

# Chatham

Rock  
Phosphate™



## Quarterly Update

11 July 2016

### 3.7 million thank-you's

We've achieved some very satisfying milestones during the first half of 2016. The highlight has been raising sufficient new capital to continue to progress our projects for the 15 months.

Our recent share purchase plan seeking \$600,000 was oversubscribed. Thank you everyone who subscribed, many sticking with us for several years and continuing to share our faith in our ultimate success.

We've also made various share placements to qualified investors (new and existing) over recent months and are also delighted to have new cornerstone shareholders from Malaysia, Switzerland and Germany.

Since the initial rejection by the Environmental Protection Authority of our marine consent application in February last year we have raised \$3.7 million – despite our share price having been slaughtered.

While we've had to dilute some existing shareholders to keep Chatham functioning by raising capital at much lower prices, we believe preserving some value and delivering on our goals will ultimately produce strong returns for all shareholders.

Our ability to raise money against the odds underscores the fundamental attractiveness of the Chatham Rise project and the perceptiveness of our ever-enlarging shareholder base. Directors and management interests, along with our two new cornerstone investor groups, now each hold about 13%

of the company.

The present share price of 0.9c values Chatham at \$7.24 million – a sixth of our market value in February 2015. We believe Chatham is now in a stronger position than it's ever been due to the knowledge gained during the marine consent application process.

### Takeover Offer

Chatham continues to work with Antipodes Gold to complete the takeover offer to enable a listing on the Toronto Stock Exchange, hopefully in September.

Antipodes shareholders approved the proposed reverse takeover of Chatham, and we've now secured funding to operate until September 2017, are in the process of securing approvals from various authorities, developed large wads of documentation and so are now about 95% of the way there. We expect offer documents to go out within the next few weeks.

Together with the Antipodes shell we inherit some funds associated with the merger, a Toronto director, 1,003 resources-sector shareholders in a number of countries, and a Canadian corporate support structure. This merger will strengthen Chatham, complement our New Zealand listing and provide new opportunities for existing Antipodes shareholders.

### Recommending Chatham shares

During our capital raising we met with Geneva based investment banking firm RAMPartners SA whose analysts prepared an independent research report, which is now on our website.

Key points include a buy recommendation with a price target of 50c compared with the current market price of 0.9c. RAMPartners project value of \$472 million makes assumptions relating to the market price of rock phosphate, Chatham's production costs and relevant currency interactions. It includes a detailed examination of the permit risk Chatham still faces and the evolving factors mitigating this risk.

Encouragingly the valuation also concludes our management team "has the necessary skills, ability, devotion, focus and skin in the game" to make our project work. The full research report is available to review on our website.

### Acceptable impacts

Chief Operating Officer Ray Wood told the Marine Sciences Society this week regulators must decide on acceptable impacts if New Zealand is to achieve social, economic and environmental goals. Society must

accept some development but minimise environmental impacts. Science helps society deal with uncertainty and decide on acceptable impacts.

He said environmental concerns highlighted by the EPA marine consent process were mostly allayed or more clearly defined through caucusing between interested parties and Chatham. Experts agreed mammals, sea birds, major fish stocks and primary productivity were unlikely to be affected, uranium was not an issue and water toxicology effects would be very low.

Even after that, the decision-making committee interpreted the results differently, declining the application based on perceptions of damage to the benthic (sea floor) environment, modest economic benefits compared to environmental effects, proposed adaptive management measures not addressing concerns and a requirement to favour caution and environmental protection.

We think the committee didn't understand or trust the numerical modeling of either the plume (created during the mining process) or of benthic communities and so didn't believe the proposed conditions could address the adverse environmental effects through adaptive management.

Science can predict environmental effects, through the laws of physics, chemistry and biology. Regulators want to minimise uncertainty by using the precautionary principle and adaptive management. But that shouldn't result in paralysis by analysis, if risk thresholds are agreed, monitoring is adequate and operations stop if thresholds are exceeded.

The EPA has guidance to deal with risk and uncertainty under the hazardous substances law, but there is nothing equivalent in the Exclusive Economic Zone Act.

Uncertain outcomes shouldn't be enough to deny permission for projects to proceed; they can be managed by agreeing risk thresholds.

Absolute effects and benefits are probably never known but probable maximum, minimum and likely effects and benefits are known. Science can reduce uncertainties by improving knowledge of risks and predicted effects and adaptive management reduces uncertainties through learning from outcomes.

The committee didn't accept Chatham's proposed conditions proposed because the members appeared unwilling to risk any environmental impact.

### **Operational Focus**

Chatham will be reapplying for a marine consent following further consultation with stakeholders, a potential revision of the project and further research on some scientific issues. We're also:

- Working with government ministries on improving the permitting process
- Observing Trans Tasman Resources' advance towards reapplying for a marine consent
- Developing trading relationships with participants in the phosphate sector
- Sourcing on-shore rock phosphate deposits
- Building farming sector, academic, industry and central government support for the use of Chatham rock phosphate as an environmentally friendly product
- Commissioning further pot tests to be followed by field trials
- Trying to resolve the fee dispute with EPA (the Office of the Ombudsman has agreed to investigate the EPA charges)
- Pursuing a refund of overcharged mining permit fees with New Zealand Petroleum & Minerals
- Presenting at fertiliser, resources sector and environmental conferences.

Both we and the EPA have learned a lot from our initial consent application. We're confident this will result in improved application and hearing processes and we'll resubmit an even better application to robustly deal with the issues on which we were rejected.

### **Back at PDAC**

For the 12<sup>th</sup> year I attended Toronto's Prospectors and Developers Association of Canada convention, the world's largest minerals investment and trade show. Investor interest was more focused given Chatham's impending Canadian listing.

We had a speaking slot and a prime spot exhibition booth, and spoke to dozens of new and old contacts during the four-day event.

### **Chatham rock phosphate's many benefits**

We continue to believe the Chatham Rise project remains hugely valuable for all the same reasons:

- ✓ Environmental benefits
  - much lower run off to lakes and rivers
  - very low cadmium
  - much lower carbon footprint
- ✓ Security of fertiliser supply for farmers
- ✓ An ethical source – New Zealand's main source of phosphate is from a disputed territory
- ✓ Highly profitable – forecast annual earnings of \$90 million before royalties and tax, with low mining costs - equivalent to shipping cost
- ✓ Good for New Zealand:
  - \$34 million in annual taxes and royalties
  - millions in port charges

- high-value, knowledge-based jobs in the port, on the mining ship, doing environmental monitoring and scientific research, in agriculture and hospitality and the Chatham Is
- New Zealand could become a world leader in marine technology and expertise potentially worth billions of dollars
- Our work at sea enhances knowledge of our marine environment to help identify areas most deserving of conservation.

For all these reasons we remain puzzled by environmental groups which, through opposing our Chatham project, condone New Zealand importing all our phosphate needs, so exporting our environmental footprint to countries mining phosphate where it involves severe social and environmental distress.

### **Helping save our rivers**

In following the dialogue about water quality in rivers and lakes and the escalating concerns about nitrate and phosphate run-off, we remind stakeholders about the environmental benefits of Chatham rock phosphate. To tease out a few points:

- Reactive phosphate rock when applied directly to the soil binds in a manner is both a very effective fertiliser and can reduce the runoff of phosphate to waterways with up to 80% less finishing in the waterways when it rains heavily.
- Cadmium levels in many New Zealand soils are at unacceptably high levels after decades of applying phosphate fertiliser from Nauru. Local manufacturers keep cadmium levels in phosphate fertilisers under 280 parts per million. Because rock imported from Morocco (our main source) can be so high in cadmium, it needs to be blended with rock from other countries. Chatham's cadmium levels are about 20 parts per million so is potentially valuable as a blend for manufactured phosphate fertilisers.
- While every kilo of phosphate based manufactured fertiliser applied to New Zealand soils generates carbon emissions of 216 grams, Chatham phosphate emissions are estimated to be a quarter of that, mainly due to much lower transport related emissions.
- Chatham rock phosphate applied directly to the soil contains elevated calcium, critical for plant root development and nutrient uptake as well as improving soil structure and enhancing microbial life cycles. Extensive independent field trials

demonstrate Chatham rock phosphate is, over time, as effective a fertiliser as superphosphate.

### **Stakeholder Focus**

We're focused on building support from stakeholders including farmers, reminding them our product is both a green option and one that could save them money; requiring less-frequent application and with high liming characteristics.

To learn more about the issues facing the farming sector our executive team attended a seminar hosted by Abron and the Hawkes Bay Regional Council on how changes to fertiliser application and pasture management can improve a farm's resilience, environmental footprint and financial performance, and the changing requirements to document farming practices and their environmental impacts.

Abron offers a fertiliser system designed to increase pasture and crop yields, produce healthier soils, and reduce environmental impacts. As Chatham becomes involved in sourcing and marketing fertiliser products, especially rock phosphate intended for direct application and, we're building relationships with the ultimate users, distributors and manufacturers of these products.

This strategy is being implemented now, before we develop our Chatham deposit, using our in-house expertise, because there's a clear and increasing demand for more environmentally sound products.

### **Soil and water quality**

On that basis, we've argued the government should research the effect fertiliser use has on waterways. Crown Research Institutes and universities are looking to identify contaminant flow pathways and dilution processes in soil and water to help make better land management decisions and reduce environmental impacts.

We've said it would be logical for the scope of this research to also consider the important role fertiliser plays in affecting both soil and water quality.

The research could show how using Chatham rock phosphate as a local organic solution for New Zealand farms could help improve the quality of soil and water.

### **Annual General Meeting of Shareholders**

We hope to see you at the 2016 AGM, being held at 5pm on Tuesday 26 July at BDO Wellington on Level 1, Chartered Accountants' House, (previously the Tower building), 50 Customhouse Quay, Wellington.

**Chris Castle**

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