



Kicking goals at Kachi

While football-mad Argentina was fixated on how star player Lionel Messi fared on the pitch at the World Cup in Russia last year, Lake Resources NL was quietly scoring a few goals of its own at its suite of lithium projects in the South American country.

An impressive first year on the ground at Kachi, in Argentina's famed Catamarca province, culminated in a maiden resource estimate of 4.4mt contained lithium carbonate equivalent, including 1mt classed as indicated, extending to 400m below ground level.

To top that off, an initial engineering study highlighted the potential for lithium production costs of \$US2,600/t – within the lowest quartile for brine producers – using engineering partner Lilac Solutions Inc's direct extraction process.

An on-site pilot plant as part of a PFS on Kachi is the main game for Lake in 2019, as well as an evaporation pond and resource expansion programme to take full advantage of the basin which the company owns in its entirety.

"The key thing about this whole project is that we own it on a 100% basis, virtually the entire basin," Lake managing director Steve Promnitz told **Paydirt**.

"I think there's only one other basin like that in Argentina and that belongs to Neo Lithium [Corp] who are also in Catamarca province, but listed on the Toronto Stock Exchange. Those are pretty much the only two that I know of where you own the entire basin and that's important when you're talking to downstream players and strategic investors because that's very appealing to them."

Using Lilac's direct extraction process, Lake achieved lithium recoveries of 85-90% from multiple brine samples, including lithium concentrations of greater than 25,000 mg/L produced from roughly 300 mg/L of lithium brine.

Lithium brine concentrates were produced in just three hours using the Lilac process, with low impurities of magnesium, calcium, strontium and boron

recorded. This compares favourably to other conventional brine operations in South America which have typical lithium recoveries below 50%, plus lengthy 9-24 month waiting periods for evaporation to produce a suitable lithium brine concentrate for processing.

The estimated production cost of \$US2,600/t would also return a strong margin against the current sales price of about \$US13,000/t for lithium carbonate exported from South America.

Promnitz said the Lilac extraction process could quickly propel Kachi ahead of rival brine projects.

"We looked at Lilac as being quite similar to current technologies, but with a slight tweak of what's used either in water treatment or in the lithium industries, so it wasn't a huge change," he said.

"It's actually a fairly simple process and we've found the Lilac guys to be particularly sharp; they come from a battery development background, they're supported by some investors in Silicon Valley and they've got people on their advisory board who are quite well known in the industry, so we felt they were the right fit."

Another benefit the Lilac extraction process appears to bring to the table for Lake is putting to bed concerns about the low grade of Kachi's resource, currently 289 mg/L in the indicated area.

Promnitz predicted further improvements in the Lilac extraction process would provide greater confidence to potential project financiers.

"Some people have commented that the grade is a bit low because others are more like 500-600 mg/L" he said.

"From the Phase 1 engineering study that we've released to the ASX, we expect lithium recoveries of 85-90% versus conventional South American evaporation ponds which are somewhere between 40-50%. That's equivalent to doubling the grade and it also makes it a very clean brine when we do that lithium recovery.

"The second thing is that those con-



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centrates are produced in around three hours versus 9-24 months, so that brings your cash flow and your production on earlier, which is much easier from a debt servicing perspective but also from an investor perspective because they can see cash flow is coming earlier.”

The Kachi resource is situated within a wider exploration target of 8-17mt which Lake has set for the project area. During the course of 2019, the company plans to expand the resource and convert more into the indicated and measure categories.

Kachi is hosted in the same province as the FMC Corp lithium operation and Albermarle’s Antofalla project. And a package of lithium tenements which ASX-listed Galaxy Resources Ltd recently sold to Korea’s POSCO for \$US280 million is also in the region.

Promnitz, who along with fellow director Nick Lindsay is no stranger to developing projects in South America, said he was very happy to be working in Argentina which has emerged as an attractive resources destination since the election of the Macri Government in late 2015.

“We were able to put together one of the largest property packages available on either the ASX or TSX for lithium,” he said.

“We’ve also found the local communities quite receptive and, as you would in any project, we’ve engaged with them quite early in the exploration process. They want all the usual things; they want to see the environment looked after appropriately, they want to see job creation, they want to see that they get the opportunity to participate in it.

“Naturally, a lithium project doesn’t generate the same sort of money as a big copper mine or a gold mine, but we’ve found the communities quite receptive. If you put all that together, Argentina stacks up pretty well.”

Lake also has three other lithium projects in Argentina, including Cauchari, where the company is currently drilling just 450m away from major producer Gangfeng Lithium Corp’s Lithium Americas Cauchari project. Results from that

programme are due this month.

Also in northern Argentina, Lake has the Olaroz project which is an extension of Australia producer Orocobre Ltd’s leases in the Jujuy province. Drilling was due to start following the completion of the Cauchari programme.

Rounding out Lake’s portfolio is the Paso pegmatite project in the south of the country, near the Chilean border, but the company is yet to undertake any serious work on that patch of ground.

“At the end of the day, when we compare to our neighbours, our key point of difference is that we’ve got four projects, not just one, we’ve got a very large land package with over 200,000ha of leases, each one owned 100%,” Promnitz said.

“We had some research that came out just recently and it showed that we’re valued somewhere between 350% and 750% less than our peers in a bombed-out market, and I think that’s because we’ve only just come out with our first resource and there hasn’t been time to do the catch-up yet.

“With the PFS due this year, together with the advancement of those other projects in the pipeline, we anticipate an excellent year in 2019 regardless of what happens in the market. We’ve got world-class assets and we think we’re going to be kicking a few goals this calendar year.”

– Michael Washbourne

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Paydirt, National

01 Feb 2019, by Michael Washbourne

General News, page 76 - 947.00 cm²
Magazines Trade - circulation 4,837 (Monthly)

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Lake has declared a maiden resource of 4.4mt of contained lithium carbonate equivalent at Kachi



Steve Promnitz



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Lake's exploration team is gearing up for another busy year of drilling across its suite of lithium projects in Argentina