



## June 2022 Quarterly Activities Report

### LEFROY EXPLORATION LIMITED

Western Australian Focused  
Gold Explorer

ASX Code: LEX

Shares on Issue:  
147M

Current Share Price:  
30c

Market Capitalisation:  
\$44.1m

#### Board of Directors

Chairman  
Gordon Galt

Managing Director  
Wade Johnson

Non-Executive Director  
Michael Davies

Non-Executive Director  
Tara French

#### Flagship Exploration Project

Lefroy Gold Project

- Eastern Lefroy
- Western Lefroy JV

#### Growth Exploration Projects

Lake Johnston Nickel Project  
Glenayle Nickel Project

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### HIGHLIGHTS

*Exploration at the Lefroy Gold Project during the June 2022 Quarter included a maiden RC drilling program at Havelock, completion of initial AC drill testing of targets in Lake Randall near the Burns Au-Cu prospect, complemented by the ongoing FFAC drilling at Western Lefroy by JV partner, Gold Fields.*

#### Eastern Lefroy

##### Burns

- Significant assay results were received for the final 449 holes of a major 577 hole/21,485m aircore (AC) geochemical drill program that evaluated multiple targets on Lake Randall including the Burns Au-Cu system.
- At Burns, multiple infill drill holes intersected gold mineralisation that defined a robust anomaly that extends the system 500m north of discovery hole LEFR260. Significant assay results included:
  - **12m @ 3.43 g/t Au & 0.20% Cu from 40m in LEFA1498, including 8m at 4.89 g/t Au & 0.22% Cu from 44m to EoH**
- The combined RC and AC drill results at Burns have extended the Au-Cu anomaly to 900m in length. The anomaly remains open and is the focus of a follow up RC drill program aimed at delivering a maiden shallow resource.
- Subsequent to the end of the Quarter, a +1000m co-funded EIS diamond drill hole commenced to target the down plunge position of the high-grade Au-Cu zone in addition to the broader Burns system.

##### Havelock

- An initial 7-hole/900m RC drilling program confirmed a new gold discovery under cover located 7000m northwest of Burns. Significant results included:
  - **3m @ 13.37 g/t Au from 118m in LEFR330**
  - **13m @ 1.82 g/t Au from 76m in LEFR331**

#### Western Lefroy Farm In (WLFIn)

- Gold Fields continued with the 46,000m land based Full Field Aircore (FFAC) program that remains ongoing.

#### Corporate

- The Company received a \$0.56million tax refund for the 30 June 2021FY supported by a Research and Development (R&D) tax incentive claim
- The Company had \$4.25m in cash and equivalents and zero debt as of 30 June 2022.

## INTRODUCTION

### Overview

The Board of Lefroy Exploration Limited (ASX: LEX) (“**Lefroy**” or the “**Company**”) is pleased to provide its report on exploration activities during the June 2022 Quarter. Lefroy is an exploration company taking a systematic generative exploration approach at the wholly owned Eastern Lefroy subproject within the greater flagship Lefroy Gold Project (“**LGP**”) to discover high-value gold and gold-copper deposits. This is complemented by the exploration undertaken at Western Lefroy funded under a Joint Venture (JV) with Gold Fields Limited.

### Lefroy Gold Project (LGP)

The Lefroy Gold Project is located approximately 50km to the southeast of Kalgoorlie in the Eastern Goldfields Province of Western Australia (Figure 1). The commanding, semi-contiguous, granted land package covers 548km<sup>2</sup> immediately east of and adjoining the world class +10Moz St Ives Gold camp, operated by Gold Fields Limited (NYSE: GFI) (“**Gold Fields**”), and is immediately south of the high-grade Mt Monger gold centre 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 any gold resources discovered.

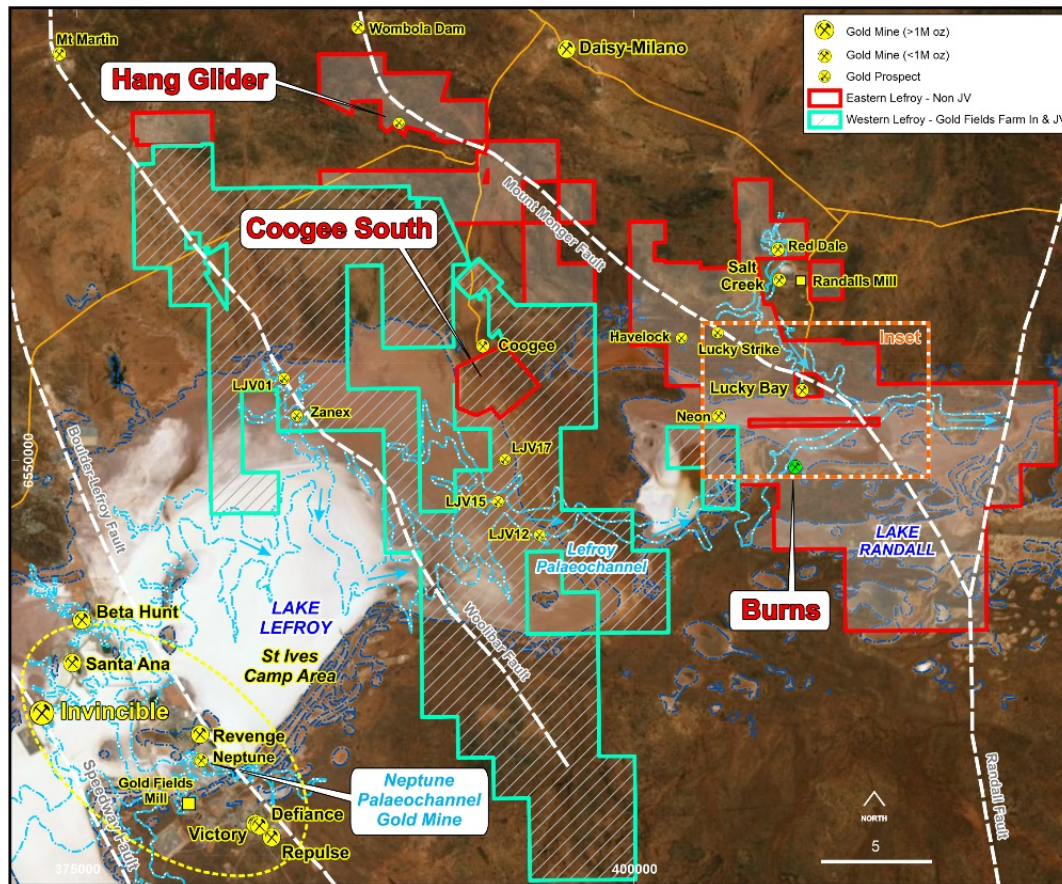
LGP is referenced in two packages, i.e.

- **Eastern Lefroy** covering 237km<sup>2</sup> of wholly owned tenements (Figure 1) including Lucky Strike, Red Dale, Hang Glider Hill, Havelock, Burns and other sub-projects along or near the regional scale Mt Monger fault, also including Coogee South, and;
- **Western Lefroy Joint Venture (“WLJV”)** tenements (Figure 1) covering 312km<sup>2</sup> 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 \$25million on exploration activities within 6 years of the commencement date of 7 June 2018

The main focus of exploration by the Company in Eastern Lefroy during the quarter was at the priority Burns Gold-Copper Prospect (“**Burns Au-Cu Prospect**”) located within the Non-JV Eastern Lefroy sub project (Figure 1). This involved the completion and assessment of results from a large aircore drilling program evaluating the broader geological and geochemical footprint of Burns out onto Lake Randall and planning of a deep EIS co-funded diamond hole at Burns that commenced in July and is underway.

Additional to exploration at Burns, an early stage seven-hole RC drill program was completed at Havelock to evaluate a regolith gold anomaly generated by aircore drilling completed in December 2020.

At Western Lefroy Gold Fields continued the massive land based Full Field Aircore (FFAC) drilling program with heritage surveys being completed over priority areas in advance of drilling.



**Figure 1** Lefroy Gold Project showing extent of the Eastern and Western sub projects, proximity to the St Ives and Daisy Milano gold mines and the extent of the Lefroy Palaeodrainage that extends from St Ives to Burns and Lake Randall. Refer to Figure 2 for the inset and detail to the exploration at Lake Randall.

## EXPLORATION ACTIVITIES

### Eastern Lefroy Gold Project (LEX 100%)

The Eastern Lefroy project is a semi contiguous package of wholly owned tenements that cover approximately 37km of strike along and straddling the regional scale Mt Monger Fault (Figure 1). The Mt Monger Fault is considered to be structurally analogous to other major regional faults in the Kalgoorlie terrain (e.g. Boulder-Lefroy, Zuleika, Randall) that are likely a primary control to gold mineralization. The Company considers the Mt Monger Fault to be similarly prospective to host large gold deposits adjacent to its interpreted position, however the area lacks a significant degree of exploration.

The Company has identified three priority centres, or hubs, along the Mt Monger Fault trend where greenfields exploration for gold is being focused. These hubs are ranked according to the level of prior exploration activity, gold anomalies identified as noted below (Figure 1), and the structural setting.

- P1-** Lake Randall Exploration Hub: -Generative Exploration (Burns)
- P2-** Lucky Strike Exploration Hub: -Advanced Exploration (Havelock, Lucky Strike)
- P3-** Hang Glider Hill Exploration Hub: -Early-Stage Exploration (Hang Glider, Coogee South)

During the June 2022 Quarter the Company continued to focus field activities on the Lake Randall Exploration Hub, completing and assessing results from a staged aircore drilling program designed to test the broader limits of the Burns mineral system. That program commenced in December 2021 subsequent to the strong gold copper discovery intersection recorded in hole LEFR260 at the Burns Cu-Au Prospect in February 2021.

In addition to the assessment of the results from the AC drill program on Lake Randall, an early stage seven-hole RC drill program was completed at the Havelock prospect located in the Lucky Strike Exploration Hub.

### ***Burns Au-Cu Prospect***

The Burns Au-Cu Prospect lies within the Lake Randall Exploration (LRE) Hub, which is immediately southeast of the linear trending Lucky Strike-Havelock-Erinmore banded iron formation (BIF) trends (Figures 1 & 2) and west of the Mt Monger Fault.

A maiden 22-hole RC drill program completed in Jan-Feb 2021 intersected a spectacular gold and copper interval in hole LEFR260 containing 38m @ 7.63g/t Au & 0.56% Cu from 134m. The results from that RC program provided the geological and geochemical data that highlighted the unique geological characteristics of Burns and the stepping block to continued exploration activity.

The Burns prospect is situated on the eastern margin of a large interpreted felsic intrusion, termed the Burns Intrusion (Figure 2). The intrusion does not outcrop but features a distinctive annular aeromagnetic and gravity geophysical signature. Immediately to the north, three parallel linear magnetic features known as Lucky Strike, Havelock and Erinmore are interpreted to radiate out from the Burns intrusion. The Company is working towards establishing the association between the larger Burns intrusion, the magnetic anomalies and the diorite porphyry intrusions intersected at Burns, but research is ongoing to source evidence to support a view on the genetic relationship.

Analysis of Au, Cu and molybdenum (Mo) 3D metal models, sourced from an extensive multi-element drill database collected over the Burns project since January 2021, provided an enhanced interpretation of the geometry of the Burns mineral system, suggesting a north trending and south plunging zone of gold, copper, silver+/- molybdenum which encloses a higher grade north trending gold-copper zone. Within the high-grade zone, the gold-copper mineralization has an indicative strike length of 240 metres, extending from the Burns discovery hole to multiple Au aircore intersections on Lake Randall where the intrusion is interpreted to 'daylight'. Of these aircore holes, a best intersection of 24m at 2.86g/t Au from 16m was intersected in LEFA1089 (LEX ASX release 22 February 2021), hosted within diorite porphyry and obscured by transported overburden.

During the June 2022 Quarter results were received and reported from the final 449 holes of a 577 hole-21,485m aircore (AC) drill program that evaluated multiple targets including Burns in Lake Randall. The major drilling program commenced in November 2021 with results reported for the initial 128 holes on 21 February 2022.

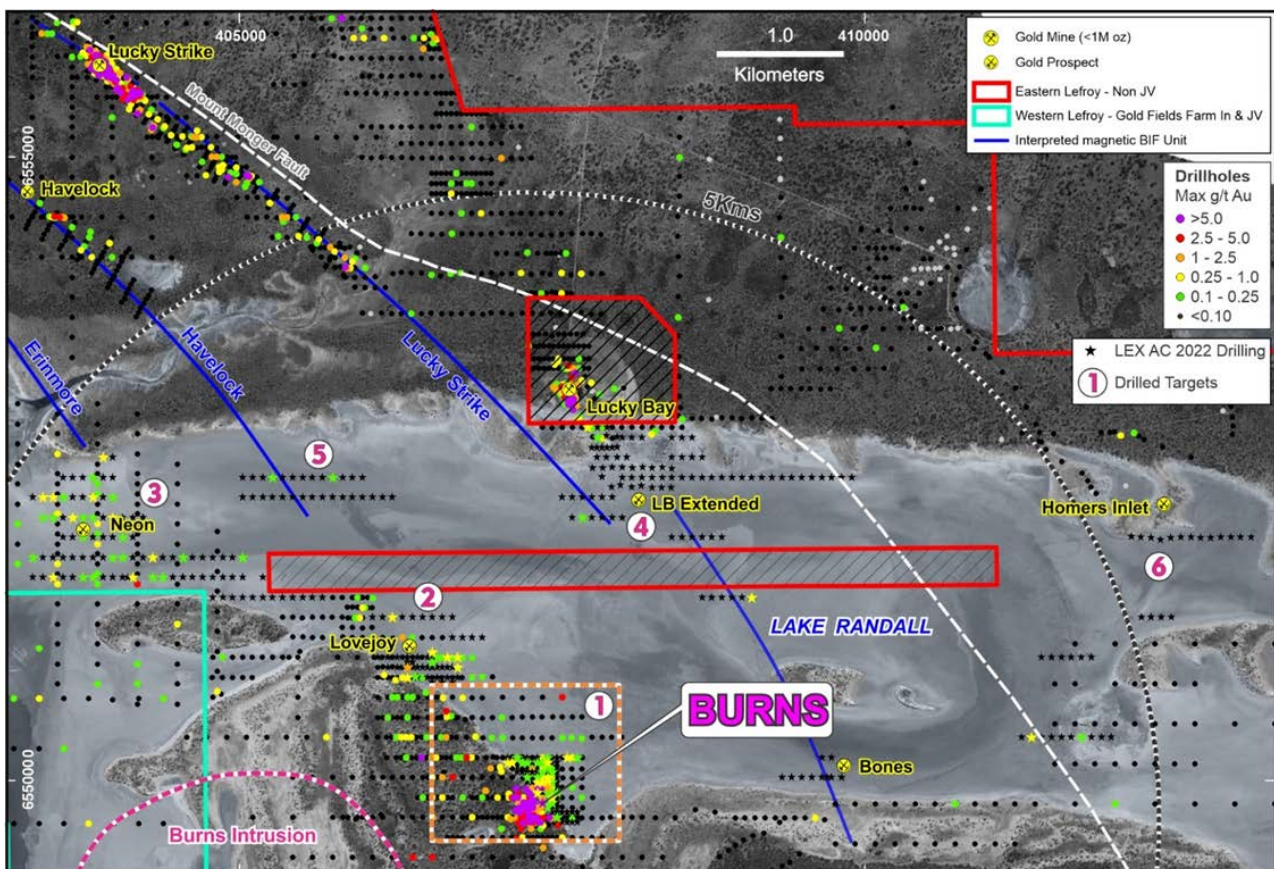
The lake AC program was expanded with drilling recommencing on 25 February 2022 (LEX ASX release 25 February 2022). This program was initially designed to follow up and expand the footprint of significant high-grade results (e.g. 8m @ 7.31g/t Au from 20m in LEFA1088) that were returned from two vertical AC holes located approximately 180m to the north of the Burns discovery hole LEFR260.

The high-grade holes (LEFR1088 & 1089) are 40m apart on the same drill section, both intersecting altered Eastern Porphyry (Figure 3), which is the key host to Au-Cu mineralisation at Burns. This initial program involved drilling vertical AC holes on a 40m-by-40m grid pattern to expand the geochemical footprint around LEFA1088 and LEFA1089 and along the interpreted trend of the Eastern Porphyry.

The program was expanded to include additional drill targets in Lake Randall generated from the results from the 2021 drill campaign integrated with geophysical (gravity & aeromagnetic) datasets.

Multiple drill targets were generated in Lake Randall (Figure 2) and designed to discover new gold and/or gold-copper mineral systems, peripheral and parallel to the Burns corridor beneath Lake Randall and to infill the geological knowledge gap in this largely unexplored area. The key areas of focus were: -

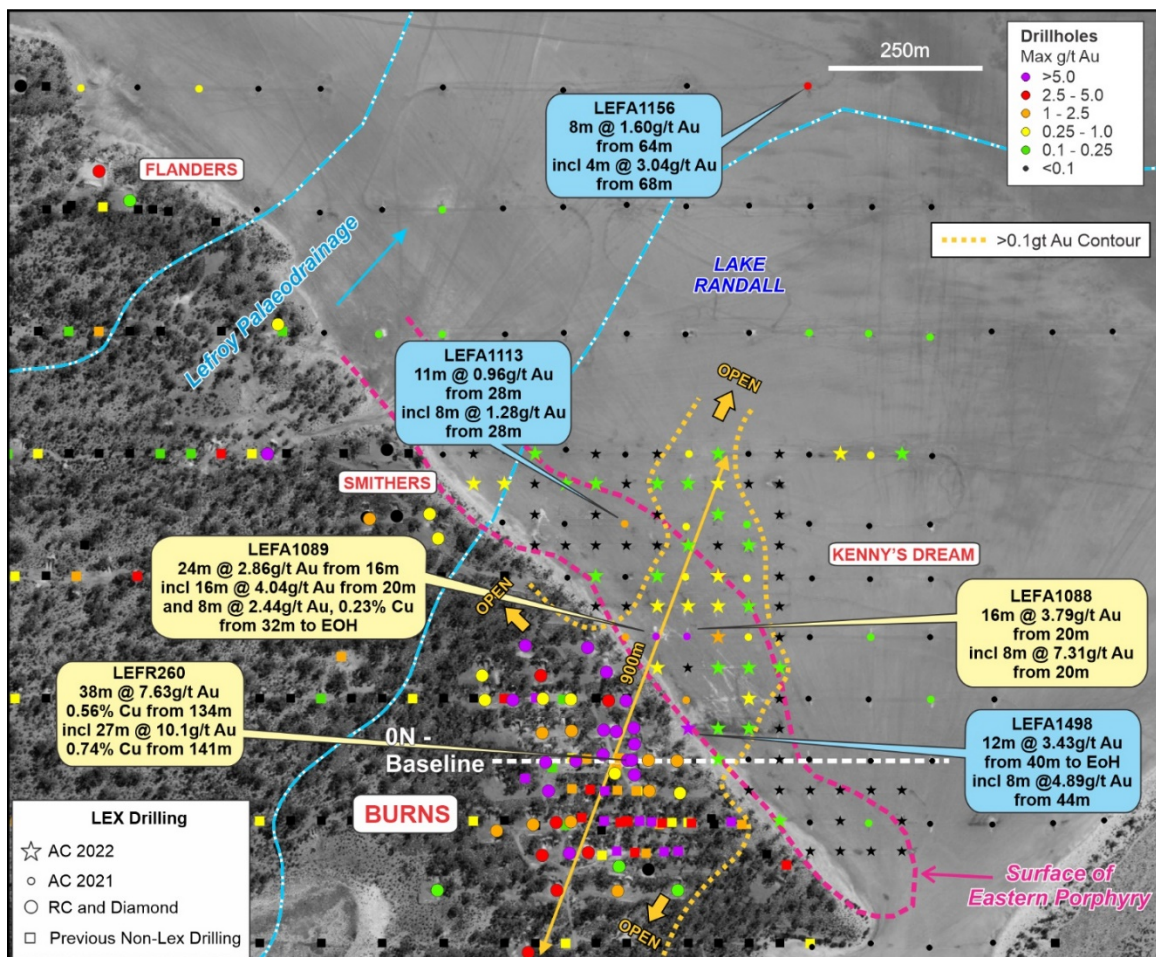
- Extension of the Burns diorite complex northwest of Lovejoy out to Neon (Figure 2)
- Demagnetised zones within the strike extensions of the Lucky Strike, Havelock and Erinmore linear magnetic trends (Targets 2 & 5-Figure 2)
- Targets (e.g., Homers Inlet) associated with the convergence of the regional Mt Monger and Randall Faults (Target 6-Figure 2)
- Immediate southeast strike extension of the sequence that hosts the gold mineralisation at Lucky Bay (Target 4-Figure 2)



**Figure 2** Grey scale satellite image of the location of Burns relative to Lake Randall highlighting the extent of the recent AC drilling and targets evaluated and the interpreted three linear magnetic features. The inset area refers to the area of detailed RC & diamond drilling at the Burns Au-Cu prospect and the location of LEFA1088 and LEFA1089 (Figure 3)

Significant gold results were returned from two vertical AC holes (LEFA1113 & 1498) that were part of the 40m-by-40m infill program evaluating an area approximately 500m to the north of the 0N section (Refer Figure 3) at Burns. Significant results from this program include:

- **11m @ 0.96g/t Au from 28m in LEFA1113**  
Including 8m at 1.28g/t Au from 28m
- **8m @ 1.60g/t Au from 64m and 1m @1.02g/t Au from 76m to EoH in LEFA1156**
- **12m @ 3.43g/t Au & 0.20% Cu from 40m in LEFA1498**  
Including 8m @ 4.89g/t Au & 0.22% Cu from 44m to EOH



**Figure 3** Inset map of Burns highlighting the extent of the recent AC drilling on Lake Randall and interpreted extent of the Eastern Porphyry and gold anomaly (>0.1g/t Au) at Burns. Drill holes completed in 2022 are symbolized by stars.

The results of the combined AC drilling in this area define a robust gold anomaly (plus 0.1g/t Au) supported by copper anomalism that extends 500m to the north of discovery hole LEFR260. The dimensions of the Burns gold anomaly now extend to 900m north-south and 200m east-west and is open for growth (Figure 3).

Importantly, hole LEFA1156 intersected 8m @1.60g/t Au hosted in altered high Mg Basalt and beneath palaeochannel cover located approximately 625m to the north of the main Burns gold anomaly (Figure 3). This 625m of strike has only been evaluated by two wide spaced drill lines and may represent an entirely new zone of mineralisation or a northern link to the Burns system. The anomaly is untested to the north. This new high priority target will be followed up pending availability of a specialised lake aircore drill rig.

The results from the 40m-by-40m aircore drilling on Lake Randall to the north of the Baseline section support a robust gold anomaly that provides the framework for the design of a lake-based RC drill program. This drilling is scheduled to commence in late July pending the availability of a specialised lake RC drill rig. This drilling program combined with that completed on land will provide the base to deliver a maiden gold copper resource at Burns.

In addition to the results from the immediate Burns area, encouraging early-stage assay results were also received for AC holes drilled at the Neon prospect (Target 3 - Figure 2) located approximately 3500m to the northwest (Figure 2). Drilling at Neon was on a nominal 160m spaced east west orientated lines with vertical holes spaced 80m apart.

Multiple encouraging results were returned from the drilling at Neon in a variety of lithologies (rock types), including diorite porphyry that has a similar geochemical signature to the Eastern Porphyry at Burns. The distribution of anomalous results (>0.1g/t Au) has defined a broad 1km by 1km area of gold anomalism within a stripped profile of rocks similar to Burns. This has now elevated the priority of the Neon prospect in the Lefroy target ranking. Better results from the recent program include:

- **11m @ 0.24g/t Au from 16m to EoH in LEFA1319**
- **8m @ 0.28g/t Au from 16m to EoH in LEFA1328**
- **4m @ 0.50g/t Au from 16m in LEFA1332**
- **4m @ 0.34g/t Au from 20m in LEFA1363**
- **4m @ 0.48g/t Au from 16m in LEFA1386**
- **20m @ 0.24g/t Au from 16m in LEFA1387**

The significant results from the major lake-based AC drilling program validate the targeting criteria used by the Company for the methodical staged drilling approach in this new gold-copper intrusion related mineral system.

The new results at Neon demonstrate the larger footprint of the gold mineralised diorite porphyry. The Company interprets this is part of a larger Burns Igneous Complex (BIC) that comprises multiple porphyry and associated comagmatic intrusions each with potential to host gold-copper mineralisation similar to Burns.

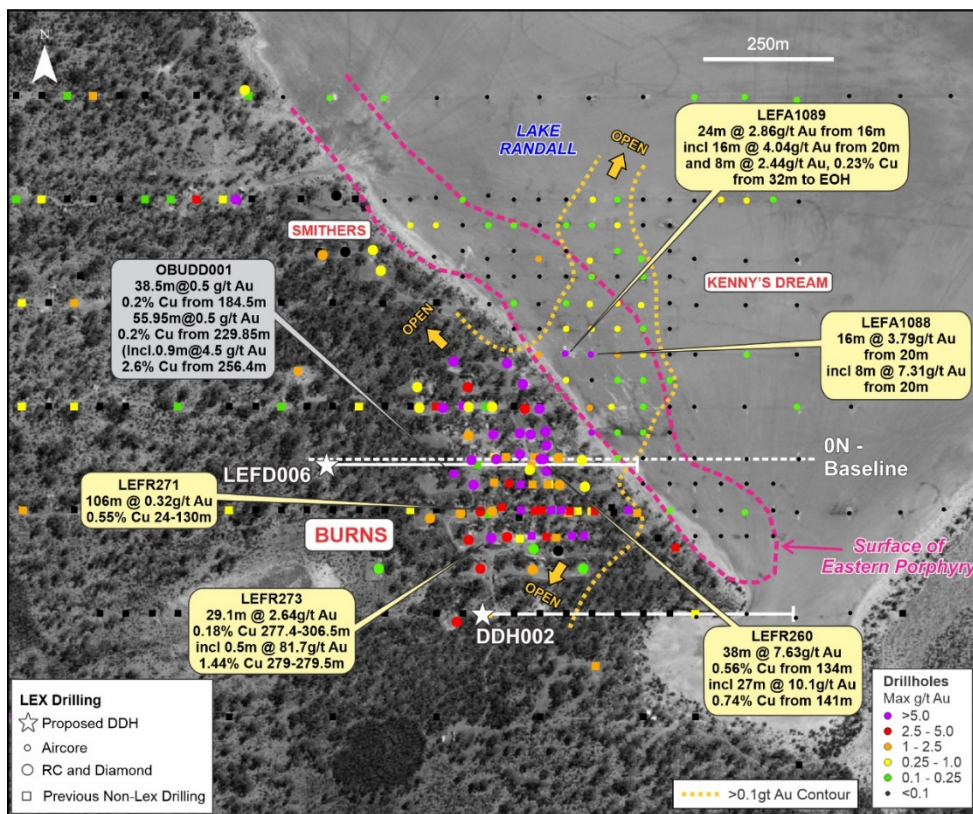
Further lake-based AC drilling on Lake Randall is required to follow up anomalies generated from the recent program (e.g., Neon), but also additional new targets.

## Diamond Drill Program

Subsequent to the end of the Quarter a two-hole/1650m diamond drill program commenced at Burns. The 1200m hole (LEFD006) is currently underway will provide a section through the entire Burns system (including western basalt) to test the continuity of the multi-phase diorite porphyry intrusions, broadly known as the eastern porphyry, to a vertical depth of 1000m (Figure 5).

Co-funding for this hole is provided under the Exploration Incentive Scheme (EIS) managed by the Department of Mines, Industry Regulation and Safety (DMIRS) (refer LEX ASX release 29 October 2021).

The second hole (DDH002) has a planned depth of 450m and is designed to intersect the down plunge extent of the high-grade gold copper zone defined by holes LEFR260 & 320 (refer to long section Figure 4). The collar position of this hole is located 230m south of the baseline (0N) section (Figure 4)



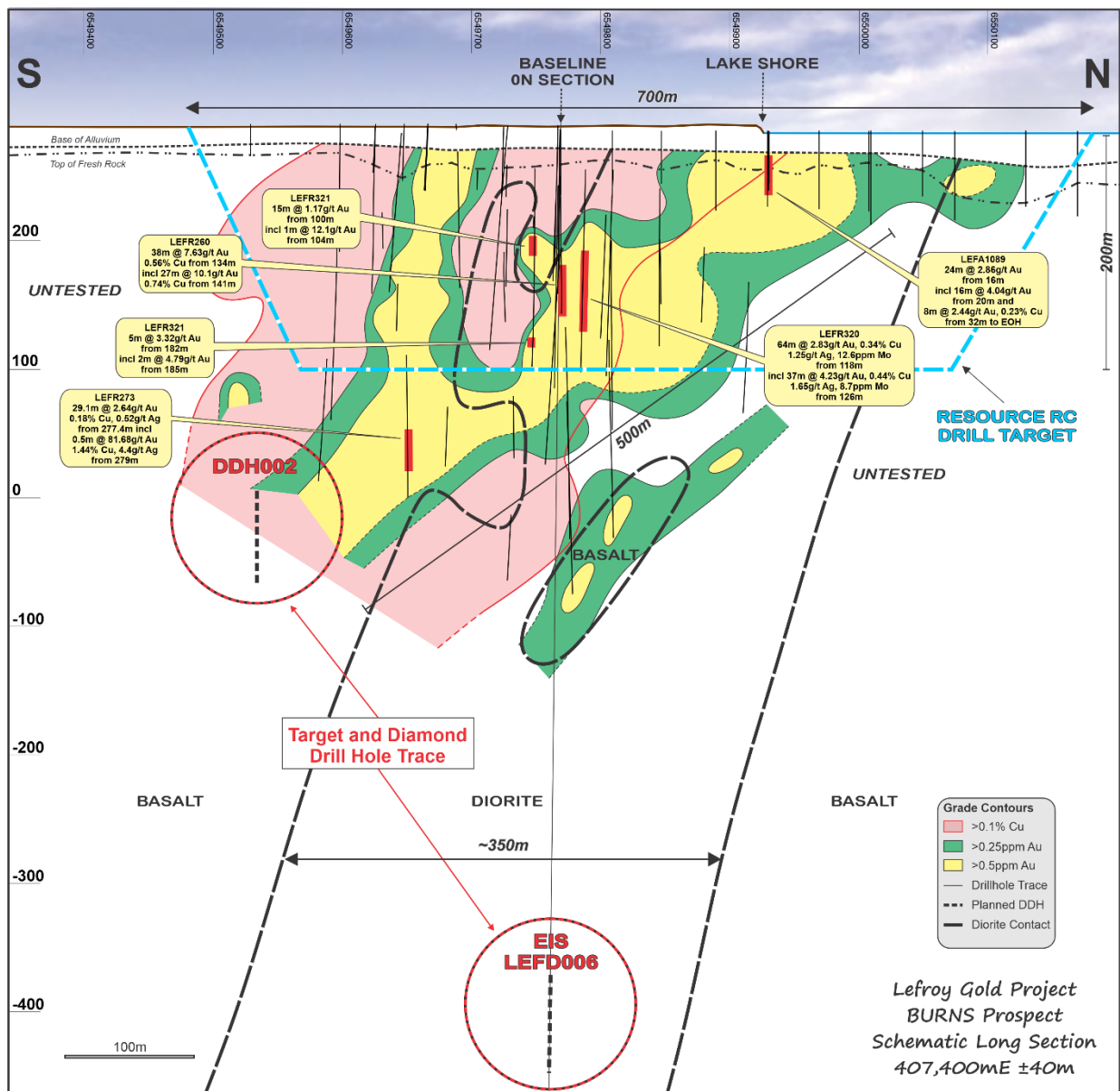
**Figure 4** Burns site plan highlighting the extent of the recent AC drilling on Lake Randall and interpreted extent of the Eastern Porphyry and gold anomaly (>0.10g/t Au) at Burns. Position of the planned diamond holes are shown.

During the Quarter Interrogation of gold (Au), copper (Cu) and molybdenum (Mo) 3D metal models sourced from an extensive multi-element drill database collected over the Burns project since January 2021, provided an enhanced interpretation of the geometry of the Burns mineral system (Figure 5). This has highlighted a large, northwest trending, southerly plunging mineral (Au, Cu, Ag, ± Mo) shell. Included within this shell is a higher-grade, northerly trending Au-Cu component (Figures 5) which provided the model to design and plan the two diamond holes.



This northerly trending, high-grade zone is further supported by the recent (LEX ASX 21 February 2021) multiple aircore (AC) gold intersections in Lake Randall, 240m north of discovery hole LEFR260 (refer Figure 3). This included an intersection of **24m at 2.86g/t Au from 16m in LEFA1089** (LEX ASX release 23 February 2021), hosted within diorite porphyry and obscured by transported overburden.

The two-hole diamond drill program is expected to be completed in August. Samples of the core will be progressively sent in batches to the laboratory after completion of geological logging. Initial assay results are expected in September, with final assay results in October at which time a full assessment of the program can be made.



**Figure 5** Schematic Longitudinal Section 407400N looking west showing drill hole traces, modelled grade contours and selected previous and recent drill hole intercepts to demonstrate the system. Trace of the planned diamond drill holes to test the two target positions is show.

### ***Burns Next Steps***

The key objective to progress evaluation of the Burns system is the completion of the two-diamond hole program at Burns, which is underway. The holes will provide a section through the entire system (Including western basalt) with a key focus to intersect the down plunge extent of the high-grade gold-copper zone defined by holes LEFR260 & LEFR320.

In addition to the diamond drilling, which is focused on the deep vertical extent of the system planning of an RC drill program to evaluate the system to 200m from surface and over a 700m strike length is well advanced (refer Figure 5 “resource drill target”). The drilling will be both land-based and on Lake Randall. The drilling will be on a nominal 40m by 40m grid pattern. The drill data when combined with existing drill data, will form the basis for a maiden gold copper resource estimate.

Subject to drill availability and assay result turnaround the Company aims to deliver a maiden resource estimate for the shallow part of the Burns system in the December 2022 Quarter.

A specialised lake RC drill rig has been secured and now scheduled to commence in late August 2022.

### ***Havelock Prospect***

During the Quarter an initial 7-hole/900m Reverse Circulation (RC) drilling program was completed at the Havelock prospect, located 7000m northwest of the Burns Au-Cu system in the wholly owned Eastern Lefroy Gold Project.

The Havelock target was generated by the Company in 2018 during an assessment of the regional aeromagnetic imagery, which highlighted a 9.5km linear magnetic unit parallel to and south of the Lucky Strike trend (Figure 2). A single traverse of AC drill holes, completed in July 2020 intersected strong quartz veining in an oxidised BIF unit interpreted to be similar to the host rocks at Lucky Strike. The best result was 5m @ 1.2g/t Au from 50m in hole LEFA774 (refer LEX ASX release 5 October 2020).

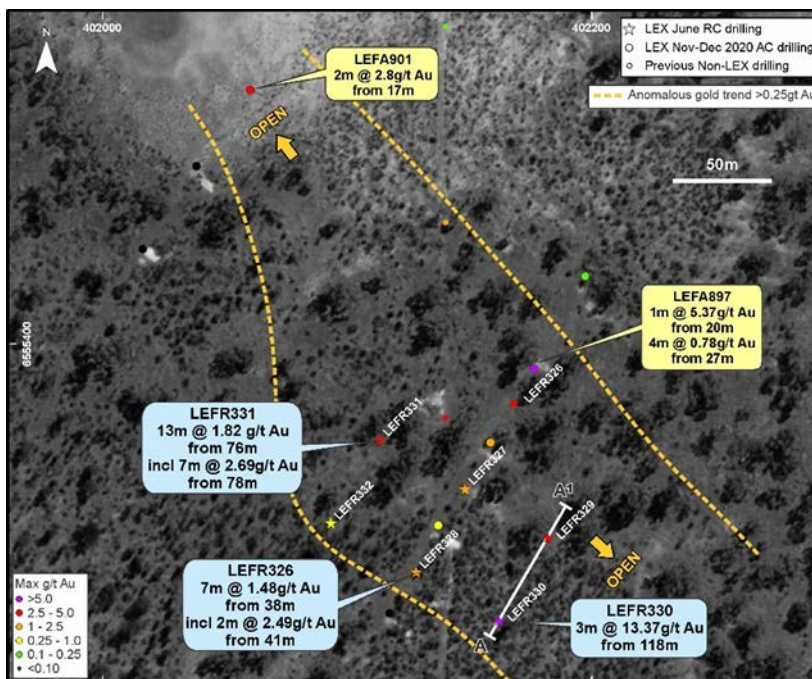
A follow up AC drilling program in December 2020 testing multiple targets along the Havelock magnetic trend outlined a new bedrock gold anomaly (>0.25g/t Au) with a strike length of approximately 1000m. Significant results from that program include 1m @ 5.37 g/t Au from 20m in LEFA897 and 3m @ 1.04 g/t Au from 57m to EoH in LEFA898.

An early-stage RC drill program to evaluate the Havelock gold anomaly noted above was completed by the Company in June 2022. The program comprised seven angled RC holes (LEFR326 to LEFR332) for a total of 900m drilled on three 40m spaced sections. Holes were spaced at 40m centres on each line (Figure 3), with an average hole depth of 129m.

The holes were planned as a first pass evaluation of the 1000m bedrock gold trend outlined at Havelock in previous aircore drill programs (refer LEX ASX 9 February 2021), and primarily to follow up a significant gold intercept of 1m @ 5.37g/t Au from 20m (hole LEFA897).

Significant assay results were returned from drill holes on each of the three sections completed and include:

- **3m @ 13.37 g/t Au from 118m in LEFR330**
- **13m @ 1.82 g/t Au from 76m in LEFR331**  
**Including 7m @ 2.69 g/t Au from 78m**
- **7m @ 1.48 g/t Au from 38m in LEFR326**  
**Including 2m @ 2.78 g/t Au from 41m**



**Figure 6** Havelock drill hole plan.

The results, which include a high-grade intercept, support a new gold discovery and enhance the potential for further discoveries along the remaining ~2500m of strike to the north and ~3700m to the south, which are open along the Havelock trend. In addition, the results provide the justification to explore the adjacent Erinmore linear magnetic trend (900m to the south) which remains completely untested by the Company.

Mineralisation at Havelock is primarily hosted in quartz veined magnetite-sulphide (pyrite & pyrrhotite) altered shallow dipping siltstone and shale. Current data suggests the mineralisation is both supergene and primary gold, which may dip toward the south-west, however, a true orientation as well as the controls on the mineralisation are yet to be determined.

Four of the seven holes intersected diorite porphyry which is visually similar to the diorite porphyry observed at the Burns Au-Cu prospect. Diorite is not known to occur at the Lucky Strike deposit and thus differentiates Havelock, which is now interpreted by the Company to be linked along with the Lucky Strike and Erinmore magnetic trends to the same magmatic-hydrothermal event responsible for

the alteration and diorite intrusions observed at Burns. The Company interprets that the linear magnetic trends are not BIF as was previously thought, but are magnetite altered sediments. Further research is ongoing to confirm this view.

The data provided by the seven holes supports a new interpretation by the Company that more mineral systems analogous to the alteration, geochemistry and geology of the Burns Au-Cu system can be discovered in the broader area distal to the large Burns Intrusion (Figure 2). In addition, magnetite alteration associated with the diorite intrusions similar to those at Burns was also observed proximal to the gold mineralised intervals at Havelock, which provides further support for the current interpretation of these linear magnetic trends forming part of one large zoned hydrothermal magmatic complex surrounding the Burns Intrusion (Figure 2).

### ***Havelock Next Steps***

Compilation of the gold and bottom of hole (BoH) multi-element data is being progressed for both this program and the expansive Lake Randall aircore program, which previously tested multiple targets including Burns. The compiled results in conjunction with the ongoing research and development program with the University of Western Australia's (UWA) Centre for Exploration Targeting (CET) at UWA will provide additional vectors to refine target ranking and selection.

At Havelock the next steps in the exploration will include:

- Aircore drilling to expand the gold anomaly (Figure 3) and evaluate further targets along strike at Havelock plus initial drilling along the Erinmore trend.
- Step out RC drilling at Havelock to expand the mineralisation.
- Early-stage diamond drilling to obtain geological and structural information as well as providing samples for research by the CET to confirm a link between the alteration assemblage at Havelock and Burns.

The aircore drilling is scheduled to commence in the September quarter, subject to drill rig availability.

### ***Western Lefroy Farm In (WLFI) & Joint Venture (Gold Fields earn in)***

The Western Lefroy tenement package being farmed into by Gold Fields covers Lake Lefroy and the surrounding area. The package comprises 312km<sup>2</sup> of the total 548km<sup>2</sup> of the LGP and is adjacent to Gold Fields' +10 million-ounce St Ives Gold operation (Figure 1).

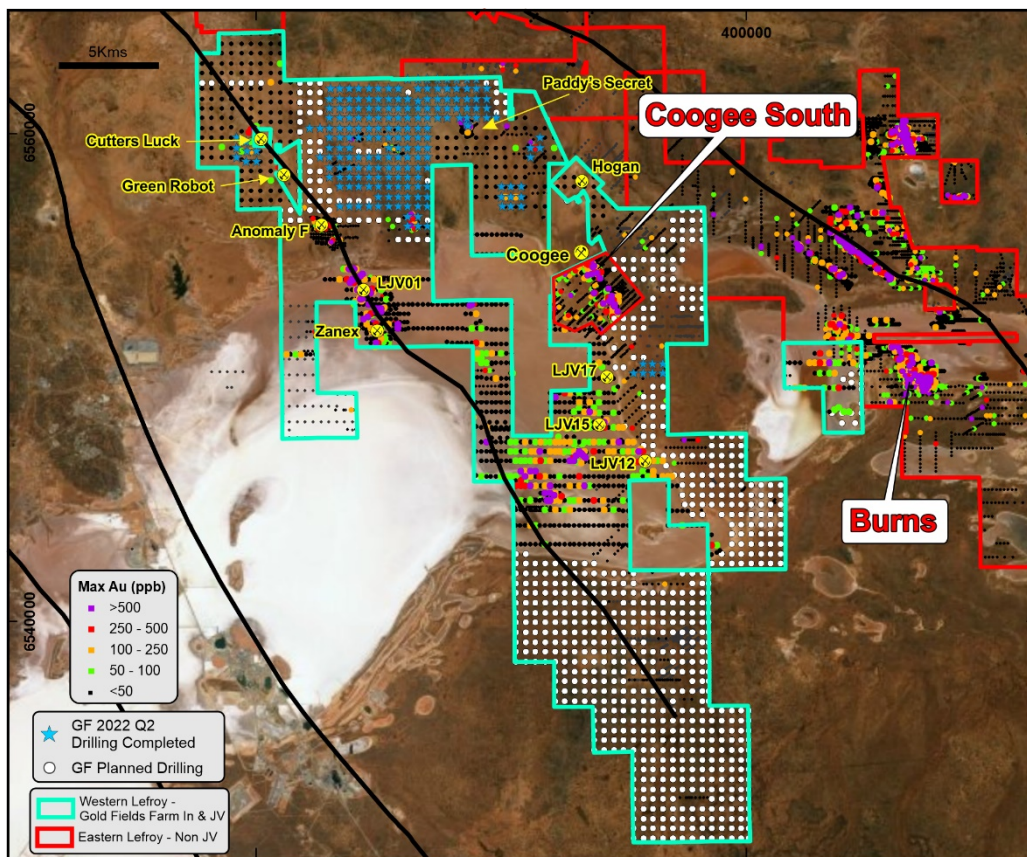
Gold Fields is currently in the first year of the Stage 2 earn-in of the Western Lefroy Project Farm-In and Joint Venture Agreement, dated 7 June 2018 (refer to ASX release 6 June 2018), whereby Gold Fields has elected in July 2021 to sole fund a further \$15 million of expenditure over 3 years (by June 2024) to earn an additional 19% interest in the Joint Venture to bring its total interest to 70%.

The focus for work completed in the Quarter was the continuation of the massive Full Field Aircore (FFAC) drill program which commenced in December 2021 (LEX ASX release 12 October 2021). Several heritage surveys were completed in advance of the AC drill programs.

Gold Fields reported exploration expenditure of \$656,538 for exploration activities completed in the June 2022 Quarter. Total expenditure for the 12months to 30 June 2022 was \$1.85million.

Gold Fields continued with of the extensive 46,000 metre land based Full Field Aircore (FFAC) drilling program (Figure 8). A total of 199 vertical drillholes were completed on a nominal 400m by 400 metre grid spacing for a total of 5,528 metres. The FFAC program will yield foundational geological and geochemical information that will be interrogated in conjunction with the geophysical data to deliver specific targets for AC, RC, and diamond drilling. No significant results were returned from samples submitted the prior quarter.

Two diamond holes totaling 561m of drilling were completed at Paddy's Secret to evaluate an interpreted northeast trending structure. No significant results were returned.



**Figure 8** Lefroy Gold Project highlighting the Gold Fields Farm in & JV package, proximity to St Ives and location of the Full Field Aircore (FFAC) drilling program adjacent to Lake Lefroy. White dots refer to holes still to be completed

### WLFI Next Steps

A quarterly exploration committee meeting was held on 26 July 2022 with Gold Fields to discuss the ongoing exploration program and plans for September CY22.

Depending on rig availability, planned work for the following Quarter is the ongoing FFAC aircore drilling program, that is currently underway.

Heritage Surveys are scheduled to be completed in advance on the FFAC drilling.

### **Lake Johnston Project (Gold and Nickel), Lefroy 100% of Gold and Nickel Rights**

The Lake Johnston Project is located 120km west of Norseman in Western Australia and comprises four granted exploration licenses (refer attached tenement schedule) held under title by Johnston Lakes Nickel Pty Ltd. These holdings form a cohesive package of 180km<sup>2</sup> over the Lake Johnston Greenstone Belt. The lithium rights for three of the tenements are held by Charger Metals NL (ASX CHR) and Lithium Australia NL (ASX LIT).

The Company continues to progress the opportunity to accelerate nickel exploration on the project and is actively pursuing tasks to assist this strategy. The Company is conscious of the exploration prospectivity for nickel and gold mineralisation on the cohesive land package, but with the full focus being at Eastern Lefroy, there is limited opportunity to run parallel exploration programs. The Company also recognizes the appreciation in the nickel price and future demand by the EV industry and the opportunity to develop a dedicated nickel exploration Company.

During the June 2022 Quarter, the Company continued to focus on a separate listing of the nickel assets in the Portfolio, that includes the Lake Johnston Project, via its wholly owned subsidiary company, Johnston Lakes Nickel Pty Ltd (JLN) (refer to the tenement schedule).

The Company registered JLN in October 2021 (refer LEX ASX release 25 October 2021) and undertook an internal transfer of the Lake Johnston tenements and Ni rights to five tenements at Carnilya South, held by Monger Exploration Pty Ltd (also a subsidiary of the Company) to JLN in December 2021. This was completed during the quarter.

The new JLN entity also has under application a further six contiguous large exploration licenses covering 2900km<sup>2</sup> north of Wiluna in WA, to form the Glenayle project (refer to ASX release 25 October 2021). The Glenayle Project is located in the Proterozoic Salvation Basin, which is a sedimentary sequence intruded by multiple dolerite sills of the Warakurna Large Igneous Province which the company considers to be prospective for nickel and copper mineralisation.

Subsequent to the end of the June Quarter, the Company has continued to complete key procedural steps to list JLN on ASX.

### **Marloo Farm In (Sensore Ltd earn in)**

On the 9 February 2022, the Company announced that it had entered into a binding Farm-In and Joint Venture agreement with SensOre Yilgarn Ventures Pty Ltd (ASX release 9 February 2022), a subsidiary of SensOre Ltd, for the next phase of exploration of its Marloo Dam tenement (“Marloo Tenement”). Marloo adjoins SensOre’s Maynards Dam project, located east of the Gold Fields-owned St Ives Gold Mining operation. Under the Agreement, Sensore can earn up to a 70% joint venture interest in the Marloo Tenement by spending up to \$0.8 million on exploration activities within 4 years from the commencement of the agreement.

During the June Quarter Sensore undertook the necessary approvals process including completion of a heritage survey to conduct field activities. An aircore (AC) drilling program commenced in late June with 16 holes completed on two lines for a total of 405m of drilling. Results are pending.

## **EXPLORATION OUTLOOK SEPTEMBER 2022 QUARTER**

### **Eastern Lefroy (100% LEX, Non-JV)**

The Company will continue to actively progress field-based exploration in the September 2022 Quarter on the Non-JV Eastern Lefroy package.

The two-hole diamond program now underway at Burns is expected to be completed in August, with initial results in September. Final assays are expected to be returned in early October.

Compilation of the gold and multielement data and from the large AC drill program in lake Randall with existing RC and diamond drill data, and new information gained from the deep (+1km) EIS funded diamond drill hole at Burns will provide guidance for a program of infill RC drilling designed to support a maiden mineral resource estimate at Burns. The program is expected to get underway in late August.

An AC drill program is scheduled to be completed at Havelock in September to expand the strike and size of the regolith anomaly at Havelock in advance of planning additional RC drilling.

### **Western Lefroy (Farm-In and JV Gold Fields right to earn 70%)**

The FFAC program will be ongoing subject to land access clearances in advance of the drilling.

### **Lake Johnston (Lefroy 100% of Gold and Nickel Rights)**

The Company will continue progressing a listing of JLN as noted above to realise value from this and other nickel assets in the portfolio. A detailed aeromagnetic survey is scheduled to be completed in July to cover the Brians Bluff Trend located approximately 15km east of the Maggie Hayes nickel mine.

## CORPORATE

During the June 2022 Quarter the Company's total outgoings on its operating activities was \$1.44 million, of which \$0.83 million was attributed to direct exploration expenditure, as noted in this report.

The Company received a \$0.56million tax refund for the 30 June 2021 FY in May 2022. This was supported by a Research and Development (R&D) tax incentive claim undertaken on the emerging Burns gold-copper mineral system. Research on the genesis of the Burns system was ongoing during the 2022 FY and will continue in FY 2023 to advance the understanding of its geological significance, including its regional geological context, and to make comparisons to other intrusion related gold-copper deposits around the world to provide exploration tools to discover more of these systems

As of 30 June 2022, the Company had cash reserves of \$4.25 million and no debt.

During the June 2022 Quarter payments totalling \$118,000 were paid to related parties of the Company and their associates for Director fees and consulting services (refer to section 6 of the June 2022 Quarterly cash flow report for further detail).

On 1 July 2022 the Company announced that Ms Tara French has been appointed to the Lefroy Board as an independent Non-Executive Director. (Refer LEX ASX release 1 July 2022)

This announcement has been authorised for release by the Board of Lefroy Exploration Limited.



Wade Johnson

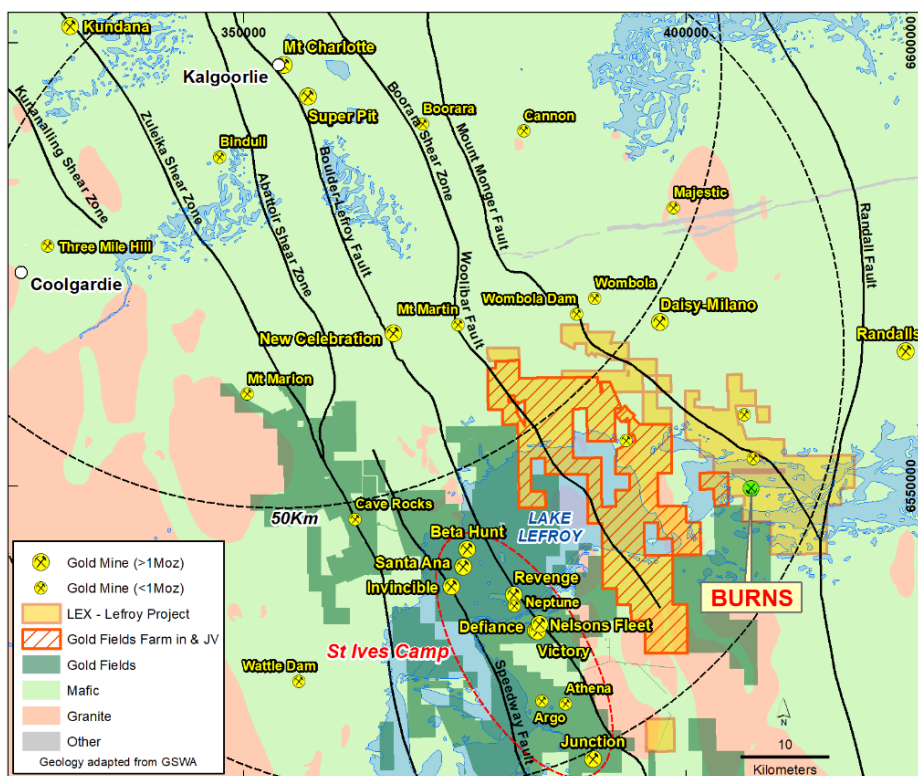
Managing Director



**About Lefroy Exploration Limited and the Lefroy Gold Project**

Lefroy Exploration Limited is a WA based and focused explorer taking a disciplined methodical and conceptual approach in the search for high value gold deposits in the Yilgarn Block of Western Australia. Key projects include the Lefroy Gold Project to the southeast of Kalgoorlie and the Lake Johnston Project 120km to the west of Norseman.

The 100% owned Lefroy Gold Project contains mainly granted tenure and covers 548km<sup>2</sup> in the heart of the world class gold production area between Kalgoorlie and Norseman. The Project is in close proximity to Gold Fields’ St Ives gold camp, which contains the Invincible gold mine located in Lake Lefroy and is also immediately south of Silver Lake Resources’ (ASX:SLR) Daisy Milano gold mining operation. 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). The Farm-In Agreement with Gold Fields over the Western Lefroy tenement package commenced on 7 June 2018. Gold Fields can earn up to a 70% interest in the package by spending up to a total of \$25million on exploration activities within 6 years of the commencement date.



Location of the Lefroy Gold Project relative to Kalgoorlie. The Western Lefroy tenement package subject to the Gold Fields joint venture, and Gold Fields tenure is also highlighted

**For Further Information please contact:**

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## 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 by the Company but specific to exploration completed during the December 2021, March 2022 and June 2022 Quarters and reported in this announcement.

- Exploration Update - Geophysical Surveys Commenced: 11 October 2017
- LEX secures \$25M Farm In and JV Agreement with Gold Fields: 6 June 2018
- Tenement Granted over Burns Au-Cu Prospect: 16 September 2020
- Outstanding High-Grade Gold and Copper: 22 February 2021
- Drill Testing of Multiple Magnetic Targets Underway at Burns: 4 October 2021
- Massive drilling program planned for the Western Lefroy JV: 12 October 2021
- LEX Expands Nickel Portfolio Securing a Major Land Package: 25 October 2021
- Major Drilling Programs Recommended at Lefroy: 17 January 2022
- RC Drill Results Outline New Gold Zone at Burns: 25 January 2022
- LEX Secures \$0.8million Farm-In & JV with Sensore at Marloo: 9 February 2022
- High-Grade Results Extend the Burns Au Cu System Beneath Lake Randall: 21 February 2022
- Exploration Update - Drilling Program Underway at Burns: 25 February 2022
- Exploration Update - RC Drilling Underway at Burns: 17 March 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
- High-Grade Gold Result Confirms New Discovery at Havelock: 7 July 2022
- Exploration Update-1200m Deep Diamond Hole Underway at Burns: 12 July 2022

*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 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 LTD TENEMENT SCHEDULE 30 June 2022				
Project	Tenement ID	Ten Status	Holder	Interest %
P26/3765	Goldfields JV	Live	HOGANS RESOURCES PTY LTD	100 <sup>(1)</sup>
P26/3889	Goldfields JV	Live	HOGANS RESOURCES PTY LTD	100 <sup>(1)</sup>
P26/3890	Goldfields JV	Live	HOGANS RESOURCES PTY LTD	100 <sup>(1)</sup>
P26/3891	Goldfields JV	Live	HOGANS RESOURCES PTY LTD	100 <sup>(1)</sup>
E26/0134	Goldfields JV	Live	HOGANS RESOURCES PTY LTD	100 <sup>(1)</sup>
E26/0193	Goldfields JV	Live	HOGANS RESOURCES PTY LTD	100 <sup>(1)</sup>
E26/0150	Goldfields JV	Live	HOGANS RESOURCES PTY LTD	100 <sup>(1)</sup>
E15/1615	Goldfields JV	Live	HOGANS RESOURCES PTY LTD	100 <sup>(1)</sup>
E26/0131	Goldfields JV	Live	HOGANS RESOURCES PTY LTD	100 <sup>(1)</sup>
E26/0184	Goldfields JV	Live	HOGANS RESOURCES PTY LTD	100 <sup>(1)</sup>
E15/1447	Goldfields JV	Live	HOGANS RESOURCES PTY LTD	100 <sup>(1)</sup>
M26/0842	Goldfields JV	Live	HOGANS RESOURCES PTY LTD	100 <sup>(1)</sup>
M26/0850	Goldfields JV	Pending	HOGANS RESOURCES PTY LTD	100 <sup>(1)</sup>
M26/0851	Goldfields JV	Pending	HOGANS RESOURCES PTY LTD	100 <sup>(1)</sup>
E15/1498	Lefroy	Live	MONGER EXPLORATION PTY LTD	100
E26/0195	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(2)</sup>
E15/1497	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
P25/2488	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
P26/4443	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
P26/4444	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
P26/4423	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
P26/4424	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
P26/4425	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
P26/4437	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
P26/4438	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
P25/2317	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
P25/2316	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
E25/0517	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
E25/0518	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
P25/2421	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
E15/1715	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
E26/0182	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
E25/0587	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
E26/0183	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
E25/524	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
M25/0362	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
M25/0363	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
M25/0366	Lefroy	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
E25/0606	Lefroy	Pending	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
P26/4392	Lefroy - JLN (Ni rights)	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
P26/4393	Lefroy - JLN (Ni rights)	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>
P26/4394	Lefroy - JLN (Ni rights)	Live	MONGER EXPLORATION PTY LTD	100 <sup>(1)</sup>

LEFROY EXPLORATION LTD TENEMENT SCHEDULE 30 June 2022 - Continued				
P26/4391	Lefroy - JLN (Ni rights)	Live	MONGER EXPLORATION PTY LTD	100(1)
E26/0176	Lefroy - JLN (Ni rights)	Live	MONGER EXPLORATION PTY LTD	100(1)
L25/0061	Lucky Haul Road	Pending	MONGER EXPLORATION PTY LTD	100(1)
L25/0063	Mulga Haul Road	Pending	MONGER EXPLORATION PTY LTD	100(1)
E63/2073	Lake Johnson	Live	Johnston Lakes Nickel Pty Ltd	100(1)
E63/1723	Lake Johnston – CHR & LIT (Li rights)	Live	Johnston Lakes Nickel Pty Ltd	100(2)
E63/1722	Lake Johnston – CHR & LIT (Li rights)	Live	Johnston Lakes Nickel Pty Ltd	100(2)
E63/1777	Lake Johnston – CHR & LIT (Li rights)	Live	Johnston Lakes Nickel Pty Ltd	100(2)
E69/3945	Glenayle	Pending	Johnston Lakes Nickel Pty Ltd	100(1)
E69/3946	Glenayle	Pending	Johnston Lakes Nickel Pty Ltd	100(1)
E69/3947	Glenayle	Pending	Johnston Lakes Nickel Pty Ltd	100(1)
E69/3948	Glenayle	Pending	Johnston Lakes Nickel Pty Ltd	100(1)
E69/3949	Glenayle	Pending	Johnston Lakes Nickel Pty Ltd	100(1)
E69/4045	Glenayle	Pending	Johnston Lakes Nickel Pty Ltd	100(1)

### Notes to accompany tenement listing

- (1) Hogans Resources Pty Ltd, Monger Exploration Pty Ltd and Johnston Lakes Nickel Pty Ltd (JLN Pty Ltd) are wholly owned subsidiaries of Lefroy Exploration Limited
- (2) E63/1722, E63/1723 and E63/1777 - Held under title by JLN. Charger Metals NL (ASX CHR) and Lithium Australia NL (ASX:LIT) have the rights to Lithium.

DMIRS-- Department of Mines Industry Regulation and Safety