

Optimisation Success Leads to Further Significant Reductions in Leach Time and Acid Consumption

Highlights

- ▲ Latest results from optimisation testwork on Rhyolite Ridge lithium-boron mineralisation clearly shows that **vat leaching provides major advantages over heap leaching**:
 - **Significantly faster leach times** of less than 7 days - a reduction of more than 50%
 - **Lower acid consumption** of less than 400 kg of acid per tonne of feed – a reduction of more than 15%
 - **Higher lithium and boron concentration** in Pregnant Leach Solution (“PLS”) reduces mechanical evaporation requirements
 - Faster, more selective leaching means **lower levels of other elements** in the PLS
 - Continued **high recoveries to PLS** – greater than 90% for both lithium and boron
 - Preparation for vat leaching **requires only a coarse crush** of 25mm
 - No grinding, agglomeration, high temperature or high pressure required
- ▲ The overall impact of these positive results is that **vat leaching is likely to further reduce capital and operating costs** from those anticipated for heap leaching
- ▲ Amec Foster Wheeler has completed Phase 1 of the Pre-Feasibility Study (“PFS”) with results to be reported later this month
- ▲ Global’s Rhyolite Ridge is the only lithium deposit in the world that has been demonstrated to be amenable to simple acid leach processing, reinforcing it as an economically viable alternative to spodumene and brine deposits as a major, low-cost and long-term source of lithium

Thursday, 3 May 2018 – Australian-based lithium-boron mine developer **Global Geoscience Limited (“Global” or the “Company”) (ASX: GSC)** today announced the results of its latest acid-leach testwork from the 100%-owned Rhyolite Ridge Lithium-Boron Project in Nevada, USA. The latest vat leach testwork has shown that over 90% of the lithium and boron was extracted into solution in less than seven days. The significant decrease in leach time, acid consumption and solution requirements are expected to result in lower capital and operating costs than previously envisaged.

Global Geoscience’s Managing Director, Bernard Rowe commented:

“The latest vat leach results represent a significant improvement on already favourable acid-leach results and clearly demonstrate the advantages that vat leaching offers.

“The rapid leach times, lower acid consumption and lower solution requirements are expected to have a very positive impact on both capital and operating cost estimates.

“The results bode well for the soon to be released trade-off studies being undertaken as Phase 1 of the Rhyolite Ridge Pre-Feasibility Study.

“Sulphuric acid will be the largest reagent cost and reducing acid consumption will have a very positive impact on operating costs.

“Vat leaching allows for much greater control of the leaching processing resulting in faster, more efficient and targeted leaching when compared to heap leaching.

“With a vat leach, we can control temperature, acidity (pH) and solution flow rates and this provides significant advantages over heap leaching. This control allows a more selective leach which recovers the lithium and boron, however, does not leach as many of the other elements into solution.

“Lower levels of other elements in the PLS has the benefit of simplifying the crystallisation and purification process steps. On-going metallurgical testwork is concurrently evaluating various attractive options to produce lithium carbonate and boric acid on site.”

Vat Leach vs Heap Leach Comparative Information

Ongoing metallurgical testwork conducted by Kappes Cassiday (Reno) has further demonstrated that simple, low-cost acid leach processes can be used to extract lithium and boron at high recovery rates into a Pregnant Leach Solution (“PLS”). Lithium and boron can then be removed from the PLS through a combination of mechanical evaporation, crystallisation and purification steps to produce lithium carbonate and boric acid at the mine site.

The table below compares the key results announced today (Vat 3 and Vat 4) against previously announced Heap Leach and initial Vat Leach results.

	Previously Announced Results			New Results	
	Heap Leach Column 2	Heap Leach Column 4	Vat Leach Vat 1	Vat Leach Vat 3	Vat Leach Vat 4
Crush	-150mm	-38mm	-150mm	-25mm	-25mm
Lithium Recovery to PLS	90%	97%	92%	>90%	>90%
Boron Recovery to PLS	88%	98%	80%	>90%	>90%
Leach Time	41 days	15 days	39 days	<10 days	<7 days
Acid Leach Solution	10%	10%	15%	pH controlled	pH controlled
Acid Consumption (kg/t of ore)	413	485	446	380	435

Column and Vat Leach Testwork

Testwork was conducted on samples collected from outcrop (424750E, 4185750N NAD27 Z11) within the Rhyolite Ridge Mineral Resource. The samples are considered to be representative of the high-grade lithium-boron mineralisation across the Resource.

The Company announced the results of column and vat leach testwork on 12 December 2017 and on 21 February 2018.

The vat leach testwork results announced today are for:

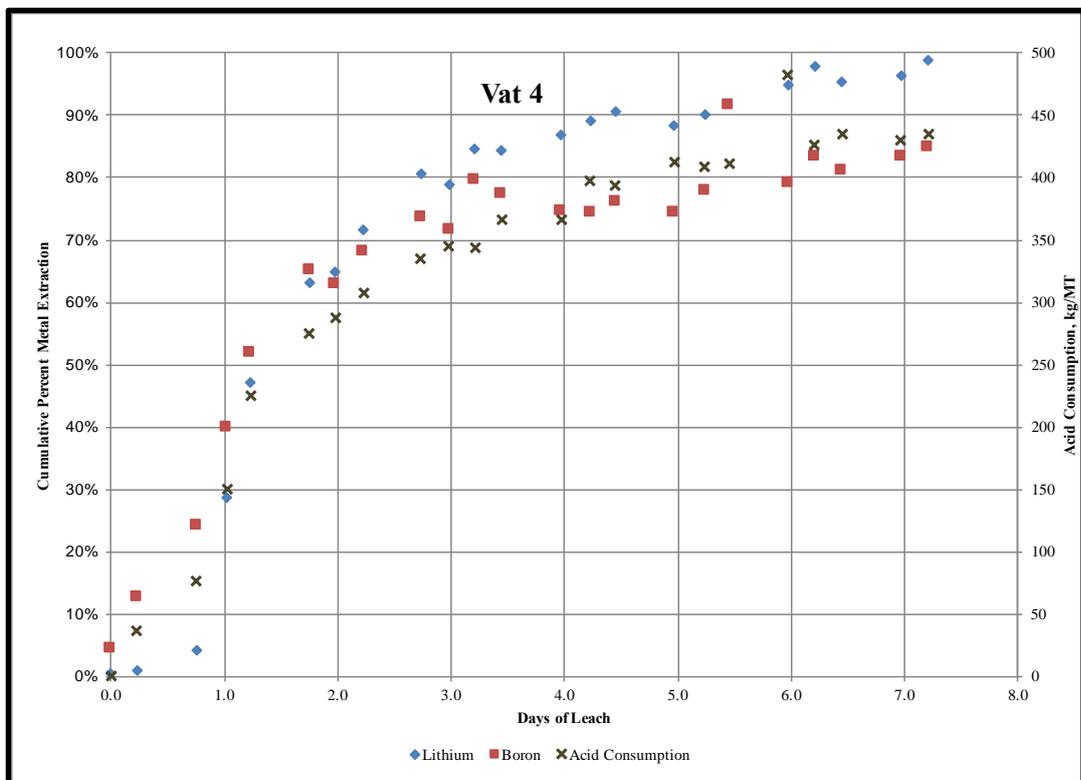
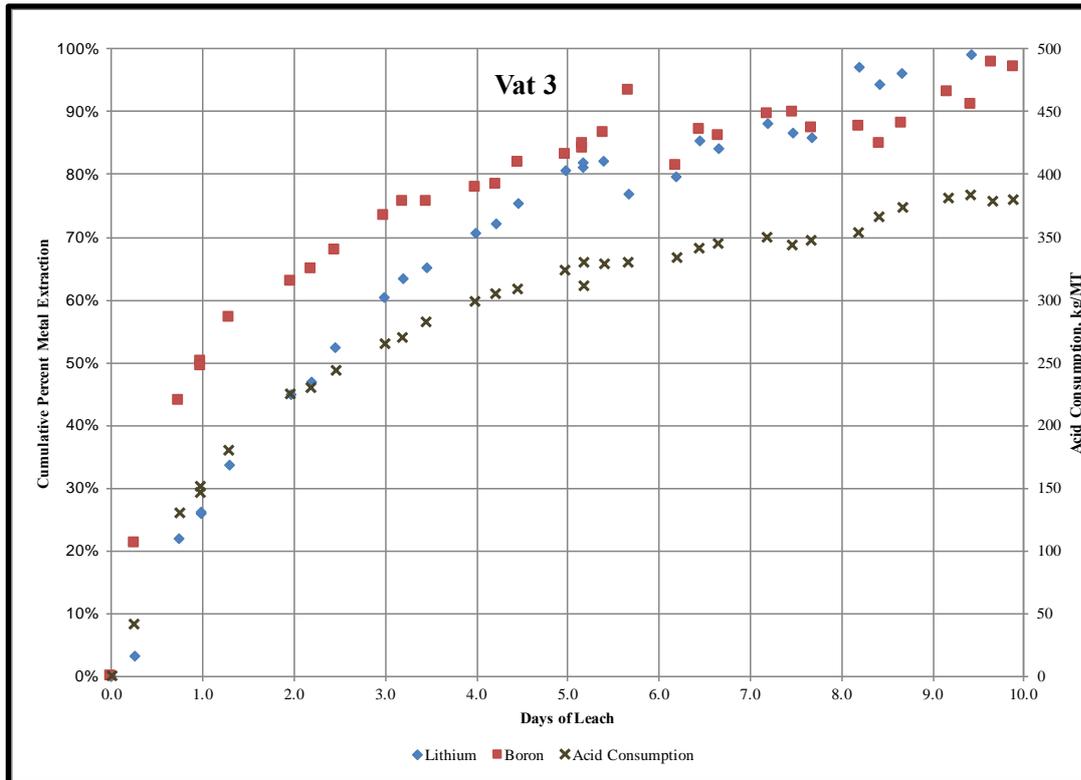
1. Vat 3 test comprising 100kg sample crushed to minus 25mm and leached with solution that is pH and free acid controlled at low upward bed flow rates through the vat
2. Vat 4 test comprising 100kg sample crushed to minus 25mm and leached with solution that is pH and free acid controlled at moderate upward bed flow rates through the vat and at initially higher acid concentration and slightly higher water to feed ratio

Vat leaching allows for much greater control of the leaching process by regulating acidity (pH), temperature and solution flow rates. In tests Vat 3 and Vat 4, crushed sample was loaded into a 56cm diameter heated plastic barrel (vat). The barrel was then flooded with solution comprising a mix of sulphuric acid and water. Additional acid was added to maintain the pH.

The table below compares the heap leach Column 4 tests and vat leach tests.

	Heap Leach Column 4	Vat Leach Vat 1	Vat Leach Vat 3	Vat Leach Vat 4
Sample Size (kg)	58	150	100	100
Sample Head Grade	1,280 ppm Li 2.12% B	1,303 ppm Li 2.14% B	1,103 ppm Li 2.41%	1,103 ppm Li 2.41%
Crush	-38mm	-150mm	-25mm	-25mm
Lithium Recovery %	97	92	>90	>90
Boron Recovery %	98	80	>90	>90
Leach Time	15 days	39 days	<10 days	<7 days
Acid Pre-Treatment	5%	15%	no	no
Acid Leach Solution	10%	15%	pH controlled	pH controlled
Acid Consumption (kg/t of feed)	485	446	380	435

The charts below show lithium and boron recoveries and acid consumption on a daily basis for Vat 3 and Vat 4.



Background Information

In January 2018, Global appointed Amec Foster Wheeler (part of Wood plc) as the engineering and design firm to complete the Rhyolite Ridge Pre-Feasibility Study (“PFS”). The high-grade lithium-boron mineralisation is the focus of the Rhyolite Ridge PFS as it represents potentially the highest value material combined with a low-cost, simple processing route. This is due to the low-clay, low-carbonate and high-searlesite (boron) content of the rock, which make the mineralisation amenable to low-cost acid leaching at ambient temperature and pressure. The proposed flowsheet will allow for the production of lithium carbonate and boric acid at the mine site.

Since the Rhyolite Ridge lithium-boron mineralisation responds extremely well to acid leaching, Amec Foster Wheeler is currently evaluating various processing flowsheets to determine the best route to proceed with in the PFS. The processing routes being evaluated include agitation (tank) leaching, vat leaching and heap leaching. On-going metallurgical testwork is analysing various options for the crystallisation and purification process steps.

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About Global Geoscience

Global Geoscience Limited (ASX:GSC) is an Australian-based lithium-boron mine developer focused on its 100%-owned Rhyolite Ridge Lithium-Boron Project in Nevada, USA. Rhyolite Ridge is a large, shallow lithium-boron deposit located close to existing infrastructure. It is a unique sedimentary deposit that has many advantages over the brine and pegmatite deposits that currently provide the world’s lithium. The Rhyolite Ridge Pre- Feasibility Study is well under way.

Global Geoscience is aiming to capitalise on the growing global demand for lithium and boron. Lithium has a wide variety of applications, including pharmaceuticals, lubricants and its main growth market, batteries. Boron is used in glass and ceramics, semiconductors and agriculture. Global Geoscience aims to develop the Rhyolite Ridge Lithium-Boron Project into a strategic, long-life, low-cost supplier of lithium carbonate and boric acid. To learn more please visit: www.globalgeo.com.au.

Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Bernard Rowe, a Competent Person who is a Member of the Australian Institute of Geoscientists. Bernard Rowe is a shareholder, employee and Managing Director of Global Geoscience Ltd. Mr Rowe has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Bernard Rowe consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.