

Potash rebound starts to flourish



Survivors of the embattled West Australian potash scene are beginning to dream of brighter times ahead.

Potash players seemed on the verge of a brand-new industry in early 2021 with Salt Lake Potash Ltd (SO4) and Kalium Lakes Ltd flying towards production, but 18 months on the former is in tatters and the latter is only just beginning to rebuild its operational credentials.

The scepticism surfaced in mid-2021 as reality began to rub up against SO4 managing director Tony Swierizczuk's bullish rhetoric. Having initially said it would beat construction schedule targets, the company announced in July it would miss first-year production targets following underperformance of its processing plant and evaporation ponds. A failed \$100 million capital raising followed before the company was placed into administration in November.

Kalium only narrowly survived a similar fate. The company declared itself Australia's first sulphate-of-potash (SOP) producer in October from its Beyondie project but was quickly raising \$50 million to continue commissioning activity as lower-than-expected potassium salt feed grades hampered the ramp-up of the processing plant.

Issues continued through the December and March quarters but on May 31, Kalium announced the successful validation of the process design had led to the production of

400t of commercially saleable SOP, signalling a potential turning point in its recovery, with an 80,000 tpa production rate expected to be reached in the March 2023 quarter and full capacity 120,000 tpa in the September 2024 quarter.

"We are very pleased that through recent equipment testing and the production of SOP we have been able to validate the overall process chemistry and plant design," Kalium chief executive Len Jubber said. "We are now focused on systematically addressing the remaining bottlenecks in the plant and progressively increasing production. Plant operations during 2022 will be variable, taking into account our need to conduct further mechanical debottlenecking activities and build inventory."

Jubber was brought into Kalium at the end of 2021 as the company struggled to meet production ramp-up targets. A highly experienced mine developer, builder and operator, Jubber saw his initial task as obvious – make Beyondie more like a traditional mining operation.

"On the one hand, the company had done remarkably well in bringing a project all the way through full construction in a new industry with things that had not been done before," Jubber explained to **Paydirt**. "But it was the operational readiness and experience which was not there when the company was confronted with challenges, they

Kalium Lakes appears to be overcoming its initial processing ramp-up issues and is now on track for steady-state production at its Beyondie SOP operation

didn't know what they didn't know.

"So, in the last six months the company has sat back and looked at where our shortcomings are and set about systematically building organisational capability to cope with the complexities of the project."

Potash experts were brought in from the US to aid the recommissioning process while Jubber focused on turning the company into a traditional miner.

"We have set about building operational control to run the bore fields and evaporation ponds in a way which is more akin to the way you would run a gold or base metals mine with daily, weekly and monthly production reports and operational and production management controls," he said.

"The next few months will see us moving through the mechanics of testing, then into steady-state production with incremental increases to production rates out to our stated targets for 2023 and beyond. That will be achieved from increasing harvesting of salts from the ponds, improving our organisational capability and debottlenecking the plant."

In parallel, Jubber is intent on communicating the Kalium story more effectively, but it is far from a shallow marketing push.

The use of evaporation to produce the mineral salts means SOP projects are more susceptible to changing climactic conditions than traditional hard rock mining projects

"Part of the challenge has been our stakeholders – whether the regulator or capital markets – don't have much exposure to the sector either so our ability to communicate has been challenging because no one is familiar with it," he explained. "We are working on that communication and education and what we are doing in a more typical mining manner. We need to appreciate the technical complexity of that to be able to manage it. Look at the WA lithium industry, it went under a similar progression and now it is flying."

At the heart of the complexity is the nature of the extraction. Rather than hard rock mining, the potash salts are extracted via bores and trenches and then channelled to evaporation ponds where they are harvested over around six months and then crystallised before being sent to the processing plant.

"We are continually developing our own orebody through the bore/trenching and evaporation process, ready for the ROM pad," Jubber said. "That process involves coming to grips with Mother Nature because rain, wind and sun all impact evaporation rates."

For the rest of the sector, it is a case of hoping investor scepticism about delivery failure is outweighed by Kalium's turnaround and the growing macro supply/demand equation.

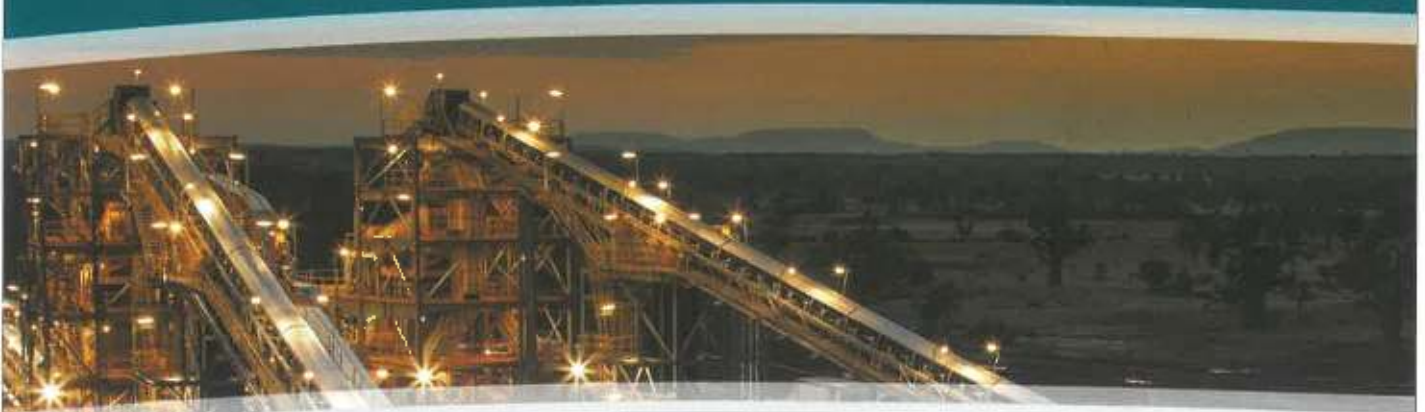


"The fallout has been pretty bad, there is no doubt it has set us back a year. Last year we had a \$110 million market cap and were about to pull the trigger on development capital raising but the problems at SO4 and Kalium robbed the retail and institutional markets of any confidence in the sector," Matthew Shackleton, managing director Australian Potash Ltd – whose shares fell nearly 70% over the course of 2021 – told **Paydirt**. "That was unfair, we believe, because those failures were 100% management issues, not sector or project issues."

According to Trigg Mining Ltd managing director Keren Paterson, Kalium's milestone will provide a boost to the entire sector.

"A lot of investors are waiting for proof-of-concept and Kalium producing product this quarter and set to transport product from July will provide that," Paterson said. "I'm confident Kalium will get through this, it has just taken longer than expected. It is a new project, using new processes and new technology and it is entirely dependent on the weather and the impact that has on your chemistry. We are not used to operations like that in Australia."

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The most frustrating thing for the potash juniors is that the SO₄/Kalium drama has prevented them from making an entrance on the rampant international SOP stage.

Prices have climbed from around \$US500/t to more than \$US1,400/t over the last 12 months on the back of increased demand and faltering supply following the implementation of sanctions against Russia and Belarus, two of the world's largest potash exports.

The strength of the international market has Agrimin Ltd managing director Mark Savich convinced the sector will be able to shake off its current malaise.

"The SO₄ and Kalium situation has produced some short-term negative sentiment from Australian investors but eventually it will just be remembered as a blip on the radar," Savich told *Paydirt*.

"In the global SOP market, we are looking at the highest price ever seen in history and the medium and long-term supply is tight and demand very positive. Ultimately, that's what will carry the industry through – strong fun-

damentals based on more SOP production needed to meet demand."

Savich believes the tide began to turn even before Kalium announced its processing breakthrough. Agrimin raised \$10 million in January to fund FEED and other studies at its Mackay project in WA. That came after the company nearly doubled its share price over the course of six weeks in March and April.

"The share price has been very strong and I think people now recognise the difference in our approach," Savich said. "We feel pretty good about where we are."

For Shackleton, the saga may have led his company to be blown off course, but the final destination remains the same.

"We keep working harder than ever before," he said. "The strategy is the same as it ever has been, we know what the resource is, what the development strategy, what the offtake will be. We know all those things."

"Our capex estimate was criticised as too



Keren Paterson

high but SO₄ has now exceeded it and Kalium is up to the same level. We came out of it right. If anything, the lesson learnt is to get ahead of the bullshit.

"Our project has had two independent technical reviews and passed with flying colours. We can't do any more on the technical side. We have de-risked it by developing 20 of the 74 bores we will need, so we know

Government slaps SOP with high five

Western Australia's nascent sulphate-of-potash (SOP) industry has lost its battle for discounted royalty rates, with Minister for Mines and Energy Bill Johnston confirming a 5% royalty would be applied for the fertiliser product.

The sector had been hopeful the State Government would consider the SOP material a final, refined product – thereby qualifying for a lower rate – but Johnston said all advice had been to stay with the standard concentrate rate of 5%.

"I'd been consistent in dealings when individual companies said they would have trouble paying a 5% royalty," Johnston told *Paydirt*. "I asked for a review and the department strongly recommended 5% be applied. Further conversations were led by AMEC, arguing the cost structure was unique, the department reviewed it and again strongly recommended a 5% royalty. So, as far as I'm concerned, we have settled the issue."

Association of Mining and Exploration Companies (AMEC) chief executive Warren Pearce told *Paydirt* the decision threatened the future of an industry which has already experienced major challenges during its formative years.

"In a sense the Government has underestimated the challenges of getting an industry up," Pearce said. "It made its decision on the idea of these being long-life projects, but you have to find investors in the first place to fund the projects. A 5% royalty makes a pretty big difference for investors and we have already seen the two companies at the front of the sector have the usual struggles."

Australian Potash Ltd managing director Matthew Shackleton believes the Government has made a mistake in its definition of the SOP product.

"They have been advised the product is a concentrate – I've had treasury telling us it is a concentrate – it is not, it is an end product, the customer doesn't do anything to it before applying it directly to crops.

So, they have levied the wrong royalty rate on us."

The debate appears to have been muddled by advice AMEC and Shackleton say came from within the Mines Department suggesting the royalty rate would be applied at 75c/t.

"As an industry we put a paper to the Minister saying we were not expecting that," Shackleton said. "We think a fair calculation, using their methodology, should be 1.5%. So, we said we would meet them halfway at 2.5%."

Trigg Mining Ltd managing director Keren Paterson agreed, saying the royalty decision could impact on WA's ability to build a new industry.

"We have an opportunity to develop our own supply of a clean product," she told *Paydirt*. "This doesn't make sense, especially given the complexity and capital intensity and the fact it takes time to establish these projects."

In response, Johnston said the WA Government had already made several concessions to help the industry get on the development path.

"Industry approached me when I was new in the job, first about the mining tenement rent rate because of the large footprint these projects have. So, we came up with a bespoke arrangement consistent with the law," he explained. "After that, we discussed relief on the mine rehabilitation fund because the environmental impact was less than hard rock mines and these are long-life mines. So, we came up with regulations which equated to tens of millions in relief. Now, they have come back again to discuss the royalty."

"In the end, the royalty is not going to be what changes a project's viability. Given the price is around \$1,000/t, clearly there are other issues regarding the viability of those projects. That is what the department emphasised to me and I'm certain it will be a successful industry that adds to the complexity of the economy of WA."

For Pearce, the higher rate could stop the WA potash industry before it gets started.

"It's all good talking about benefits out to 2050," he said. "But if we don't build the projects, none of that will eventuate."

– Dominic Piper



The explorers emerging behind Kalium Lakes are hopeful production issues at Beyondie are resolved to bring greater confidence in the entire sector

what the resource can do."

Shackleton likened the current potash scene to the lithium sector of 2018-19.

"When Ken Brinsden took over at Pilbara Minerals [Ltd] the market nearly crashed but they and a few others kept themselves going and eventually lithium took off," he explained. "They are now multibillion dollar companies."

"SOP is going through a similar price rally. In our financial models we used a \$US550/t price for SOP. At this moment, you can't buy SOP at all in Australia and in the US we saw a trade the other day at \$US1,400/t. If it hadn't been for the SO4/Kalium situation, I honestly believe our market cap would be \$400 million by now."

Trigg is employing a similar approach at Lake Throssell where it is busy building on the success of a scoping study released last year.

"We are learning from those before us and being much more efficient with our use of capital," Paterson said. "We are still a way from FID, and we continuously work on the resource to convert it to reserves for the PFS. We are also spending time investigating our natural endowment and how we can optimise it."

"SOP production is not a closed process, putting brine into a pond does take a long time," Paterson said. "Each brine behaves differently, and you need to understand how your brine works in your climate."

At Agrimin, similar work is occurring as

the company tries to iron out the problems presented by nature which have seen SO4 and Kalium come unstuck.

"The evaporation ponds are critical," Savich said. "That decides whether you can produce high-grade salts and make sure you have enough capacity to counter for weather. You are not designing a project for a perfect day; you are making sure it can perform consistently when the weather is not favourable."

Agrimin has made perhaps more pro-

gress than any potash company in the last six months, completing the capital raising, starting FEED work and signing binding offtake agreements for 70% of its SOP production.

Savich said the offtake agreements - with Chinese group Sinochem Fertiliser Macao Ltd, Latin America-focused Niron Group and US-centric Gavilon Fertiliser - were particularly important.

"Offtake is a really big milestone after two years of negotiation for 70% of product with excellent counterparties," he said. "The challenge is that distributors play a really important role in China and US SOP markets. Distributors need to have all the infrastructure in place, importing, logistics routes, etc. to get to the customer. So, having an offtake partner with the best infrastructure is crucial as it allows for a broader range of end-customers. And, given the scale of the project, we need that scale of partner."

"We have been cautious and guaranteed a lower spec in the offtake contracts. We are confident we can produce the higher-quality soluble product but to say that up-front before you start production is quite risky, we believe."

Back at Beyondie, Jubber is confident his company's performance can lead to a sector revival.

"The issues around SO4 and Kalium have cast concerns about the viability of the WA potash sector but the concept of extracting brine and producing salts and SOP has been proven elsewhere in the world," he said. "The challenge is to do it in a way which is aligned with the Australian operating circumstances."

- Dominic Piper

Agrimin is perhaps the most advanced of the next group of potash hopefuls, having already started FEED work and signed binding offtake for 70% of proposed SOP production

