

# Lefroy laps up unexpected copper find

Lefroy Exploration Ltd is pulling out all stops to find the source of significant copper mineralisation intersected at its Burns project in the Eastern Goldfields.

The company turned heads in late September when it reported a 145m-long interval of copper mineralisation from diamond drilling at the Lovejoy prospect, only 1.5km north of its Burns gold-copper discovery.

Within that 364m-long diamond hole was also 42m of hydrothermal breccia hosting extensive native copper and copper sulphides.

Further demonstrating the intensity of that native copper mineralisation in the breccia zone was a strong copper coating on the outside of several steel drill rods.

Lefroy managing director Wade Johnson believes the copper-rich breccia is a component of a large magmatic system at Burns, which returned a discovery hole of 55m @ 0.5 g/t gold and 0.2% copper from 230m, in porphyry and basalt, all the way back in 2012 when the project was held by Octagonal Resources.

Subsequent RC drilling by Lefroy almost a decade later in early 2021 intersected 38m @ 7.63 g/t gold and 0.56% copper from 134m in porphyry.

“We now know it’s a much bigger system than just Burns,” Johnson told **Paydirt**.

“Right now, it’s all about making that economic discovery. This whole area is covered by sand and salt lake, there’s virtually no outcrop, so we’ve got a blank canvas and we’re trying to find out where the orebody is. We’re learning from every hole we drill to try and find what the vector is we need to pinpoint the discovery.”

Last month assay results from a 61m interval of a 1,245m deep diamond hole pointed to a polymetallic intrusion-related system at Burns, headlined by a hit of 19.6m @ 0.33 g/t gold, 0.75% copper from 428m, including 6.3m @ 0.47 g/t gold, 1.7% copper and 223 ppm cobalt.

Lefroy has since launched a new 15,000m RC drilling programme at Burns, about 70km south-east of Kalgoorlie, which could culminate in delivery of a maiden gold-copper resource early next year.

Johnson – a geologist of more than three decades, including a long stint with Newmont Corp – continues to be intrigued by the amount of copper in the Burns system.

“I’ve seen a lot of rocks over my 34



**Lefroy is chasing the source of a surprise copper mineralised zone at its Burns project, about 70km south-east of Kalgoorlie**

years in the industry, including places like Papua New Guinea and the Solomon Islands, and you look at porphyry after porphyry, and then to come back to the Eastern Goldfields and see something like this, you’re basically starting your career again,” Johnson said.

“The small group of geos we’ve got here, we’re reading so much on literature around the world to try and find out if there’s some-

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thing similar to what we’ve found. We’ve been researching a lot of mineral systems in Canada and there is one in the literature called Coté, which is a gold-rich porphyry, owned by IAMGold Corp.

“When everyone thinks of porphyries, they usually think of the Andes and Papua New Guinea and those big porphyry de-

posits around the Ring of Fire. So, to find one in rocks that are 2.7 billion years old is very unusual.”

Other Burns-like targets over a 2.5km strike which Lefroy is keen to test include Ralph, Smithers and Flanders.

Recapitalised in 2016, the company is farming out its Western Lefroy tenement package to Gold Fields Ltd under a lucrative \$25 million JV.

Gold Fields is in the first year of the Stage 2 earn-in, whereby the JSE-listed gold miner must spend \$15 million before June 2024 to increase its interest in the 312sq km ground holding, adjacent to the 10 moz St Ives operation, to 70%.

Meanwhile, Lefroy has also confirmed the demerger of its wholly-owned subsidiary Johnston Lakes Nickel Ltd is back on track for the first half of next year.

The demerged entity’s portfolio includes the Carnilya South, Lake Johnston and Glenayle nickel projects. Former Western Areas group exploration manager Graeme Gibbins has been appointed managing director of the new company.

**– Michael Washbourne**