

Transformational Acquisition Provides Pathway to Development

- Advanced Kambalda-based nickel and gold projects
- Nickel and gold resource portfolio in Tier 1 location
- Pipeline of activity to progress key assets toward development
- Premier mining jurisdiction provides near-term, low capital development optionality

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COMPANY OVERVIEW



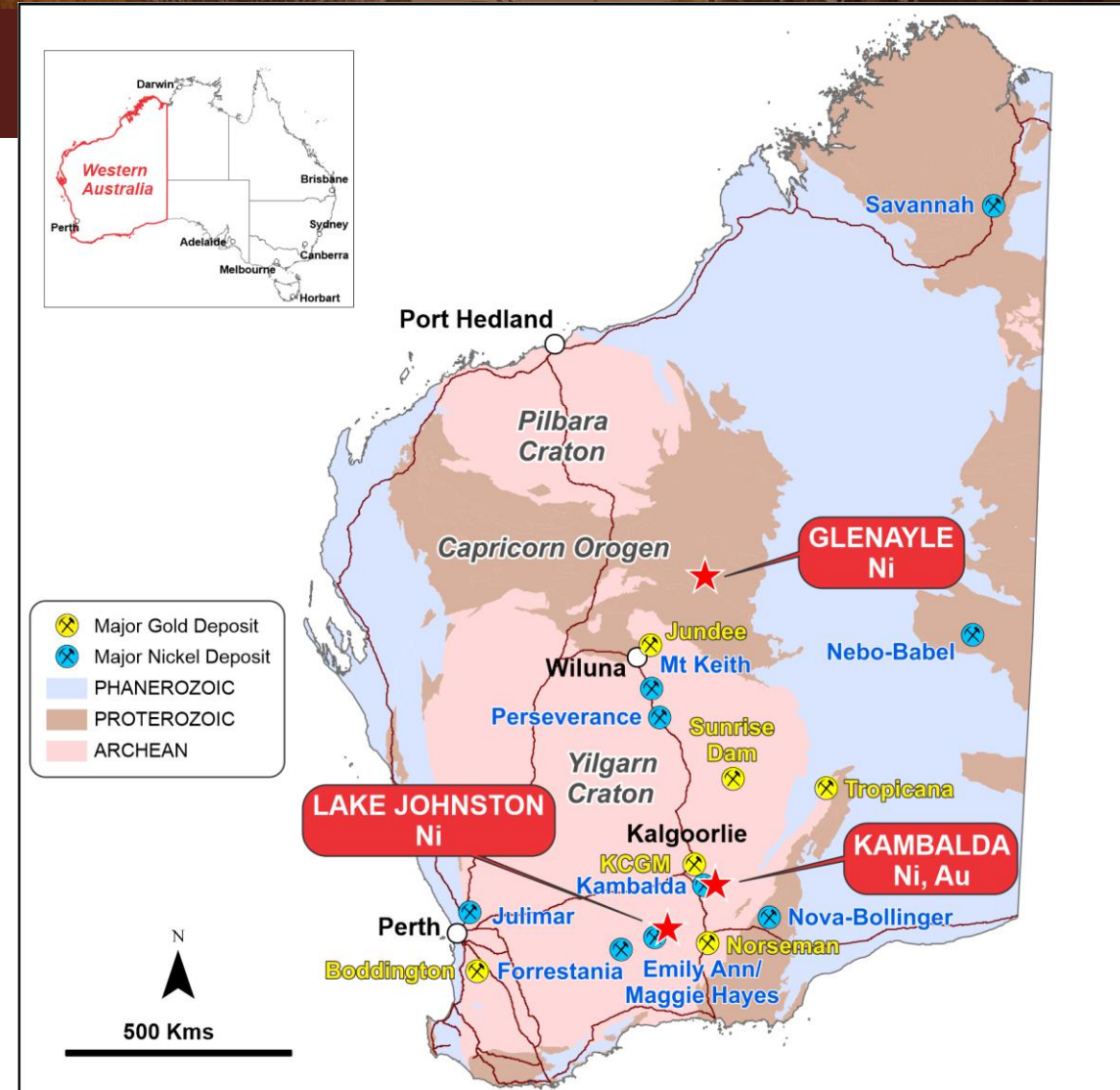
ADVANCING KEY ASSETS TOWARD DEVELOPMENT

NICKEL ASSETS

- **KAMBALDA (LOCATION 45) - GOODYEAR**
 - JORC 2012 Resource **(392,000t @ 3.78% Ni for 14,780t Inferred)**
 - Open along strike and significant regional anomalism.
- **LAKE JOHNSTON**
 - Proximal to high-grade Emily Ann and Maggie Hayes nickel mines.
- **GLENAYLE**
 - Early Mover Greenfields Nebo-babel style prospectivity.

GOLD ASSETS

- **KAMBALDA (LOCATION 45) - MT MARTIN**
 - JORC 2012 Resource **(8.72Mt @ 1.79g/t Au for 501,000oz)**
 - Significant near-term development opportunity.
- **BURNS (Au, Cu)**
 - Contains **43Mt @ 0.36 g/t for 497,000oz Au**
- **LUCKY STRIKE / RED DALE (Au)**
 - Contains **1.94Mt @ 1.71 g/t for 104,830oz Au**

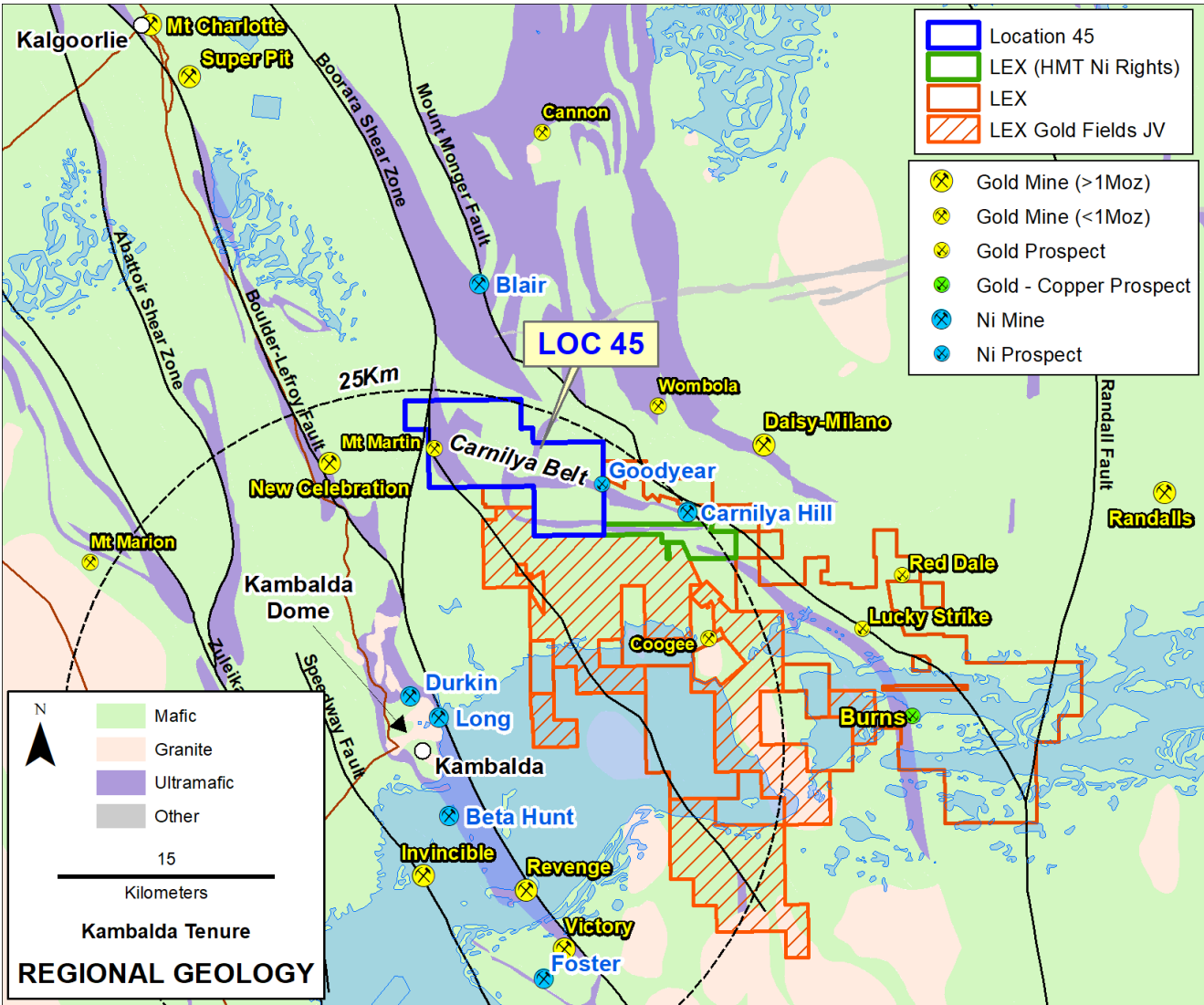


COMMANDING LAND HOLDING



KAMBALDA FOCUSED NICKEL AND GOLD PROJECTS

- Large 635km² contiguous package of tenements in world class Kambalda–Kalgoorlie mining district.
- Only 20km north of Kambalda and 35km south of Kalgoorlie.
- Close to existing developed infrastructure (road, rail and Kambalda and Kalgoorlie townsites).
- Nearby gold and nickel processing facilities provide an opportunity to fast-track development of resources with low capex requirements.
- Patience and strategic dealing rewarded with the acquisition of transformative asset at Location 45.



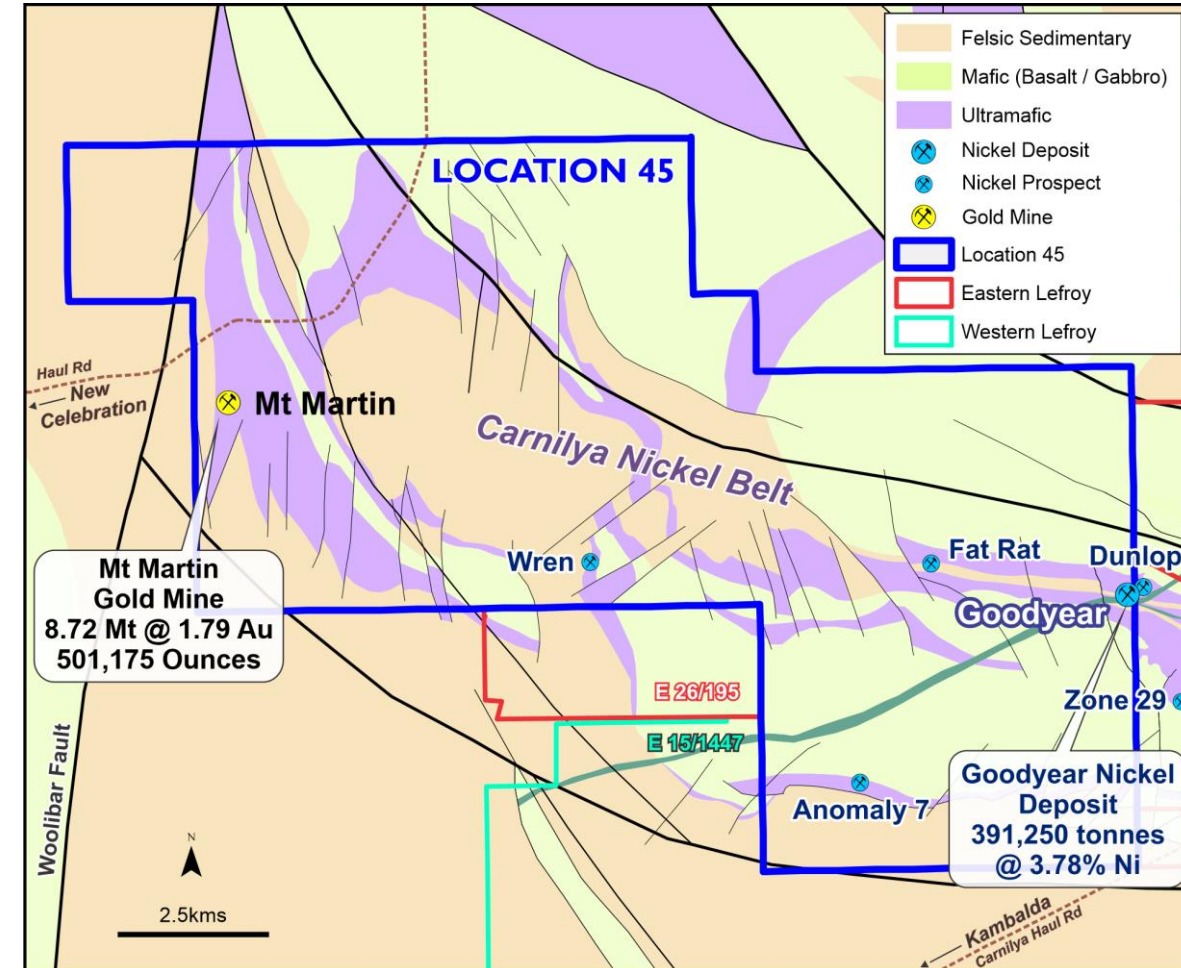
LOCATION 45 - Transformational Acquisition



TRANSACTION AND PROJECT DETAILS

- Acquired Mineral Rights¹ from Franco-Nevada Australia Pty Ltd* for nil consideration and a minimum 21-year term, which includes:
 - 15,000t Goodyear nickel resource (JORC 2012)**
 - 501,000oz Mt Martin gold resource (JORC 2012)**
- Over 30km of undertested ultramafic host rocks prospective for Ni.
- Mineral Rights divided between Lefroy wholly owned subsidiaries:
 - Hampton Metals Ltd (HMT)- Ni, Li and REE.
 - Monger Exploration Pty Ltd (MEX)- Au and all other minerals.
- Mineral rights are privately owned (freehold) and exempt from 2.5% State Royalty and Mining Act Provisions.
- Agreed to 4% Production Royalty with Franco-Nevada on all minerals.

ASX Announcement 23 May 2023



*** Franco Nevada Corporation, the worlds leading Gold focused royalty and streaming Company**



DEDICATED NICKEL COMPANY

- Lefroy's 100% wholly owned subsidiary Hampton Metals Ltd (HMT) is the dedicated vehicle focused on realising value from its nickel portfolio.
- Acquisition of Location 45 transforms nickel portfolio.
- Diversified nickel and critical minerals opportunities spanning early-stage greenfields through to advanced resource projects.
- In-house experienced nickel specialist team with proven track record to drive growth.
- Advance value of the Goodyear Resource through targeted exploration and resource growth.
- Planned IPO to prioritise existing Lefroy shareholders scheduled in CY 2024.



LOCATION 45 GOODYEAR NICKEL PROJECT

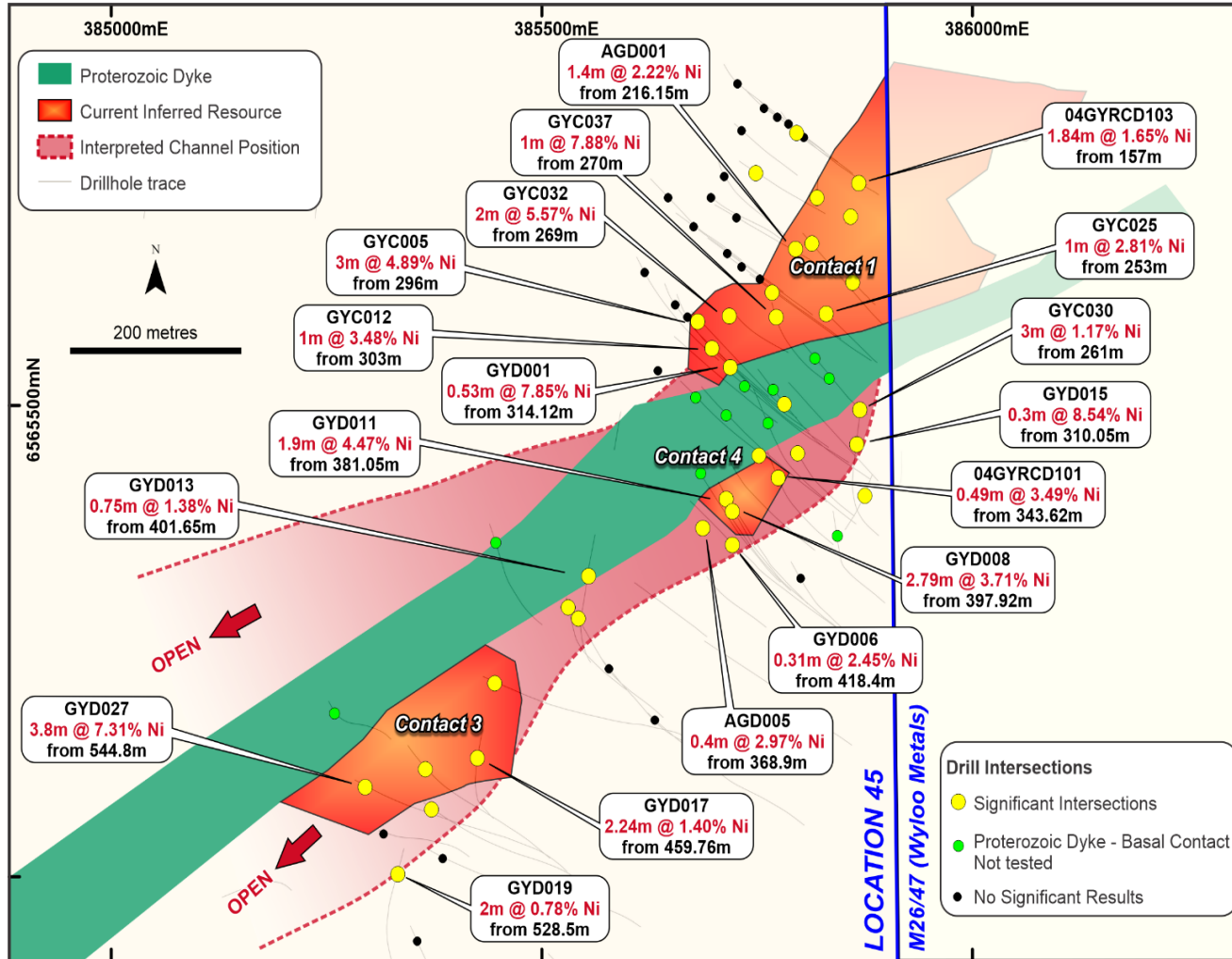


HIGH GRADE – GROWTH FOCUS

- Located in the significantly underexplored Carnilya Belt, 20km north of the prolific Kambalda nickel district (produced >1.6 Mt nickel over 50 years).
- Located 4km west of Wyloo Metals high-grade Carnilya Hill nickel deposit with historical production of 1.7Mt @ 3.3% Ni.
- Goodyear Nickel Deposit containing **392,000t @ 3.78% Ni for 14,780t** (Inferred) contained nickel (JORC 2012)*.
- Mineralisation identified from 100m to 450m depth from surface, and importantly, open both along strike to the west and down-plunge.
- No nickel focused exploration drilling completed since Australian Mines Limited last drilling campaign in 2008.



GOODYEAR RESOURCE OPEN AT DEPTH



ASX Announcement 23 Aug 2023

HIGH GRADE – HIGH TENOR – SYSTEM OPEN

Maiden Goodyear Resource by Australian Mines Ltd in 2008.

Now JORC 2012 compliant following review by CSA Global
(392,000t @ 3.78% Ni for 14,780 contained Ni).

Significant opportunities to advance Goodyear, with a near-term Stage 1 drilling program focused on:

1. Infill diamond drilling to upgrade categories of Inferred resource to Indicated status; and
2. Explore and add to the resource base with extensional drilling along strike and down -plunge outside existing resource envelopes.

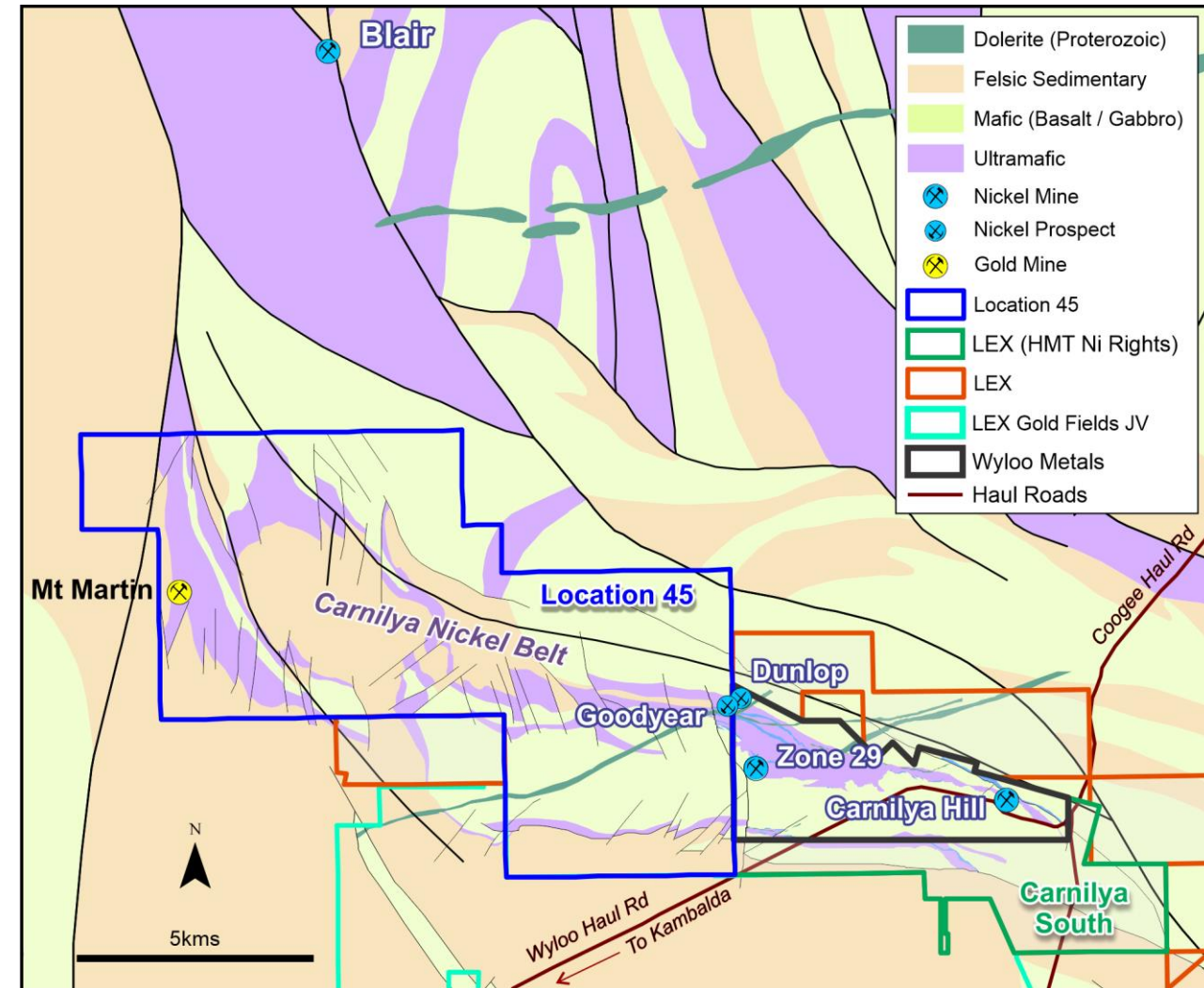
A Stage 2 drilling program will be designed following exploration outcomes from Stage 1.

Deepest drillhole **GYD027** returned **3.8m @ 7.31% Ni** on the edge of the resource, completely open down-plunge.

CARNILYA BELT NICKEL UPSIDE

A NEW KAMBALDA DOME?

- Comparable scale to the Kambalda Dome, with a fraction of the exploration attention.
- Significantly underexplored for nickel over the past 30 years and possessing the same highly fertile ultramafic rocks that host nickel mineralization in the Kambalda Dome.
- Over 30km of highly untested ultramafic rocks prospective for nickel.
- Numerous surface nickel anomalies recognised by past explorers that remain completely untested at depth.
- Diamond and Reverse circulation (RC) drilling largely limited to the eastern corridor proximal to the Goodyear project.
- Modern surface and down-hole electro-magnetic (DHEM) surveys to be employed to unlock the regional nickel upside on Location 45.



ASX Announcement 23 Aug 2023

MT MARTIN GOLD MINE



SIGNIFICANT NEAR TERM DEVELOPMENT OPPORTUNITY

- High-grade underground shaft operation in 1980's.
- Last open pit mining in 2009 by Dioro Exploration for 743kt @ 1.5g/t gold.
- Previous total production of ~200Koz gold.
- Majority of ore processed at neighboring former New Celebration Mill and Jubilee Mill (NST).
- Remaining shallow gold indicated & Inferred resource of:
500Koz Au (8.7Mt @ 1.79 g/t Au) reported to JORC 2012 below existing open pit.
- 700,000oz gold endowment that presents significant resource growth upside.
- Entire drillhole database, previous mining feasibility studies and optimisation reports in-hand.

Under-explored asset that has missed 10 years of exploration



Mt Martin Open Pit (Looking South)

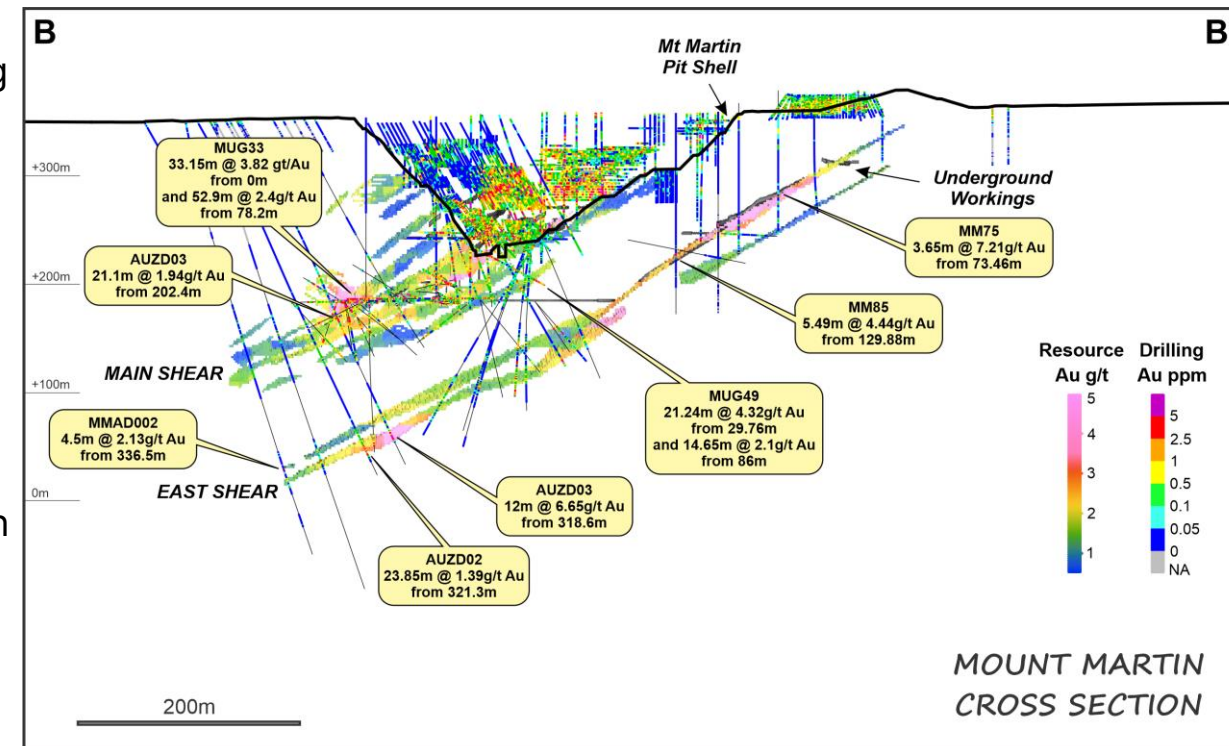
MT MARTIN GOLD MINE

SCALE OF SYSTEM YET TO BE DETERMINED

- Gold mineralisation associated with series of stacked, west dipping sulphide and quartz-carbonate lodes hosted by ultramafic rocks.
- Little modern exploration of historic underground stope structures with strong potential for extensions to high-grade shoots.
- Gold in shallow drill results east of open pit ignored for a decade.
- East lode sits 50m below main shear with minimal underground mining in 1980s – 1990s.
- Area immediately outside the mine is virgin unexplored ground with the right rocks for additional gold discoveries.

Staged resource definition drilling program:

- Stage 1-targeted infill drilling to deliver robust shallow resource for mine optimisation.
- Stage 2-focused deeper drilling on the targets which have the highest probability towards material progression of an expanded resource.

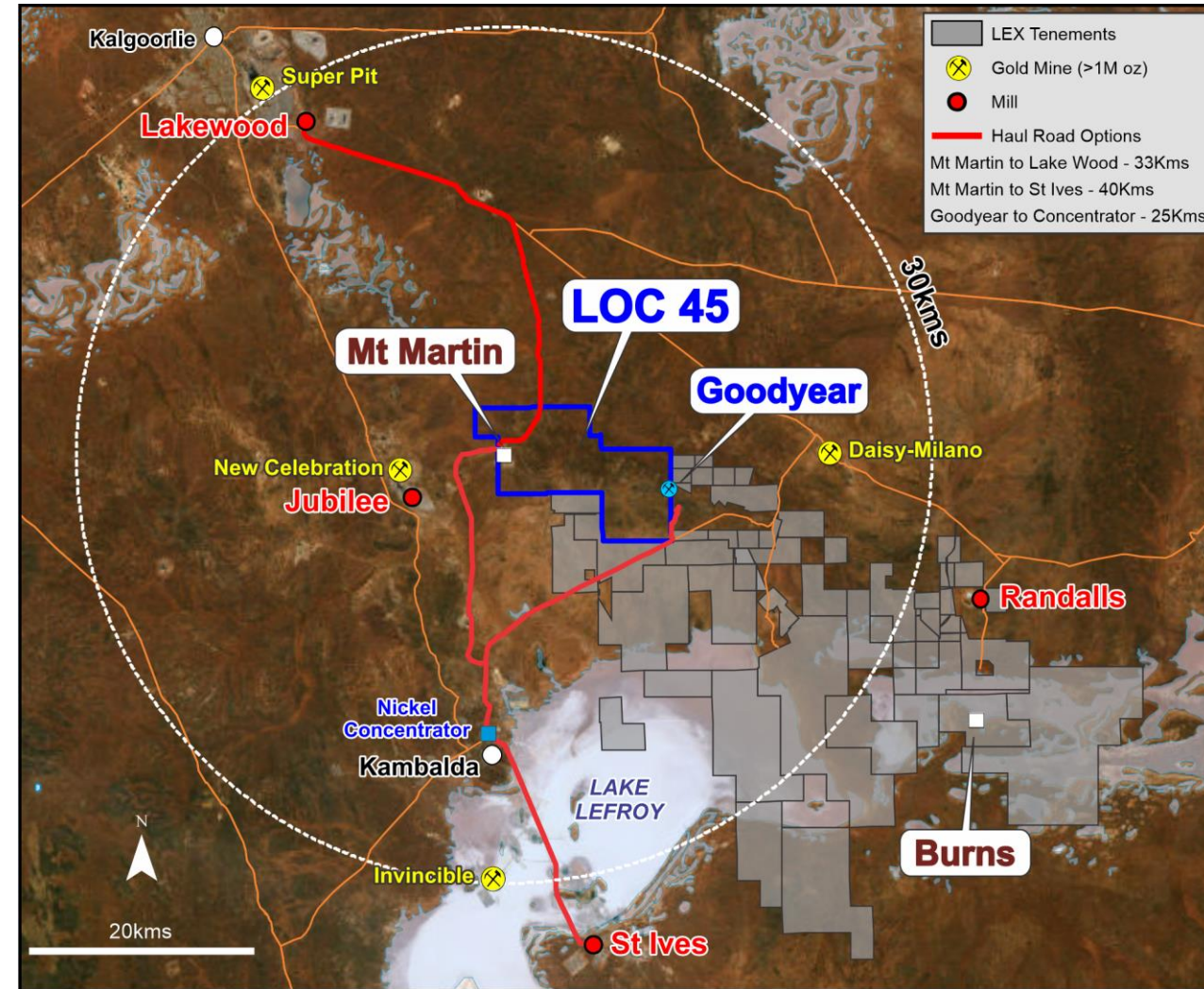


Mt Martin cross section with drill holes, resource model and significant gold intersections looking north.

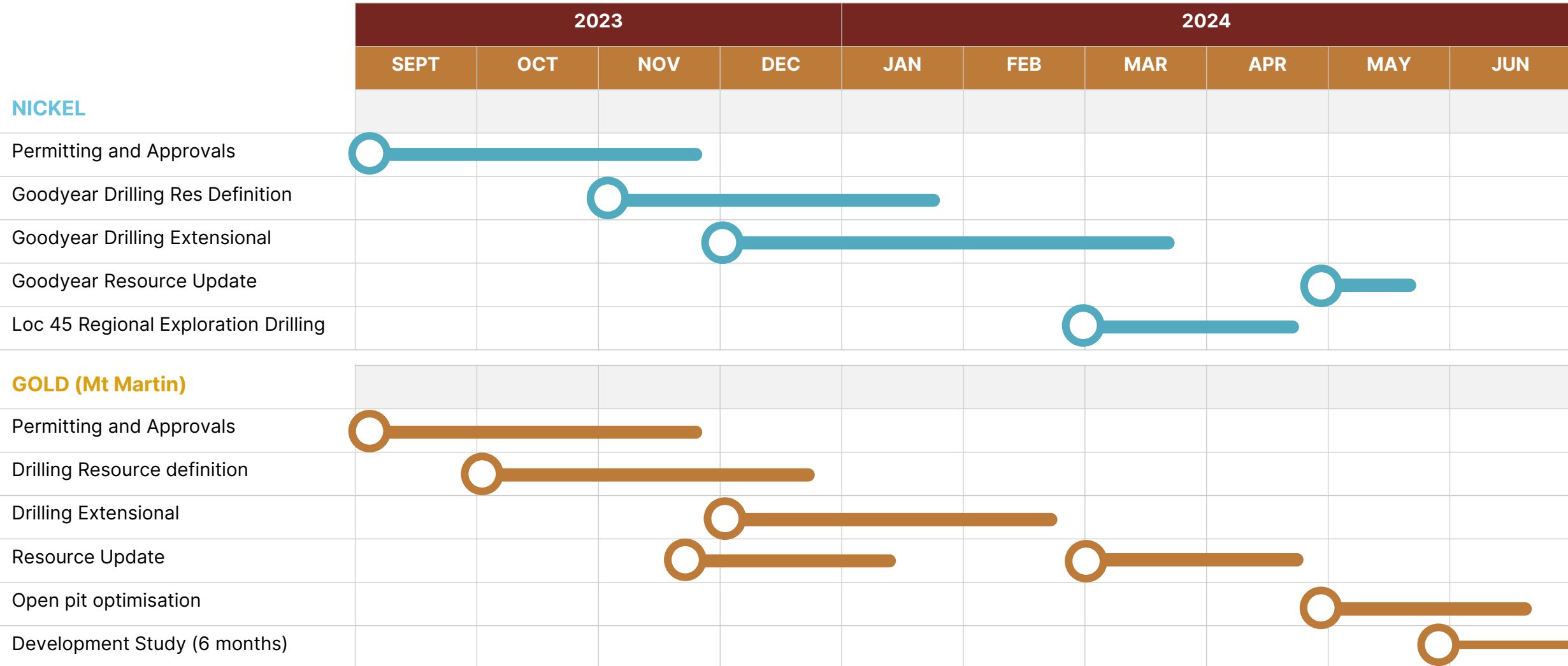
PREMIER MINING LOCATION FOR NICKEL AND GOLD

PREMIER MINING JURISDICTION PROVIDES NEAR-TERM, LOW CAPITAL DEVELOPMENT OPTIONALITY

- Located 7km from Goldfields Hwy between Kalgoorlie and Kambalda.
- On freehold land with simplified regulatory requirements.
- 40-year history of prior underground and open-pit mining.
- Low capital development opportunity.
- Haul roads to multiple third-party gold mills and proximal to the Kambalda Nickel Concentrator.
- Discussions commenced with third-party mill operators.



LOCATION 45 ACTIVITY TIMELINE



CORPORATE OVERVIEW



BOARD – LEFROY EXPLORATION LIMITED

Gordon Galt	Non-Executive Chairman
Wade Johnson	Managing Director
Michael Davies	Non-Executive Director
Tara French	Non-Executive Director

MANAGEMENT – HAMPTON METALS LTD

(Wholly-owned LEX subsidiary)

David Kelly	Non-Executive Chairman
Graeme Gribbin	Managing Director
Tim Netscher	Non-Executive Director
Jon McLoughlin	Exploration Manager

CORPORATE DETAILS

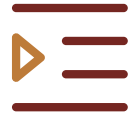
Shares On Issue	160.5M
Price	A\$0.20
Market Capitalisation	A\$32M
Cash (30 June 2023)*	A\$0.44M
Debt	Nil

LEX Substantial Shareholders – as of 29 Aug 2023

 Noontide Investments Ltd 17.60%	 LEX Share Plan 4.77%
 LEX Board 14.68%	 Lowell Fund Resources 2.7%
 Gold Fields Ltd 13.47%	 Other Shareholders 46.78%

*Note Subsequent to 30 June 2023 LEX received \$0.9million tax refund. LEX ASX release 10 July 2023

INVESTMENT SUMMARY



Transformative acquisition
of Location 45 including Goodyear
nickel and Mt Martin gold resources



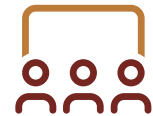
Premier mining jurisdiction provides
near term, low capital development
optionality



Freehold land title provides
Company with a streamlined
pathway to future development



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



Dedicated nickel team (Hampton
Metals Ltd) with IPO planned for
CY 2024



Advanced discussions with strategic
partners for **gold processing** options
and to **realise value** at Burns Gold-
Copper Project

Competent Person Statement

Notes Specific-ASX Announcements Investor Presentation

The following announcements were lodged with the ASX (including supporting JORC Reporting Tables) and details for each of the sections noted in this Presentation and can be found in the announcements. Note that these announcements are not the only announcements released to the ASX since the last presentation dated 23 July 2023 but specific to exploration reporting. The Company confirms that it is not aware of any new information or data that materially affects the information previously reported.

Maiden Lucky Strike Resource Estimate: 20 May 2020

Red Dale Resource Increases by 28% to 25,230oz: 3 June 2020

RC Drill Results Outline New Gold Zone at Burns: 25 January 2022

High-Grade results expand the Burns Cu Au System: 21 February 2022

Impressive Au-Cu intersection in New RC Hole at Burns: 19 April 2022

AC Drill Results Continue to Expand the Burns Gold-Copper System Beneath Lake Randall: 4 July 2022

Burns 1200m Diamond Drill hole Update: 1 August 2022

Drilling Continues to Define Larger Scale to Burns Au Cu System: 1 September 2022

Resource RC Drilling Program Underway at Burns: 6 October 2022

Strong Gold and Copper Intersections Continue to Expand Burns Central: 2 March 2023

0.5M Ounces of Gold in Burns Central Maiden Resource: 4 May 2023

Lefroy Increases Gold Resources to 602,000 oz: 15 May 2023

Acquisition of Mineral Rights Transforms Lefroy: 23 May 2023

2023 Noosa Mining Conference Presentation : 23 May 2023

Lefroy Confirms High-Grade 15kt Resource at Goodyear: 23 August 2023

The information in this announcement that relates to exploration targets and exploration results is based on information compiled by Wade Johnson a competent person who is a member of the Australian Institute of Geoscientists (AIG). Wade Johnson is employed by Lefroy Exploration Limited. Wade Johnson 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. Wade Johnson consents to the inclusion in this announcement of the matters based on his work in the form and context in which it appears.



Lefroy Exploration

Appendices

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EAST LOCATION 45 (freehold parcel)

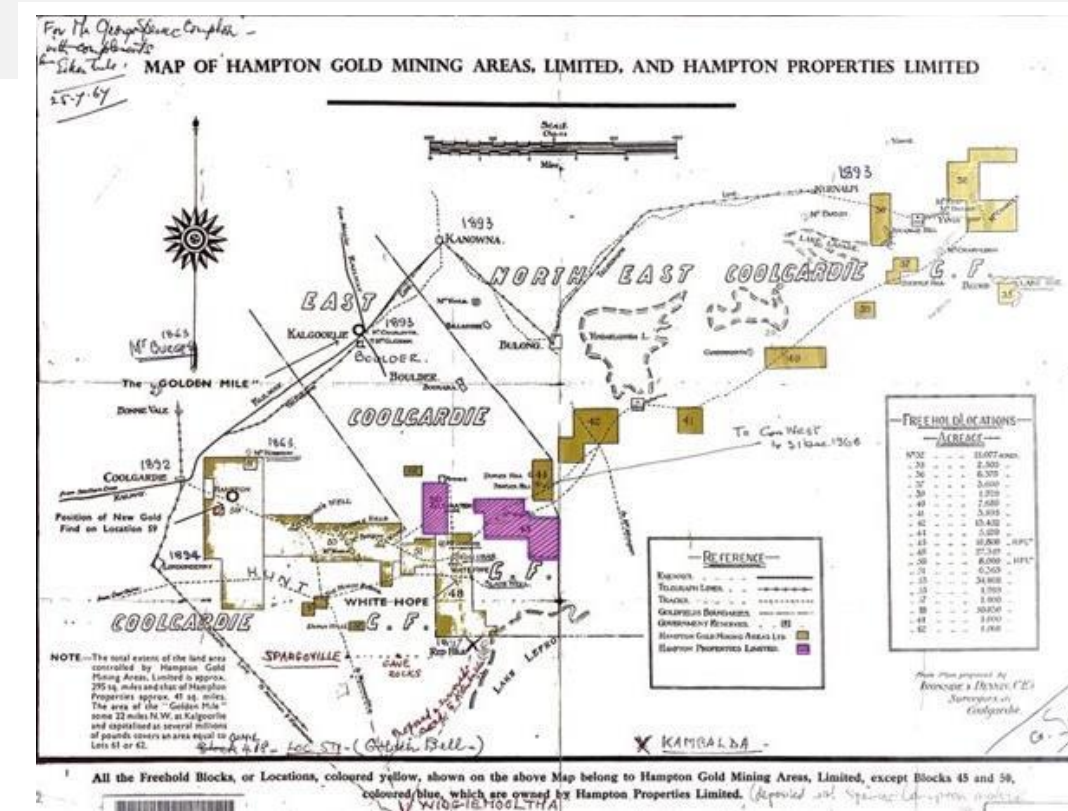
	MINERALS		LOCATION		KEY FOCUS		LAND PACKAGE
	Gold Nickel		Kalgoorlie Terrane		Mt Martin Au Mine Goodyear Ni Deposit		76km ²

EAST LOCATION 45

- A rare portion of the freehold Hampton lands in WA < 30km to Kalgoorlie.
- Acquired from TSX royalty major Franco-Nevada via Mineral Rights Agreement.
- Directly bolts onto LEX's wholly contiguous Eastern Lefroy Project.

HISTORY OF HAMPTON FREEHOLD LANDS

- Explored by Charles Hunt (1863-1867) for pastoral use and named "Hampton Plains" in honour of his sponsor Governor Hampton.
- Land acquired by Scottish investors from "The Hampton Lands and Rail Syndicate" Syndicate purchased 19 freehold blocks (216k acres) for 2 shillings 6 pence/acre.
- Under the Land Act of 1882, the mineral rights are owned by the land owner (not the crown) with no requirement for a mining tenement under the Mining Act 1978.
- The 1890s gold discoveries in Coolgardie, Kalgoorlie ends ongoing freehold land grants.



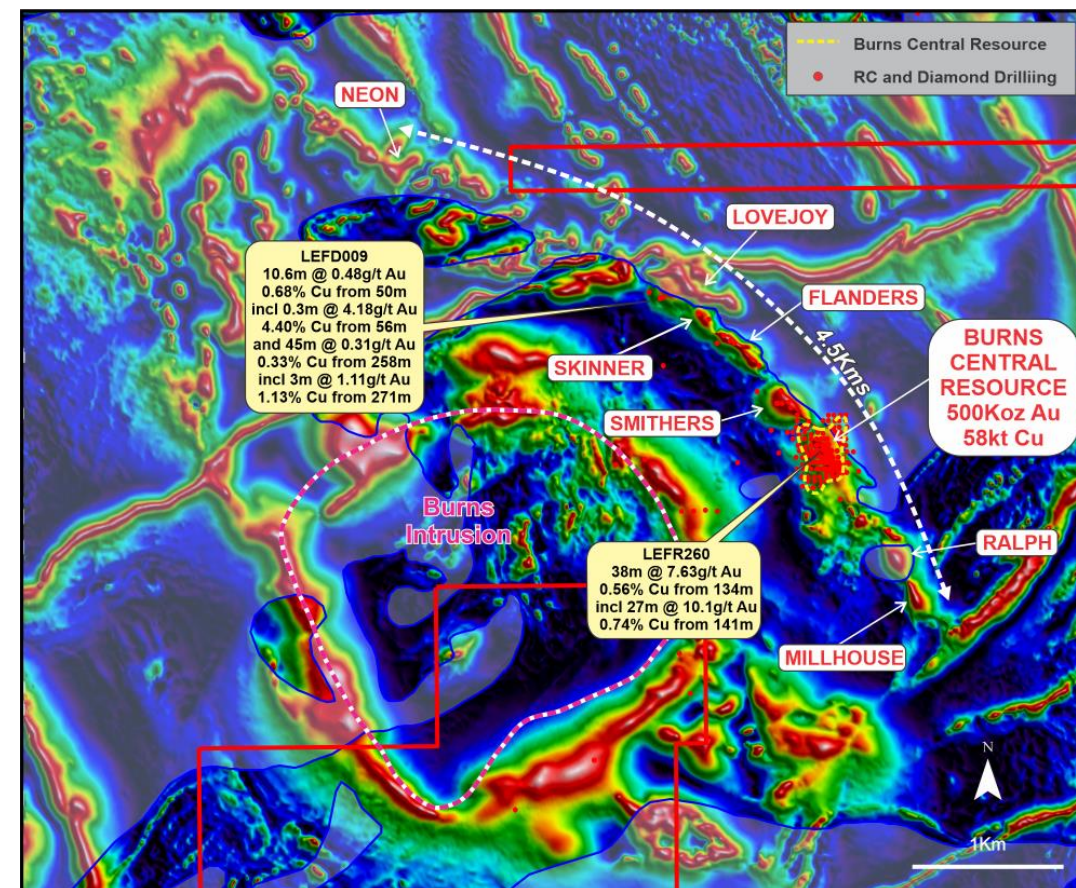
Journal of Australasian Mining History, Vol. 2, September 2004

BURNS GOLD COPPER PROJECT



FOUNDATIONAL RESOURCE DEFINED WITH SIGNIFICANT UPSIDE

- Burns Central resource is one part of a major new gold rich porphyry system with significant exploration and development upside.
- Maiden Mineral Resource Estimate released May 2023:
 - 43Mt @ 0.36 g/t Au and 0.14% Cu
 - Contained 497,000oz Au and 58kt Copper
- The most advanced of 7 target prospects over at least 2.5km of a regional structure known as 'Burns Corridor'.
- Exploration Target supports Burns Central MRE with a range of 16-175Mt and grade of 0.4 – 2.5 g/t Au.
- Targets present outstanding resource growth potential all within 2km of Burns Central deposit along strike within the Burns Corridor.
- Exploration supported by EIS co funded drilling and R&D program.
- Seeking alternative pathway to maximise growth including seeking strategic partner to advance project.



TOTAL INDICATED & INFERRED RESOURCES



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

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														
TOTAL	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

May 2023 Location 45 addition increases total mineral resource inventory to:

1.1Moz

GOLD

58kt

COPPER

15kt

NICKEL

490koz

SILVER