

## PROGRESS OF LAZIO GEOTHERMAL LITHIUM PROJECT

### HIGHLIGHTS

- STEAM geothermal consultants are completing an updated reservoir assessment over the enlarged Lazio EL application area<sup>1</sup> with the eventual intention of reporting a JORC-code compliant Mineral Resource Estimate.
- Watercycle has reported interim results confirming successful precipitation and 83% recovery of lithium from the synthetic brines formulated to match the brine composition of two historical wells located within the new EL application areas, using its DLEC™ technology.

**Altamin Limited (Altamin or the Company) (ASX: AZI)** is pleased to provide updates on the separate workstreams commissioned on its Lazio Geothermal Lithium Project located 30km north of Rome, that are being undertaken by independent Italian geothermal consultant STEAM Srl (**STEAM**) and UK-based Watercycle Technologies Ltd (**Watercycle**).

STEAM is completing an enlarged and updated reservoir estimate of the expected potential content of geothermal power, lithium and other minerals, within the two granted ELs (Galeria and Campagnano) as well as the four new EL applications (Melazza, Cassia, Sabazia and Sacrofano), collectively referred to as the **Lazio Project Area**.

STEAM will prepare a report following industry guidelines for reporting of energy, lithium, potassium and boron in brine resources with the intention of finalising a Mineral Resource estimate. Their report will be reviewed by an independent Australian Competent Person, however as it will be based on historical base data there is currently no guarantee that the estimate will be JORC-compliant and therefore capable of being released on the ASX platform. Early work by STEAM looks promising, and it is hoped that this workstream will be completed in the first half of 2024.

The STEAM report will also provide specific exploration recommendations to define/grow the resource base and highlight potential development areas. The STEAM team members are highly experienced in the Lazio region and in particular the Lazio Project Area, where some of the STEAM personnel participated in the exploration and production test phases carried out in the 1970s and 1980s by ENEL.

In addition, Watercycle has reported positive results from first-pass laboratory scale testing of their proprietary direct lithium extraction and crystallisation (DLEC™) technology using synthetic brines formulated with the same composition as historically analysed brines from the C1 and C5 wells that are both located within the Lazio Project Area (see Figure 1).

Watercycle successfully precipitated lithium carbonate crystals from the synthetic brine, achieving an 83% lithium adsorption recovery from a single pass, with further potential enhancement through ongoing investigations. The brine was formulated to match the chemical composition of the brines collected during historical well production and is not an actual sample of the Cesano brines, nevertheless it is a meaningful step in the testing of a potential DLE technology that can be applied in the future.

<sup>1</sup> Refer to ASX announcement dated 4 October 2023 titled "Altamin expanding Lithium project footprint 500%"



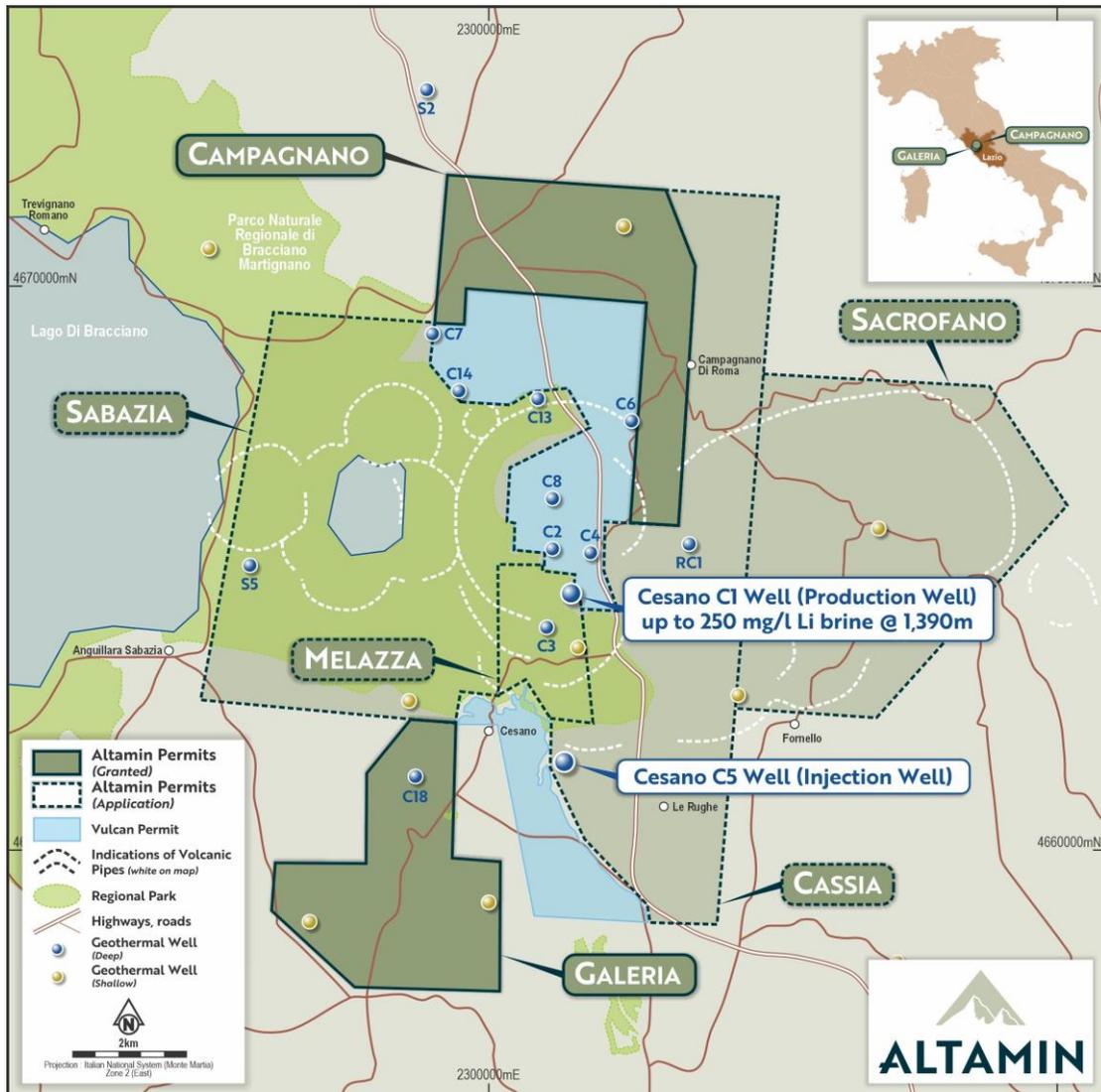


Figure 1: Exploration Licences & New Applications [Source: Altamin]



Figure 2: Lithium Carbonate directly extracted from lab-synthesised brines to match Cesano well C1

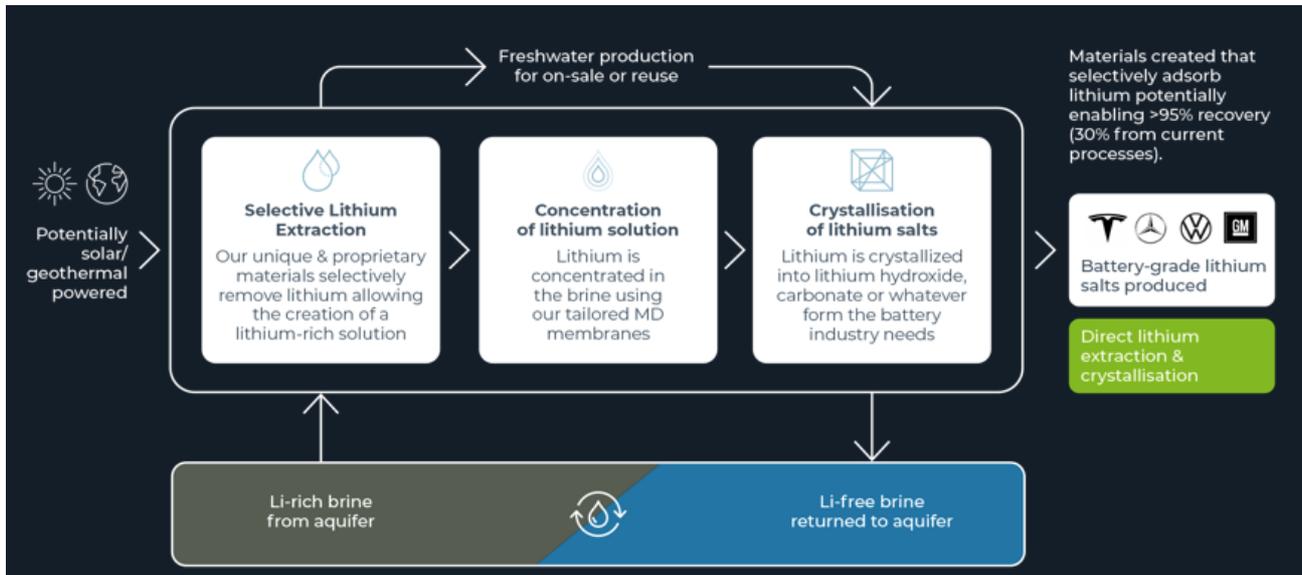


Figure 3: Watercycle's DLEC™ Process overview highlighting the three stages of selective lithium extraction, brine concentration & crystallisation

The successful application of a suitable DLE technology solution at a commercial scale will be a highly desirable outcome in demonstrating the ability to extract lithium carbonate from the geothermal brines in an efficient and environmentally responsible manner, compared to conventional evaporation-based brine processing methods.

The potential production of refined lithium carbonate crystals on-site in Italy would provide a strategic European source of this critical mineral in the supply chain, as specified in the recent EU Critical Raw Material Act, in the face of rapidly growing EU battery production capacity.

**Authorised for ASX release on behalf of the Company by the Managing Director.**

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**About STEAM**

STEAM Srl is an Italian company providing independent professional advice and assistance to both public and private clients worldwide in the field of geothermal energy development. STEAM has been active in the Italian and international geothermal marketplace for more than 35 years, having expertise that covers geological, geophysical and geochemical studies, reservoir engineering, environmental impact assessment, permitting strategy, process engineering, and power plant design.

STEAM and its staff have been involved in several international and national geothermal energy and mineral extraction projects from pre-feasibility to feasibility and design and construction phases. With recent activities including: preparing an ESIA for drilling in Nicaragua, Owner's Engineering in Nicaragua, the Philippines and Kenya (which involved greenfield development and brownfield refurbishment on plants up to 320 MW); the preparation of more than 20 geothermal development projects in different parts of Italy, including obtaining relevant authorizations; and studies of several projects for co-production of minerals and power.

### **About Watercycle**

Altamin have also commissioned respected UK based Watercycle Technologies Ltd (Watercycle) to undertake direct lithium extraction and crystallisation (DLEC™) test work. DLEC™ is a process-platform that can extract lithium and other critical minerals efficiently in an environmentally responsible manner, incorporating selective extraction, brine concentration and crystallisation stages. Watercycle will assess the potential for direct production of refined lithium carbonate crystals on-site, and without the need for subsequent stages of off-shore refining. The Company's patented membranes and systems are being developed and optimised by its UK and international R&D team led by Dr Seb Leaper and Dr Ahmed Abdelkarim to target industries including mining, desalination, agriculture, textiles, and food & beverage. Importantly, the modular technology delivers dramatic reductions in costs and carbon emissions with one of the important by products being fresh potable water.