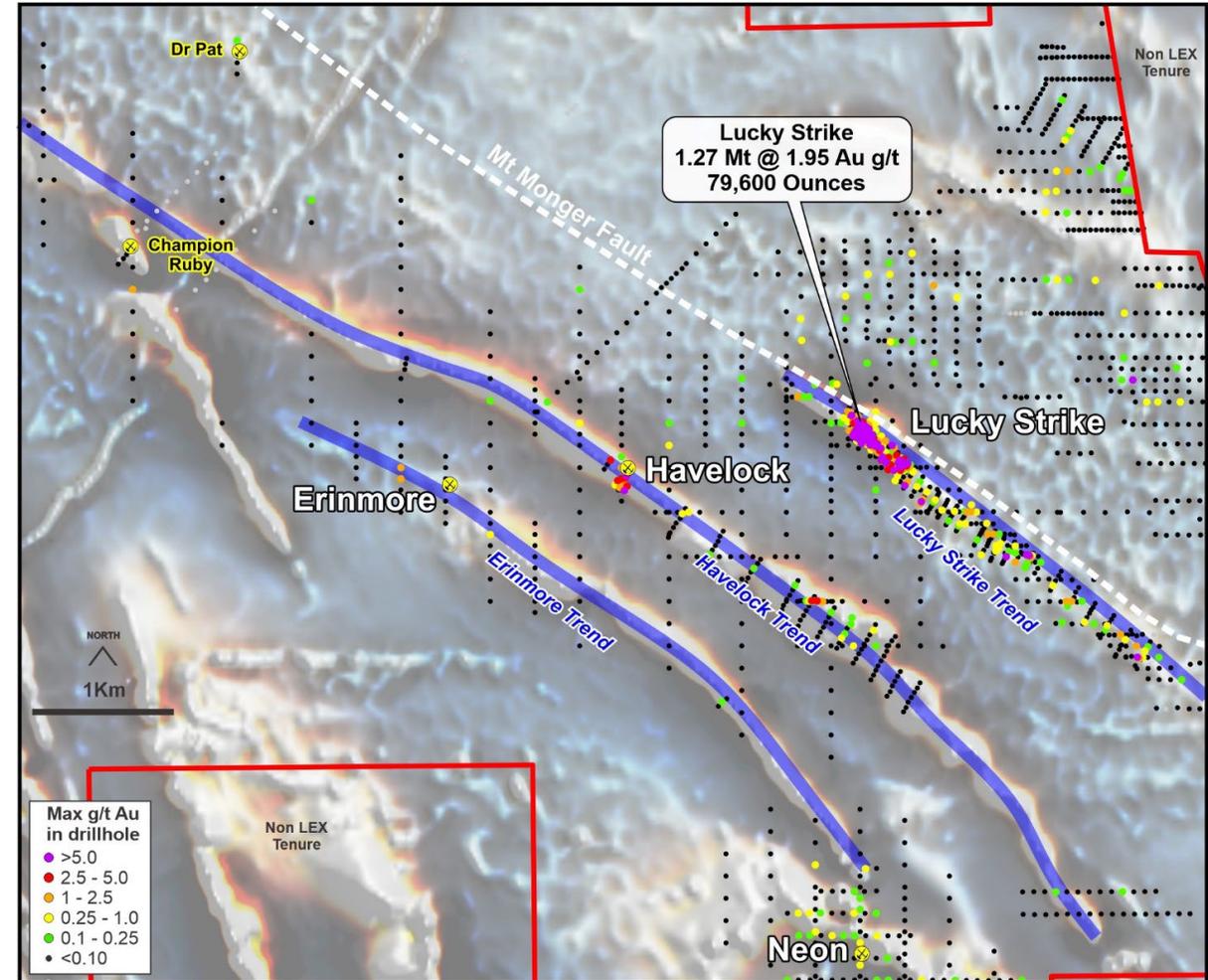


Figure 4: Lucky Strike project area and banded iron formation (BIF) hosted exploration targets

LUCKY STRIKE – FOLLOWING UP HISTORICAL SUCCESS



INTERSECTIONS REMAIN UNTESTED BOTH DOWN-PLUNGE AND ALONG STRIKE

- 8m @ 18.66g/t Au from 145m, including:
 - 5m @ 28.1g/t Au from 145m (LEFR217)
- 11m @ 3.48 g/t Au from 170m (LEFR216)
- 22m @ 2.49 g/t Au from 63m (LEFR152)

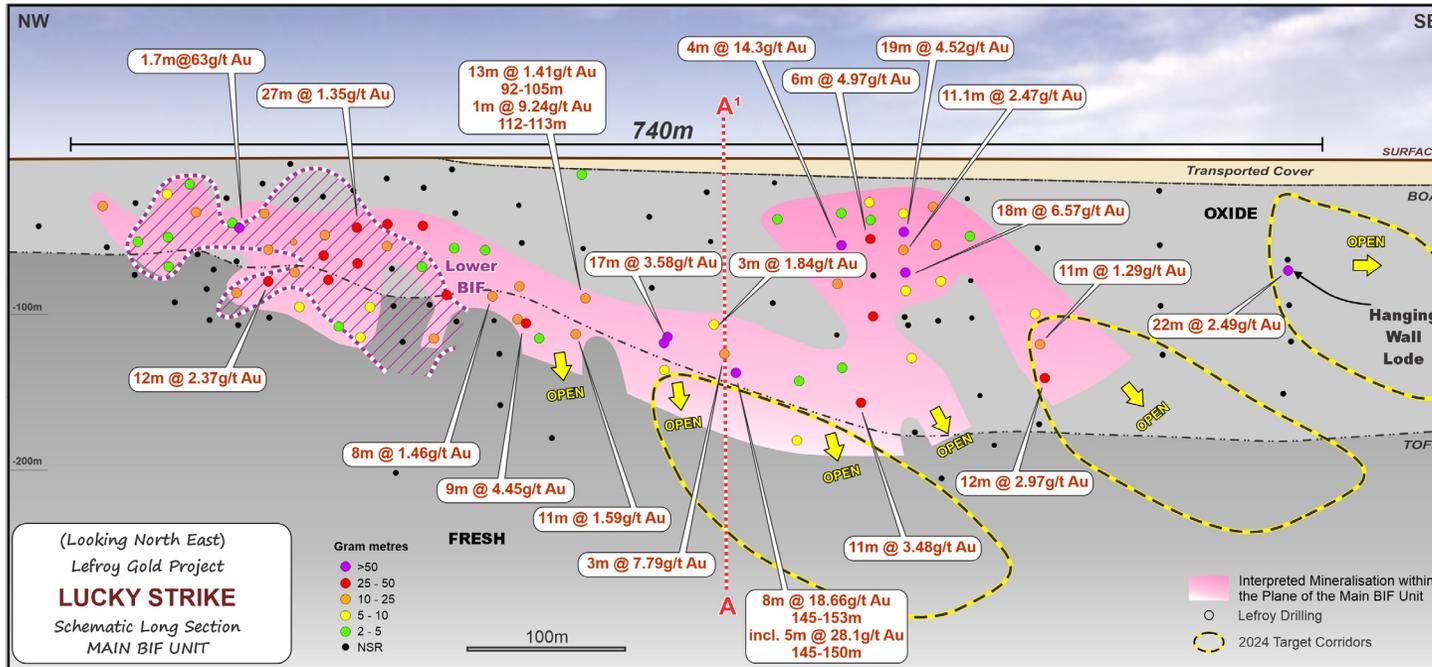


Figure 5: Lucky Strike long section and showing previous LEX intercepts and key drill target corridors.

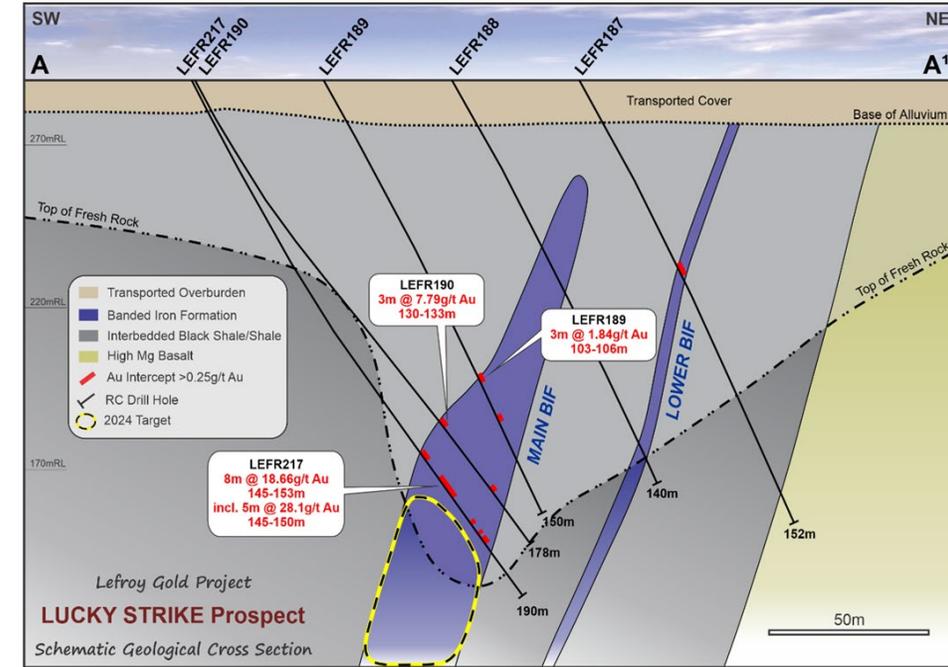


Figure 6: Lucky Strike Cross Section (refer to the section line in Figure 5)

HAVELOCK – LUCK STRIKING TWICE



ANALAGOUS AND PROXIMAL TO LUCKY STRIKE

- Target identified by Lefroy in 2018
- Corridor defined by a 9.5km linear magnetic unit parallel to and southwest of the Lucky Strike trend
- Drilling intersections in 2020 found to be similar to the rocks hosting mineralisation at nearby Lucky Strike and confirmed prospectivity of corridor
- Highly mineralised intersections reported from June 2022 RC program including:
 - **3m @ 13.37 g/t Au** from 118m (LEFR330)
 - **13m @ 1.82 g/t Au** from 76m (LEFR331), including **7m @ 2.69/t Au** from 78m
 - **7m @ 1.48 g/t Au** from 38m (LEFR216), including **2m @ 2.78/t Au** from 41m
- No further drilling conducted since due to focus on Burns Central activity through 2022-23

DRILLING TO COMMENCE AT LUCKY STRIKE AND HAVELOCK IN APRIL

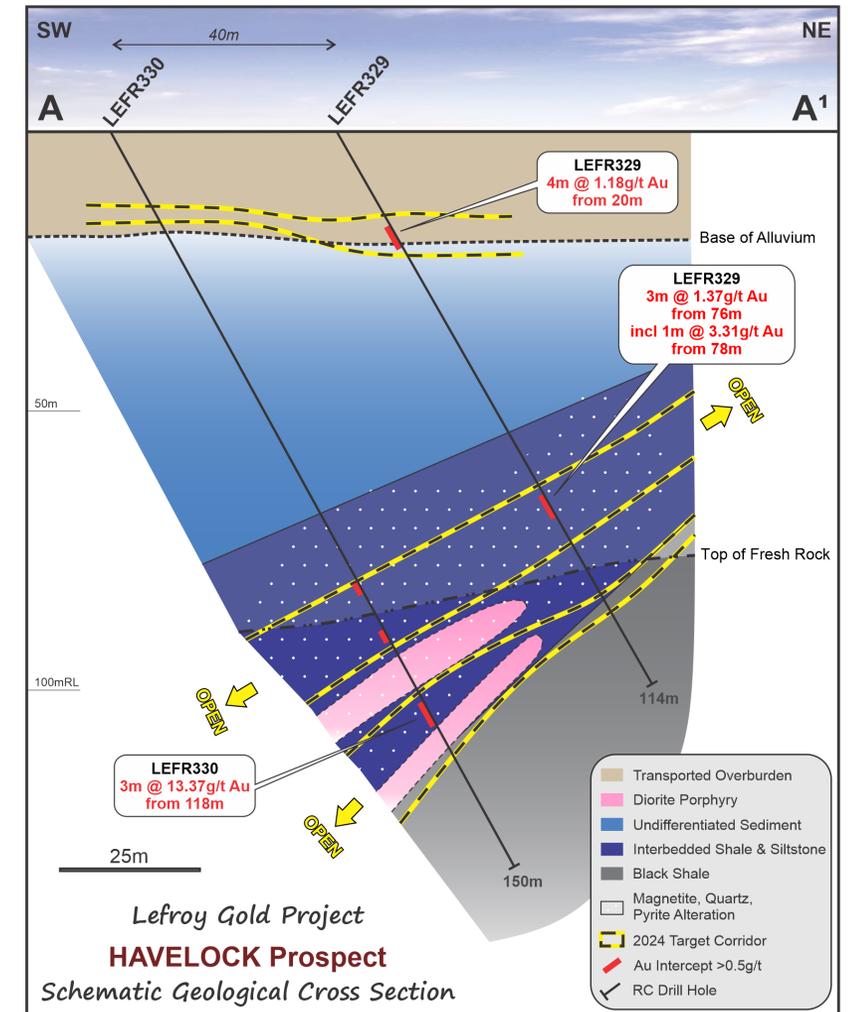


Figure 7: Havelock cross section and exploration upside.

MT MARTIN – GROWING A HALF MILLION OZ RESOURCE



OPPORTUNITY FOR MULTIPLE UNTESTED PARALLEL STRUCTURES AT DEPTH

- Completion of 29-hole RC drilling program in December 2023.
- Significant intersections returned in January 2024, including confirmation of mineral lode east of Mt Martin Pit (East Lode)
 - **8m @ 3.98 g/t Au (from 38m), Including**
 - **4m @ 7.16 g/t Au (from 41m)**
- Encouraging shallow intersections to the north and west of Mt Martin pit
- Anticipating a mineral resource update in Q2 2024
- Ongoing engagement with stakeholders regarding development and commercialisation

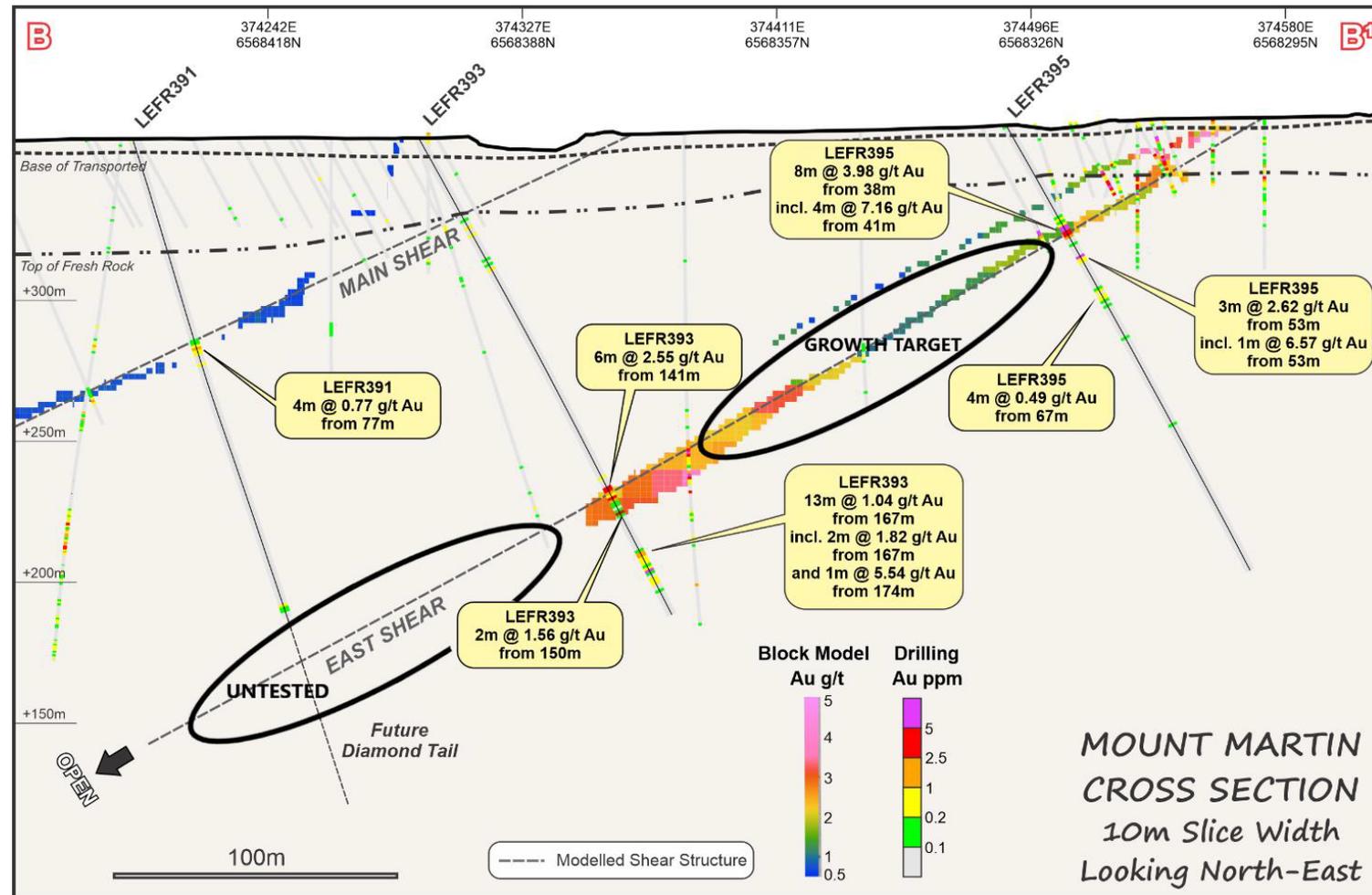


Figure 8: Mt Martin recent RC drilling intersections (January 2024)

OPPORTUNITIES AROUND



LOCATION 45

- Negligible on ground exploration undertaken for gold in almost 20 years; very limited regional exploration
- Historical mapping and geophysical interpretation coupled with new geochemical sampling data, modern mapping and structural interpretation to guide target generation
- Next phase of regional exploration September quarter 2024.

WESTERN LEFROY JV

- A 246km² package held between Lefroy and Gold Fields Limited (JSE:GFI) with LEX manager as of September 2023
- Target analysis underway to identify next generation of prospective targets

EASTERN LEFROY AND LAKE JOHNSTON

- Underexplored tenure held by LEX prospective for gold, nickel and lithium

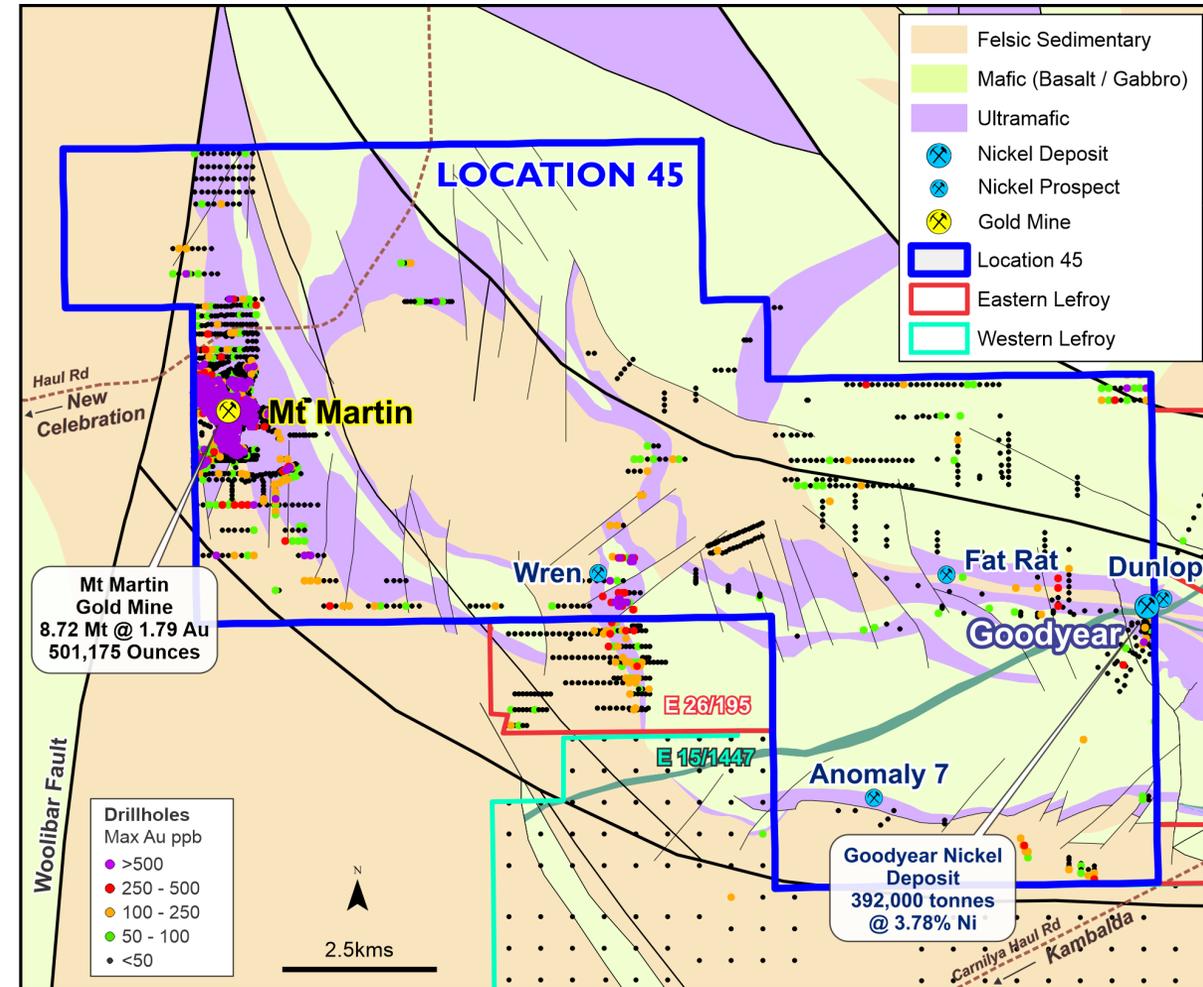
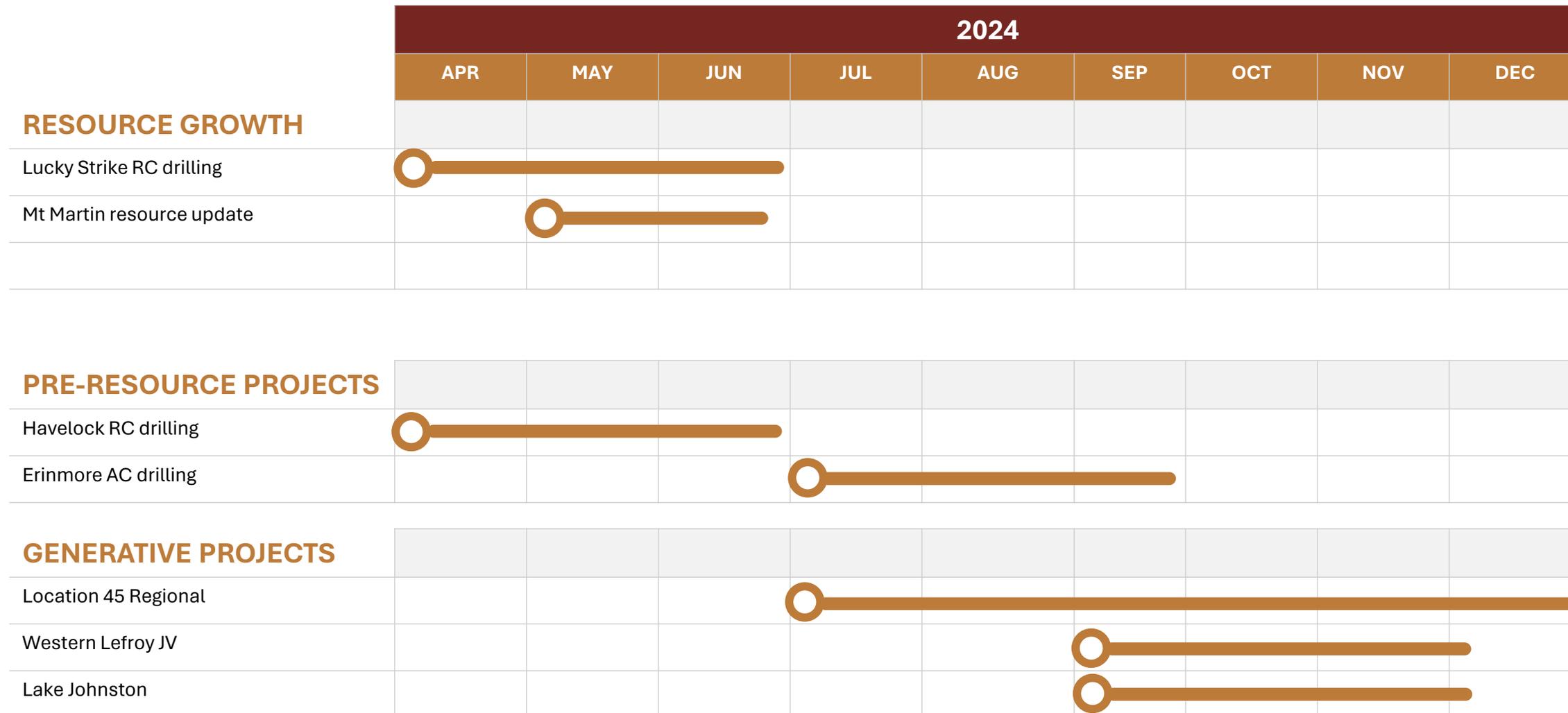


Figure 9: Location 45 Regional exploration upside

EXPLORATION ACTIVITY TIMELINE



EXPERIENCED AND SKILLED TEAM



SKILLED & EXPERIENCED EXPLORATION TEAM

EXPLORATION TEAM



Graeme Gribbin
Chief Executive Officer



Chris Hesford
Senior Exploration Geologist



Honor Wilson
Project Geologist



Braden Strawbridge-Hill
Field Logistics Supervisor



Kristel Sarak
Project Administrator

EXCELLENCE & INTEGRITY – BOARD OF DIRECTORS

BOARD OF DIRECTORS



Gordon Galt
Non-Executive Chairman



Tara French
Non-Executive Director

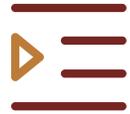


Michael Davies
Non-Executive Director

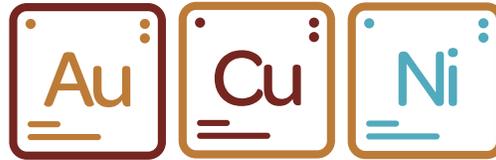


David Kelly
Non-Executive Director

INVESTMENT HIGHLIGHTS



Exploration ready with drilling commencing on high-grade gold targets in April 2024, with extended pipeline of projects identified



Expanding portfolio of precious and critical minerals, including over **1.1 million oz of gold, 58kt of copper and 15kt of nickel**



Transformative Location 45 acquisition on private (freehold) land title provides streamlined **pathway to future development**



Tier-1 location with 635km² contiguous land package in **Kalgoorlie-Kambalda** premier mining jurisdiction



Harnessing knowledge base of **experienced board and management** with exploration, development and production success



Well funded, **primed for growth** with significant upside potential identified across multi-commodity assets

Competent Person Statement

The following announcements were lodged with the ASX and further details (including supporting JORC Tables) that have been used in part to inform this presentation. The Company confirms it is not aware of any new information or data that materially affects the information included in the original market announcements. In the case of all Mineral Resource Estimates (MRE), the Company confirms that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

- Outstanding Results Reinforce Lucky Strike Potential – 26 February 2020
- Maiden Gold Resource at Lucky Strike – 20 May 2020
- Red Dale Resource Increase by 28% to 25,230oz – 3 June 2020
- Multiple Gold Trends Confirmed from Eastern Lefroy Baseline Exploration – 1 September 2020
- Drilling Outlines New Gold System along Havelock BIF Trend – 9 February 2021
- High-Grade Gold Result Confirms New Discovery at Havelock – 7 July 2022
- Half a Million Ounces of Gold in Burns Central maiden Resource – 4 May 2023
- Lefroy Increases Gold Resources to 602,000oz – 15 May 2023
- Acquisition of Mineral Rights Transforms Lefroy – 23 May 2023
- Lefroy Confirms High-Grade 15KT Resource at Goodyear – 23 August 2023
- Growth Potential for Mt Martin Gold Mine Confirmed – 5 September 2023
- Lefroy Exploration Investor Update Presentation – 6 September 2023
- \$6.2M Raised to Advance Nickel and Gold Projects at Location 45 – 22 September 2023
- LEX 2023 Annual Report – 2 October 2023
- Resource Extension Drilling Underway at Mt Martin – 24 November 2023
- Drilling Commences at High-Grade Goodyear Nickel Deposit – 30 November 2023
- First Drillhole hits massive nickel sulphides at Goodyear – 12 December 2023
- Assay Results confirm High Grade Nickel Sulphides at Goodyear – 10 January 2024
- Drilling Extends Gold Mineralisation at Mt Martin Gold Mine – 18 January 2024
- Executive Update – Leadership Changes – 6 February 2024
- Strategy to Focus on Gold Development and Exploration – 23 February 2024
- Lefroy to Recommence Exploration of High-Grade Gold Targets – 27 March 2024

The information in this announcement that relates to exploration targets and exploration results is based on information compiled by Graeme Gribbin, a competent person who is a member of the Australian Institute of Geoscientists (AIG). Mr Gribbin is employed by Lefroy Exploration Limited. Mr Gribbin has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the JORC Code. Mr Gribbin consents to the inclusion in this announcement of the matters based on his work in the form and context in which it appears

ASX: LEX



Lefroy Exploration

Thankyou

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Appendices



TOTAL INDICATED & INFERRED RESOURCES



Orogenic Gold Style

Deposit	Indicated			Inferred			Total Resource		
	Mt	Au (g/t)	Oz	Mt	Au (g/t)	Oz	Mt	Au (g/t)	Oz
Red Dale	0.64	1.21	24,660	0.03	0.60	570	0.67	1.18	25,230
Lucky Strike	0.70	1.93	43,400	0.57	1.97	36,200	1.27	1.95	79,600
Mt Martin	5.31	1.82	311,048	3.41	1.73	190,127	8.72	1.79	501,175
TOTAL	6.65	0.62	379,108	4.01	0.70	226,897	10.66	1.77	606,005

Porphyry Gold-Copper Style

Deposit	Indicated					Inferred					Total Resource			
	Mt	Au (g/t)	Cu (%)	Oz	Cu (t)	Mt	Au (g/t)	Cu (%)	Oz	Cu (t)	Mt	Au (g/t)	Oz	Cu (t)
Burns Central	32.31	0.38	0.16	394,308	50,253	10.65	0.30	0.08	103,165	8,047	42.96	0.36	497,472	58,300
TOTAL														

Nickel

Deposit	Indicated			Inferred			Total Resource		
	tonnes	Ni (%)	Ni metal	tonnes	Ni (%)	Ni metal	tonnes	Ni (%)	Ni metal
Goodyear	-	-	-	392,000	3.78	14,780	392,000	3.78	14,780
TOTAL	-	-	-	392,000	3.78	14,780	392,000	3.78	14,780