



Lefroy Exploration

ASX ANNOUNCEMENT | 15 May 2023

LEFROY INCREASES GOLD RESOURCES TO 602,000oz

ASX:LEX

HIGHLIGHTS

- The addition of the Burns Central Mineral Resource Estimate has increased the total Mineral Resources at the Lefroy Project to 602,000 ounces of gold and nearly 60,000 tonnes of copper
- This resource inventory is made up of the Burns Central, Lucky Strike and Red Dale deposits, with each deposit being amenable to open cut mining at a low strip ratio
- Over 76% of the gold resource ounces are classified in the higher confidence Indicated resource category.
- All resources remain open which provides scope for significant growth
- In particular, the Exploration Target for Burns that falls outside of the existing resources, as estimated by the Measured Group, is up to 175Mt. Given the scale of mineralised porphyry systems LEX considers this to be a conservative estimate which is anticipated to grow significantly with extensional drilling

Lefroy Chairman Gordon Galt commented:

We are now well on our way to our +1Moz gold target at the wholly owned Lefroy Project. Indications are that all resources will be open pitable at low overall strip ratios.

We are intending to bring all resources under Mining Leases in the next year and are currently looking for milling solutions in the vicinity of these deposits and undertaking relevant mine planning, with the objective of getting LEX into production as soon as we can. Initially we are expecting to focus on gold only, with a starter pit at Burns Central plus Lucky Strike and Red Dale – all oxide deposits.

Exciting times, indeed!



Lefroy Exploration Limited (ASX: LEX; “Lefroy” or “the Company”) is pleased to provide an update to its total mineral resources (refer Tables 1 and 2) located within the Company’s wholly owned flagship Lefroy Gold Project (LGP), located approximately 50km southeast of Kalgoorlie.

This semi-contiguous land package (Figure 1) covers 539km² immediately east of and adjoining the world class St Ives gold camp (in excess of 10 million oz produced), operated by Gold Fields, and is immediately south of the high-grade Daisy Milano gold mine operated by Silver Lake Resources Limited (ASX:SLR) (“Silver Lake”).

Four gold processing operations are strategically located within 50km of the project and provide commercial options for processing. This includes the Randalls Processing Facility operated by Silver Lake and located 8.5km north of the Burns gold copper deposit (Figure 1).

The LGP is referenced in two packages, i.e.

- Eastern Lefroy covering 302km² of wholly owned tenements (Figure 1) that include Lucky Strike, Coogee South, Hang Glider Hill, Havelock, Burns and other sub-projects along or near the regional scale Mt Monger fault, and;
- Western Lefroy Joint Venture (“WLJV”) tenements (Figure 1) covering 237km² adjoining the Gold Fields tenements that make up the St Ives mining operation. Gold Fields can earn up to a 70% interest in the LEX tenements by spending up to a total of \$25 million on exploration activities within 6 years of the commencement date of 7 June 2018.

Exploration by the Company at Eastern Lefroy since 2018 has discovered and outlined gold deposits (Table 1) at Lucky Strike and Red Dale and recently the significant Burns Central gold copper deposit.

Table 1: Summary of Lefroy Gold Project Total Mineral Resources, May 2023:

Lefroy Gold Project Mineral Resources				
	Mass (Mt)	Au (g/t)	Au (oz)	Cu (t)
Burns Central	42.96	0.36	497,472	58,300
Red Dale	0.67	1.18	25,230	-
Lucky Strike	1.27	1.95	79,600	-
TOTAL	44.90	0.42	602,302	58,300

Notes to support Table 1

- 1) Small discrepancies may occur due to rounding.
- 2) Refer to Table 2 for full resource details

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LGP Resource Growth Strategy:

The Company considers the prospectivity of the commanding LGP land package has the potential to provide further substantial resource growth and development opportunities at the existing three deposits (Figure 1), but also has the pipeline of advanced targets to yield multiple new gold and gold copper deposits.

The Burns Project is the immediate priority area that has high potential for resource growth subsequent to the maiden Burns Central MRE and Exploration Target announcement dated 4 May 2023. That MRE will be actively followed up with an extensive multi-phase exploration drill program to expand the resource and to evaluate the Exploration Target which the Company considers offers significant resource upside (LEX ASX Release 4 May 2023) and a large-scale development opportunity.

Further assessment and resource modelling of the near surface gold rich domain at the northern end of the Burns Central deposit will be pursued as an early-stage development opportunity, that can then progress to the gold copper dominant mineralisation to the south.

The Company's resource consultants, Measured Group Pty Ltd, prepared an independent Exploration Target estimate for six additional gold-copper prospects (refer Figure 4, LEX ASX release 4 May 2023) within the Burns Project.

The combined total of these targets had an estimated tonnage range from 16Mt to 175Mt with a gold grade estimate range from 0.4g/t to 2.5g/t respectively (refer Table 3 LEX ASX release 4 May 2023). These targets are considered by the Company to have outstanding resource growth potential and are located along the Burns corridor and all within 2km of the Burns Central deposit.

It is important to note that the potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource at this stage and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

Priority activities for resource growth include:

- Extensional diamond and RC resource drilling at Burns Central to expand the resource immediately north, south and west of Burns Central where mineralisation is open
- Diamond and RC drilling to evaluate the multiple, largely untested gold-copper and geophysical Exploration Targets along the highly prospective Burns Corridor, including the priority Lovejoy prospect, and Smithers, Flanders, Skinner, Millhouse, and Ralph.

This scope of exploration work is expected to be completed within 6 months of commencement. Upon completion, the Company is expected to be in a prime position to assess development opportunities at Burns Central and the greater project.

Complementary to this exploration work the Company will also accelerate guidance on the economic value of the Burns Central deposit. To complement this, planning of metallurgical drill holes has commenced to evaluate the multiple ore types.

An application for a large Mining Lease to cover the Burns project is underway and consideration for haul roads to provide optionality for future development scenarios to potential milling sites has commenced.

The Company is cognisant of the favourable current gold price, coupled with the location and ore characteristics of Burns Central and is actively considering all options to extract value from the deposit extensions and targets along the corridor.

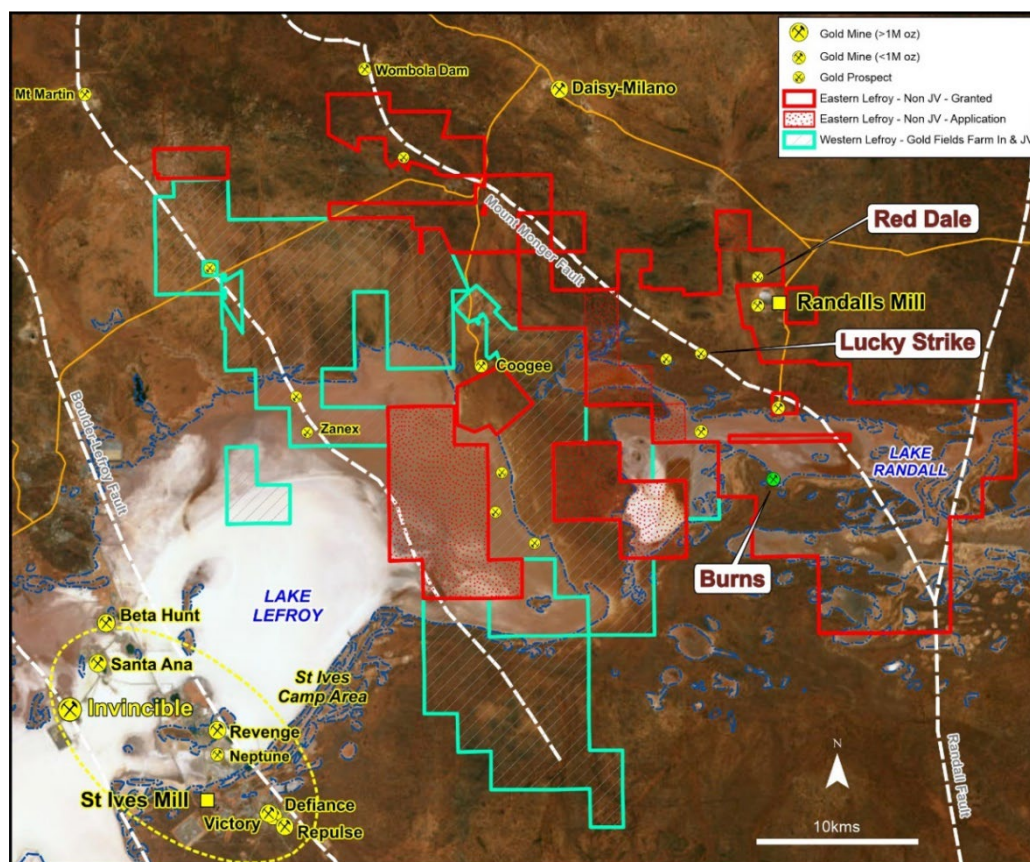


Figure 1 Lefroy Gold Project and location of Burns, Lucky Strike and Red Dale

Burns Central

The Burns Central deposit is the headline LGP resource where almost 0.5 million ounces of gold, 58,000 tonnes of copper, and 489,000 ounces of silver, with additional high value cobalt and molybdenum bolsters the significance of the mineral system known to date (LEX ASX release 4 May 2023). Mineralisation is hosted within multiple alkalic porphyry units and basalt dated to 2.6 billion years (Archaean age).

Lefroy has identified Burns as the first Archaean-aged alkalic gold-copper porphyry discovery in the region and potentially in WA, with analogies to alkalic gold-copper porphyry deposits of the Cadia district in NSW and the “Golden Triangle” of British Columbia in Canada. These deposits are highly attractive due to their high gold content and geometry, making them economically viable low-grade but high-tonnage operations.

Subsequent interpretation of the drill data combined with the Burns Central resource block model provides further confirmation and support to a higher-grade gold trend predominantly hosted by diorite porphyry within the ‘Central Porphyry’ domain. This gold dominant domain is associated with an interpreted north-south structural (LEX ASX release 2 March 2023) trend is open at depth and to the north beneath Lake Randall, where it has only been partially tested by shallow aircore drilling.

The gold dominant domain is located at the north easternmost area of Burns Central and appears separate to the gold copper domain to the south hosted predominantly in the Western Basalt. Significant results reported from the gold trend include **103m @ 1.65g/t Au, 0.07% Cu and 0.24g/t Ag from 25m in LRR003, that includes 38m @ 3.83g/t Au from 26m, and 38m @ 2.04g/t Au, 0.27% Cu and 0.66g/t Ag from 27m in LRR004** (LEX ASX release 2 March 2023).

This north-east corner is where the starter pit for Burns Central will be located. The starter pit will have a much higher gold grade than in the overall Burns Central resource as noted in Table 1. Domaining work and pit designs for this area are part of the mine planning process.

Lucky Strike

The Lucky Strike gold deposit is a greenfields discovery hosted within banded iron formation (BIF) and located within a granted Mining Lease approximately 8km north of Burns Central (Figure 1). The gold resource is open along strike and at depth and is part of a corridor of gold mineralisation defined by aircore (AC) drilling that extends a further 2,000m to the southeast (LEX ASX release 20 May 2020).

The MRE at Lucky Strike has a significant proportion of oxidised BIF hosted ore, with 78% of the resource tonnes being oxide or partially oxidised ore. The oxide ore remains open along strike to the southeast and at depth (Figure 2).

Further extensional drilling will focus (Figure 2) on multiple high-grade southeast plunging ore shoots in the primary zone (fresh). This has only been partially tested, partly due to the deep level of oxidation with the BIF. High-grade mineralisation intersected in LEFR217 (8m @ 18.7g/t Au from 145m) is open down dip and interpreted to be part of a plunging ore shoot within the BIF.

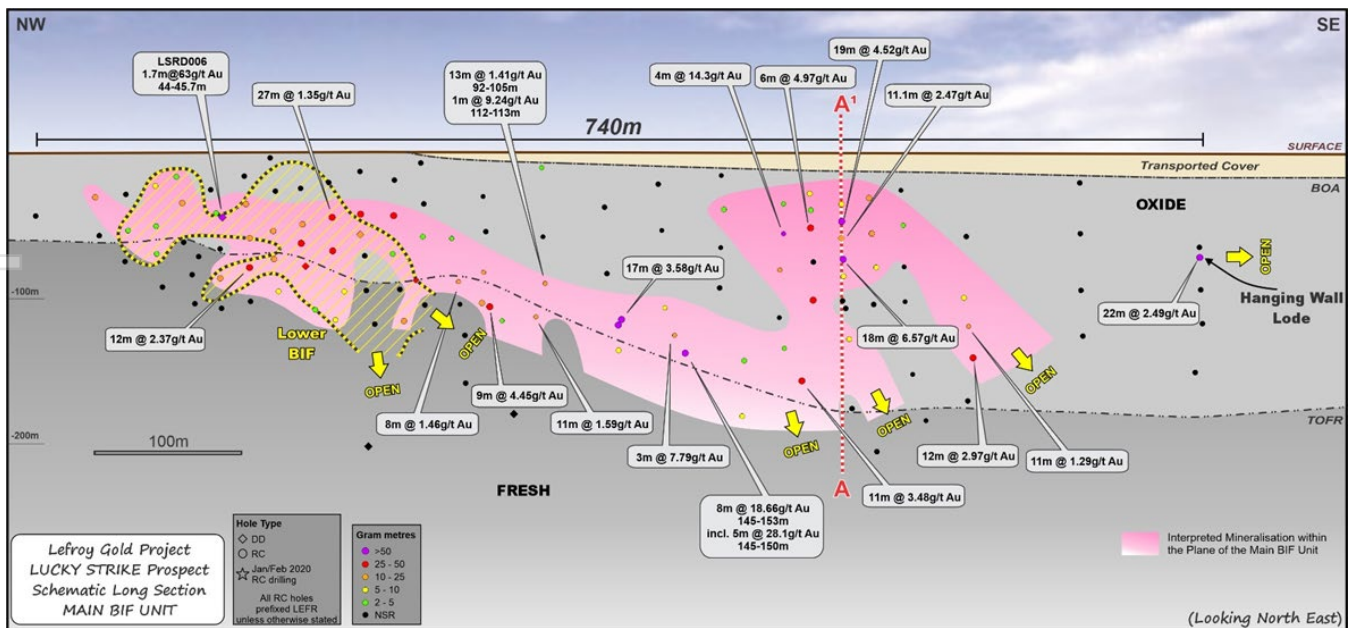


Figure 2 Lucky Strike Schematic geological long section highlighting pierce points of drill holes intersecting the main BIF unit. Key gold intersections and interpreted plunge of gold system with depth to top of fresh rock (TOFR) increasing to the southeast are also shown (LEX ASX release 20 May 2020).

Red Dale

Red Dale is a palaeochannel hosted gold deposit characterised by a broad horizontal gold footprint (Figure 3) at the base of an ancient riverbed known as a palaeochannel over a 900m strike length defined from RC drilling (LEX ASX release 3 June 2020).

A further 800m of continuous gold anomalism is defined by AC drilling to the North of the Red Dale Resource and provides an immediate opportunity for resource expansion.

The Company believes that this broad gold anomaly and the intersections are reflecting anomalous gold in transported basal gravels and sands derived from a nearby primary bedrock source, and that the coarse gravelly material in the channel is unlikely to have been transported a significant distance. Several potential bedrock gold anomalies surrounding Red Dale remain to be tested with deeper drilling.

The deposit is within a granted Mining Lease immediately north of and adjoining Silver Lake Resources (ASX:SLR) Randall's Processing Plant and is also proximate to the Lucky Strike deposit (Figure 1).

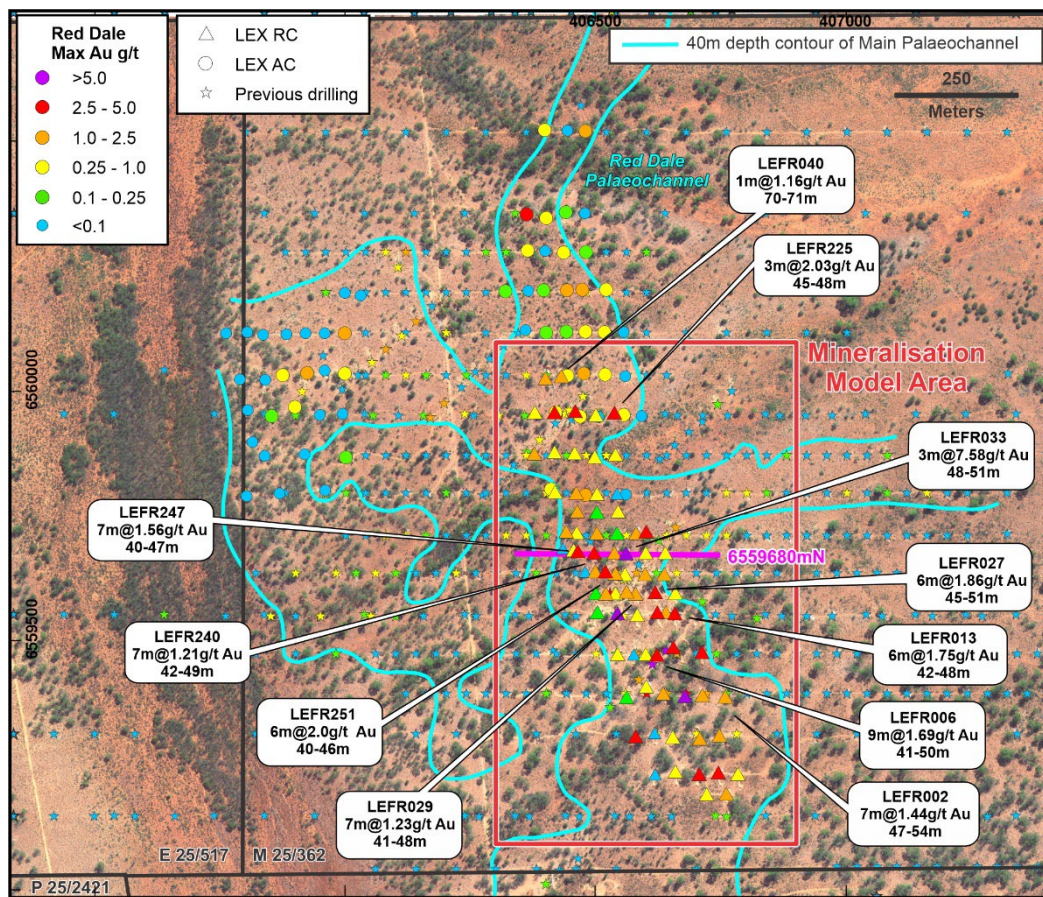


Figure 3 Map of Red Dale showing RC drilling completed by Lefroy and the gold mineralisation model area. The extent of the Red Dale palaeodrainage network is highlighted by the 40m depth of channel contour (Taken from LEX ASX release 3 June 2020).

Lefroy Total Resources

A table outlining the detailed Mineral Resource estimate at each deposit is contained below (Table 2). The resource estimates at the Lucky Strike and Red Dale prospects have not changed since the May 2020 resource statement (LEX ASX release 20 May 2020).

A substantial portion (76%) of the total gold mineral inventory is contained within the higher confidence Indicated resource category.

For full details about the Lucky Strike Mineral Resource Estimate, including important disclosures, refer to the Maiden Gold Resource at Lucky Strike (LEX ASX release 20 May 2020).

Details for the Red Dale Mineral Resource Estimate are referred to in the Company announcement 3 June 2020. There has been no further drilling at the Lucky Strike or Red Dale gold deposits since their MRE announcement dates that would alter the resource statement.

Table 2: Lefroy Gold Project Inferred and Indicated Mineral Resources, May 2023

Total Indicated and Inferred Lefroy Gold Project Mineral Resource Estimate

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
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	-
TOTAL	33.7	0.43	0.16	462,368	50,253	11.25	0.39	0.08	139,935	8,047	44.90	0.42	602,302	58,300

Notes to support Table 2

1) The Lucky Strike and Red Dale Mineral Resource Estimates are reported using a 0.5g/t Au cut off.

2) The Lucky Strike MRE was announced to the ASX of 20 May 2020

3) The Red Dale MRE was announced to the ASX on 3 June 2020

4) The Burns Central MRE was announced to the ASX on 4 May 2023. The mineralisation domains were defined by wireframes using a 0.1 g/t Au, 0.1 % Cu cut-off grade.

5) Small discrepancies may occur due to rounding.

Competent Persons Statement:

Burns Central

The Company engaged Measured Group Pty Ltd in 2023 to compile the Burns Central Mineral Resource Estimate. The Company announced the Resource to the ASX on 4 May 2023 and reported in accordance with JORC 2012. The Company confirms there has been no exploration activity, including resource compilation, at the Burns Central Deposit since 4 May 2023 that would alter the Resource Statement.

The Mineral Resource estimate and the Exploration Targets for the Burns Au-Cu-Ag-Mo-Co deposit were prepared by Mr Chris Grove of Measured Group Pty Ltd, who is a Member of The Australasian Institute of Mining and Metallurgy (MAAusIMM) and has sufficient experience relevant to the style of mineralisation 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" (JORC Code). Mr Grove consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Red Dale

The Company engaged Resource Evaluation Services in 2020 to compile the Mineral Resource Estimate. The Company announced the Resource to the ASX on 3 June 2020 and reported in accordance with JORC 2012. The Company confirms there has been no exploration activity, including resource compilation, at the Red Dale Deposit since 3 June 2020 that would alter the Resource Statement.

The Red Dale resource estimate was compiled in accordance with the guidelines of the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves (JORC, 2012). The resource estimate was undertaken by Stephen Godfrey, Principal Resource Geologist with Resource Evaluation Services, who is a Fellow of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. Mr Godfrey has sufficient relevant experience to be considered a "Competent Person" as defined the JORC Code (2012).of Exploration Results, Mineral Resources and Ore Reserves. Mr. Godfrey consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.

Lucky Strike

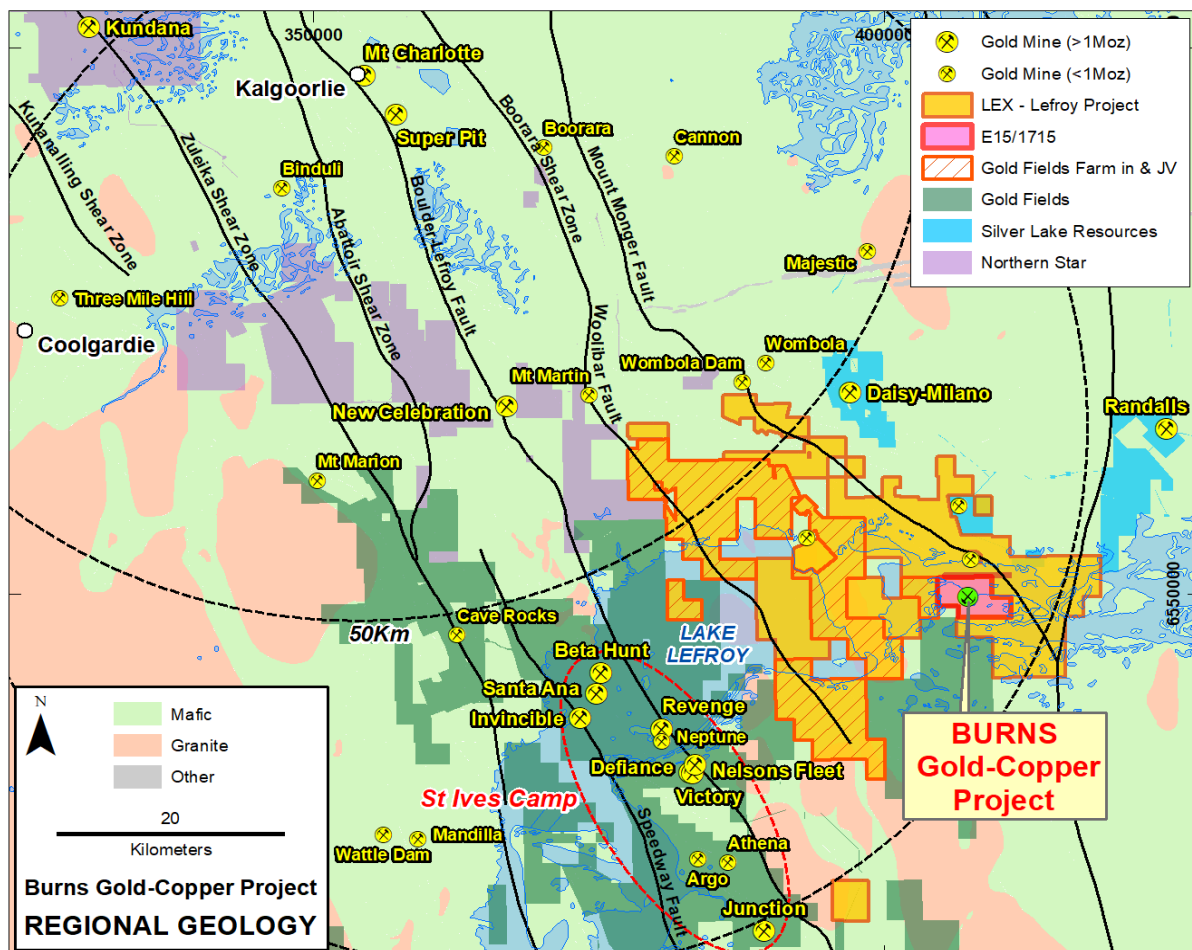
The Company engaged Resource Evaluation Services in 2020 to complete the Mineral Resource estimate. The Company announced the Resource to the ASX on 20 May 2020 and reported in accordance with JORC 2012. The Company confirms there has been no exploration activity, including resource compilation at the Lucky Strike Deposit since 20 May 2020 that would alter the Resource Statement.

The information in this report that relates to the Mineral Resource estimate at the Lucky Strike deposit is based on, and fairly represents, information which has been compiled by Mr Stephen Godfrey. Mr. Godfrey was Principal Resource Geologist at Resource Evaluation Services, a Fellow of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. Mr. Godfrey has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being undertaken to qualify as Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr. Godfrey consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.

About Lefroy Exploration Limited

Lefroy Exploration Limited is a Western Australia-based explorer focused on greenfields exploration for high-value gold deposits in the Yilgarn Block. The company's flagship project is the Burns Gold-Copper Project located within the Lefroy Gold Project, covering 539km² in the heart of the gold production area between Kalgoorlie and Norseman. The project is divided into the Western Lefroy package, subject to a Farm-In Agreement with Gold Fields, and the Eastern Lefroy package (100% Lefroy-owned).

Since the Burns discovery hole in February 2021, Lefroy has identified Burns as the first Archean-aged alkalic gold-copper porphyry discovery in the region, with potential for a significant camp-scale mineral system. Burns Central is one of several magnetic anomalies located within the Burns Corridor, a north-west striking, linear magnetic trend that extends for at least 2.5km north and south of Burns Central. These anomalies all share similar geological and geochemical characteristics and potential linkage to Burns Central. They are considered to be mineralised gold-copper intrusive centres with strong potential to form a significant camp-scale mineral system. Burns Central and the surrounding anomalies including Neon are situated around the margin of the large "Burns Intrusion", which hosts a significant gold intercept from a single RC hole drilled in January 2022.





Notes Specific-ASX Announcements:

The following announcements were lodged with the ASX and further details (including supporting JORC Reporting Tables) for each of the sections noted in this Announcement can be found in the following releases. Note that these announcements are not the only announcements released to the ASX but specific to mineral resource reporting by the Company at Lucky Strike, Red Dale and Burns Central at the Lefroy Gold Project.

- Maiden Lucky Strike Resource Estimate: 20 May 2020
- Red Dale Resource Increases by 28% to 25,230oz: 3 June 2020
- 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

This announcement has been authorised for release by the Board.

Wade Johnson,
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