

# QUARTERLY UPDATE TO SHAREHOLDERS

## Calendar Q3 2023

The quarter featured some key milestones for the Company, notwithstanding some significant challenges. Firstly, we took our Direct Lithium Extraction (DLE) technology beyond the 300-cycle mark for the first time. In addition, we welcomed investment from highly-respected resources investor Tembo Capital, as their first foray into lithium. We also welcomed highly-experienced director Richard Crookes to the board as we navigated a challenging reporting season. Colloidal-silica market volatility and softening of demand has put our silica business under pressure as we seek to manage the balance of production, inventory levels and operating costs. Following the completion of design, the fabrication of our North American lithium pilot plant is now underway with the expectation of pilot testing commencing early in the new year. As we go to print, Toronto-based professional director Lisa Riley has joined our board, aligned with our strategic push into North America, and this brings our board back to full strength.

Maturing our DLE technology will be essential for the future of the Company. The sector is gaining momentum as the potential of North America lithium-bearing fluids begins to be more widely appreciated and we believe that the investment climate for leading DLE companies will improve markedly in 2024. Our ability to be successful on the low to moderate grade lithium brines prevalent across North America will be key to our future growth and success.

We have worked hard this year to prove that the Company has a compelling DLE offer, through testing of a wide range of brines from various countries. As we move towards pilot testing, we are working to ensure that we do piloting work for a range of different parties, both to prove the wide adaptability of our technology to different fluid chemistries and to create a broad suite of further opportunities.

This quarterly update has been prepared by Geo40 Limited (Geo40) for the information of our shareholders.

It contains summary information about Geo40's recent activities, but is not a comprehensive review.

Geo40 has taken all reasonable care in preparing this quarterly update. In particular, any third party information has been taken from sources Geo40 reasonably believes to be reliable, and any forward-looking statements have been based on reasonable assumptions about future matters. However, Geo40 does not warrant the currency, accuracy, reliability or completeness of the summary information provided, nor guarantee the achievement of any forward-looking statements and forecasts.

You are welcome to share this update with your professional advisers and with interested third parties – and welcome, at any time, to contact Geo40 if you have questions about it. Please note, though, that the quarterly update is not an offer, invitation or recommendation to any person to subscribe for, buy or sell Geo40 shares, and does not set out all the information that a person should consider when deciding whether to invest in, buy or sell Geo40 shares. Accordingly, it should not be relied on by any person in making an investment decision.



## OPERATING PERFORMANCE

As a function of the weakening we have observed in global colloidal silica markets, inventory on site at Ohaaki peaked during the quarter with around three months' production in storage. As a result of this, and in order to preserve cashflow, we have temporarily halted colloidal silica production at both our Northern and Ngawha plants. This has created the opportunity to embark upon a number of plant refinements and overdue repair and maintenance tasks, most of which have now been completed.

As noted, whilst inventory peaked at around three months' production, a combined function of a temporary plant shut and ongoing sales means that this balance is now more sustainable at around two months. The demand for specialist products will also require plant restart; in coming months we anticipate a first order for an ion-exchanged specialist colloidal silica product, for which technical acceptance work has been ongoing for over 18 months. This is a special-run product for which our production cost will be notionally higher than normal, however market pricing is substantially higher than for more routine products, resulting in improved margins. These kinds of specialised products enable our sales team to meet the market in other more price-competitive sectors.

Once the plant is restarted, we also plan to make a new product for the paper industry, for a large-scale offshore trial. The months ahead will feature a careful balance between incurring operational costs to run assets and managing inventory to ensure we can supply demand as and when it re-emerges. In the meantime, our operational staff are supporting our piloting work on lithium, as well as local field trials in soil grouting, keeping the team busy.



## R+D – ADVANCING OUR DIRECT LITHIUM RECOVERY TECHNOLOGY

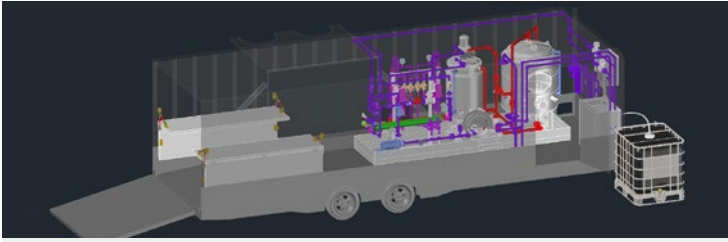
We have continued to mature our DLE technology. During the quarter, we completed 300 cycles with the same sorbent, and we have been able to demonstrate at pilot-plant scale, very low sorbent loss with each cycle over a sustained number of cycles. This is important in terms of the role the sorbent might play in the operating cost of a scaled-up project, and in ensuring that our reagent losses back into groundwater are minimal, thereby further enhancing our environmental credentials.

As we advance, we are focused on three key areas. The first is the pre-treatment of the variety of chemistries known to characterise the brines in our target North American market, where the brines typically contain a range of hydrocarbon residues and other minerals and non-condensable gasses. Some 'clean-up' of these constituents is likely to be required for DLE to be successful on these brines. Having the adaptability to pre-treat the range of fluids encountered will be key to project success and extraction economics, and will feature heavily in our 2024 North American on-site piloting work.

The second key task is the derisking of the engineering scale-up we face as we move beyond our current pilot phase. We are now running trials around how we can make the front-end of our DLE process continuous rather than batch, as well as trials on large-scale dewatering.

The third important thematic is the writing and filing of a broader suite of provisional patents covering our DLE process. Whilst with colloidal silica we have been able to find a balance between patent protection and retention of significant trade secrets, the greater likely eventual congestion of technologies in the lithium sector has led us to tilt our intellectual property strategy further towards increased patent protection. We are filing these as fast as we can develop the experimental evidence that the filings require, and as a result, we anticipate filing five new provisional patent applications in the coming months.





## LOOKING FORWARD TO OPPORTUNITIES TO SITE-DEPLOY OUR LITHIUM TECHNOLOGY

While our DLE work in New Zealand remains key in further validating the core chemistry and derisking scale-up, the most exciting element of our lithium programme is the transition to on-site operations in North America. As we have noted before, we believe we have a technical and commercial edge in the recovery of lithium from low to moderate-grade brines found in North America. Only two discrete regions in the USA appear to contain high-grade brines (a particular geological formation in Texas and Arkansas and the inland Salton Sea in California) with vast low-to-moderate grade opportunities in both the wider USA and Canada fast emerging.

We are currently building two mobile assets in the USA; a brine pre-treatment unit, and a DLE test rig. We hope to commission both assets around Christmas for deployment in the new year. We are planning to do piloting work on a range of sites (covering a variety of brine chemistries) across North America, and we look forward to sharing more detail on our deployment plans with you shortly. Initially, due to winter temperatures in the USA, the piloting work might be carried out indoors, moving onto a site once the weather warms. A key objective of this work is to study the combination of cost-effective pre-treatment and our DLE process, as this will inform the economics of future projects. This piloting work will be pivotal in our gaining broader exposure in our target geography.

The lithium-from-brine sector is evolving fast. Every month we meet new parties who have secured access to lithium-bearing brines. While all need a compelling technical solution for lithium extraction, the challenge for those with low-to-moderate grade brines is the most acute. We are also starting to see the emergence of new types of actors in the sector. While the junior explorers have dominated to date, we are now seeing oil and gas service companies and even oil and gas majors seeking exposure to lithium. For us, we believe this will result in a desirable wider range of potential business models.



## SALES AND MARKET DEVELOPMENT

As we indicated in the Q1 update, 2023 began with signs of instability in global colloidal silica markets. As the year advanced, we observed significantly increased volatility alongside an overall downward trend in demand, with many of our key customers failing to order the volumes they earlier indicated they would purchase. Compounding this has been a deterioration in the pace at which potential customers work with our products to obtain technical acceptance (which must occur before sales can be crystallised).

We have some current customers and new potential customers we hope to on-board over the coming months that will drive our return-to-production timing. A key sector here, where we are already well-qualified, is permeation grouting associated with tunnelling projects, where colloidal silica demand is driven by project timing. We are also applying the same logic of using colloidal silica as a soil grouting agent to develop opportunities closer to home in New Zealand. Significant flooding on New Zealand's east coast has created a massive remedial works programme, where we believe our colloidal silica can play a useful role. As we go to print, field trials are advancing.

As market demand deteriorated through the year, we sent out over twenty fixed-price (discounted) product offers to current and new customers, both to test whether we are being beaten by competitor discounting in a tight market, and to stimulate demand in new markets. A handful of these look as though they will result in new orders, but the process has largely validated for us, that whilst market demand has softened, pricing has remained relatively strong. This bodes well for the sector as demand recovers.

We are delighted to advise that as we go to print, the Environmental Product Declaration (EPD) for our main colloidal silica product is now complete. This is much in demand amongst our customers as decarbonisation of supply chains continues to gain momentum. While we don't believe a low-carbon footprint such as ours will be rewarded with a price premium for now, this collateral will certainly help us achieve greater penetration into existing and new markets.

## FINANCIAL, SECRETARIAL AND THE FUTURE

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### Getting our colloidal silica business back on track

Our journey to plant profitability, in respect of our colloidal silica assets has suffered a setback this year with very soft global demand. We need to continue to push into new markets in order to get our assets back up and running as quickly as we can and in turn, getting back on track to plant breakeven, and eventually, plant profitability.

The current uncertain sales landscape caused our auditor to require the impairment of the Northern Plant asset in our year-end accounts. While we contended (based on our customers' commentary) that we expected silica market demand to rebound in 2024-25, audit standards require that cash forecasts (based on current sales revenue and operating costs and cash deficit) be used to determine the economic benefit of the Plant – the result being that the Northern Plant was impaired to nil. If, as we expect, sales of silica increase, and a positive cash return on the Plant is achieved, then the impairment might be reversed in part in future years. Unfortunately, the somewhat short-term view of "economic benefit" required by the audit standards does not fit well with a company involved in developing world-first technologies and a long-term productive asset.

### Moving into the field in lithium

Getting lithium assets into the field in North America will be a very significant step forward for the Company, both technically in proving that our DLE technology can address different fluid chemistries, but also in terms of the visibility this will attract.

We are seeing an increasing number of opportunities to deploy our nascent lithium technology. Importantly, we are seeing appetite from a range of different players, from typical junior explorers, to mid-stream oil and gas service providers to the oil giants themselves. This in turn creates potential for a range of different commercial opportunities with differing attendant capital needs. This potential flexibility is expected to be very valuable as we move forward.

We will report on our efforts to secure new capital, as soon as these crystallise.

### Capital and Equity Value Management and Governance

As we highlighted in the Q1 Quarterly, equity markets have proven to be very challenging this year. While lithium pricing

has rebounded strongly from a late 2022 low, lithium company valuations have generally deteriorated through the year. The DLE part of the sector remains largely unproven at scale and we hear that some of our contemporaries are struggling to attract investment.

For potential capital investors, whilst many show interest in DLE, very few have proven to have the technical capability to understand the sector and crystallise investment deals. We first started engaging with Tembo Capital about the potential for DLE in North America in 2021; their investment in us is testament both to their investment of time in the sector and their belief in us as a technology developer. We expect other investors will get to the same place in 2024-25.

As we make a strategic push into North America, we do so with a refreshed board with direct and relevant exposure there. Richard Crookes, who joined us in July, has been involved in strategic metals projects in the Americas for many years, and we are thrilled that Toronto-based investment banker Lisa Riley has also just joined our board. We are already benefitting from their influence and networks in North America.

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While recent months have been tough, we have advanced significantly in lithium and we're working to get back on track in colloidal silica. As we penetrate new silica markets and as markets recover generally, we know we can do this. Getting out in the field in lithium on the back of Tembo's investment will certainly mark a new era for the Company.

Our key job over the months ahead is to execute well, both at home and in North America. The team is hugely motivated by the challenges ahead, and the Company's "strategic-minerals-from-brine" offer has never been more relevant.

As always, I thank you sincerely for your support and belief in us.

Ngā mihi mahana.

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