Lake placid amid lithium's choppy waters

With a PFS on the horizon and first production from an on-site pilot plant also imminent, Lake Resources NL is set to finish what has been a tough year for the lithium industry on a high note.

Plunging prices and the shuttering of some mines in Western Australia due to operational underperformance has been felt across the entire lithium sector, prompting this blunt assessment from Lake managing director Steve Promnitz: “You can’t sugarcoat what is going on out there.”

A depressed lithium market has taken the gloss off what has otherwise been a breakthrough year for Lake, which entered 2019 full of optimism after delivering a maiden resource in Argentina’s Catamarca province.

Lake is expected to publish the results of a PFS on Kachi before the end of the calendar year with sample products from initial pilot plant production to be sent to customers for qualification in early 2019.

Designed by Silicon Valley-backed Lilac Solutions Inc and international engineering firm Hatch Ltd, the pilot plant is set to confirm the effectiveness of the former’s direct extraction ion exchange process on Kachi brines.

“We’ve seen quite a big spread of pricing between poor quality products and premium quality products this year, so we’re trying to demonstrate that by using the Lilac direct extraction process we can produce a premium product and we can produce it efficiently and in a short timeline,” Promnitz told Paydirt.

“The only way to do it is to have a pilot plant operating on site. We’re aiming to have product coming out early in the new year and we’re trying to get that into a number of different hands.

“We have had conversations with downstream players in the lithium supply chain in Korea, Japan and China and it’s important we get samples out of that pilot plant and into their hands so (a) they can test it but (b) more so they can put it through their qualification process,” he said.

The first module of the pilot plant has been constructed at Lilac’s facility in California, US, and is due to arrive on site at Kachi in early January.

Results from earlier lab testing which showed concentrations of 30,000-60,000 mg/L lithium can be produced from brines of roughly 300 mg/L within a few hours after dewatering – more than 10 times the concentration of conventional processes – will be incorporated into the upcoming PFS.

“We’re fortunate that at least six months of that lab test work on the Lilac process will go into the PFS,” Promnitz said.

“Once the PFS comes out we want to be working with a downstream partner to very quickly determine exactly what products they want and to optimise all of those inputs. There is going to be a range of opportunities where we can adjust operating costs or capital costs depending on what the end-user wants.

“The benefit of starting with the Lilac process at the front end is we can produce either a lithium carbonate or a lithium hydroxide product, or both, or an intermediate product which can feed into one of those plants, but it depends very much on who your end-user is as to exactly how you want that set-up.”

In another indication Lake has begun preparing for life after the PFS, the company has appointed London-based SD Capital Advisory Ltd to secure debt funding of up to US$25 million for a DFS and further pre-production activities.

Garry Gill has also joined Lake as its new chief financial officer and will drive the company’s long-term funding ambitions.

While Lake’s primary focus will be on Kachi, the company is also keen to progress its earlier stage projects – Cauchari and Olaroz – in a timely fashion.

Cauchari, in Argentina’s Jujuy province, adjoins the namesake project being developed by Ganfeng Lithium Co Ltd and Lithium Americas Corp.

“We’ve got exactly the same brines in our leases,” Promnitz said. “All things being equal, if this pilot plant is successful, we will have the flexibility to move it over to Cauchari and show that we can produce a very similar high quality lithium product right next to a project which Ganfeng paid nearly US$400 million for 50%. Now that would really put a cat amongst the pigeons.”

Promnitz said although all permits for Olaroz had now been received, the company was likely to wait for market conditions to improve before drilling that project, which is hosted in the same basin as Orocobre Ltd’s namesake operation.

– Michael Washbourne