

# Trelavour Lithium Project Winter 2021/22 update

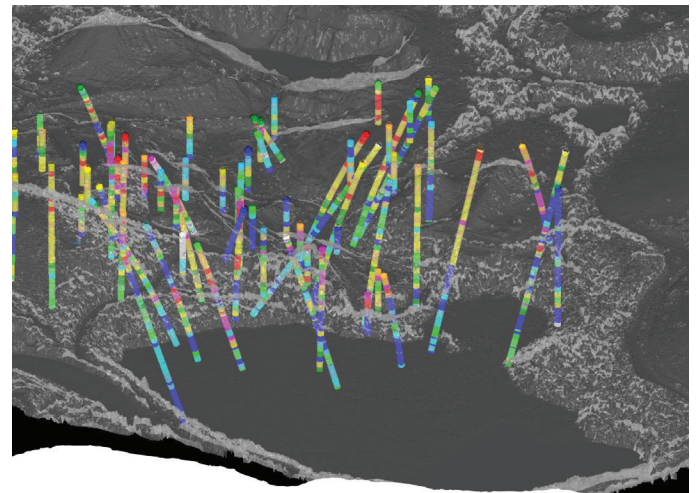
Since our last newsletter in June 2021, Cornish Lithium is pleased to inform you of progress with the studies into the feasibility of there being a lithium extraction operation at Trelavour. We are hoping to carry out a further drilling campaign in Q2 or Q3 2022 to test some of the assumptions made in the geological interpretation to date.

## Cornish Lithium Scoping Study

- Rock core & chip samples from the drill holes completed earlier in the year have been analysed for lithium content.
- Project geologists have interpreted the results and have produced an inferred mineral resource at Trelavour of 51.7 million tonnes of rock containing 0.24%  $\text{Li}_2\text{O}$  (Lithium Oxide), to an accepted industry standard. This is expected to support a mine life of 15 – 20 years.
- The results have enabled the future open pit & supporting infrastructure to be modelled. The mineralization is found from surface down to 140m depth. Rubidium, potassium and caesium may be produced as by-products.
- The conceptual project 'footprint' will inform the scope of further studies needed to better understand the site. These will include evaluating the groundwater regime; rock stability; & any protected species present, for example.
- Preliminary biodiversity Net Gain calculations will be carried out in Q1 2022, based on the habitat mapping and conceptual mine footprint.
- Our local laboratory partners have adjusted the mineral processing technique to improve output & provide samples for characterisation.
- Analysis of both the mica concentrate & the waste material will commence before the end of Q1 2022.
- Other engineering aspects are on track & the Scoping Study is due to be completed in Q1-Q2 2022.

## CLiCCC project

- CLiCCC stands for 'Co-production of Lithium and China Clay in Cornwall' and is a consortium between Cornish Lithium, Imerys and HSSMI, who are a sustainable manufacturing innovation consultancy focused on productivity, upscaling and the circular economy.
- The CLiCCC Project consortium aims to evaluate the economic viability of extracting lithium from minerals that occur in the same rock as kaolin. This could increase the resource efficiency of the mined rock, with the double benefit of making the Cornish kaolin industry even more competitive in international markets, as well as contributing to securing a domestic supply of lithium that is vital to the UK's transition to renewable energy and a zero-carbon economy.
- This feasibility study takes an innovative approach to evaluating cutting-edge lithium extraction techniques and developing new processes to align co-production of lithium with Imerys' current kaolin production.
- The first stage of hand auger sampling of the tips & other sites has been completed and Cornish Lithium together with Imerys have begun a second round of sampling. The edges of the Hendra mica dam were sampled with a long-reach excavator,



as well as dredge samples from the Parkandillick pit. Some drilling of the tips might be taking place as part of this project in the next few months.

- Imerys production line sampling has started, as well as testwork at local labs to prove that lithium can be extracted from the waste rock material.
- Results are expected to be reported in Q2 2022.

## What's the history of lithium?

In the 1790s on the Swedish isle of Utö, a Brazilian statesman named José Bonifácio de Andrada discovered the first Petalite, a mineral which contained lithium. He was also the first to discover another important lithium containing mineral called spodumene from the same source.

In 1817, Johan August Arfvedson analysed the petalite further and realised it contained a previously unknown metal, which he named lithium. However, it wasn't until 1855 when Augustus Matthiessen, a British chemist, was able to isolate the lightest known metal. Lithium was first discovered in Cornwall in 1864 when saline water from United Mines was analysed by the Professor of Chemistry at Kings College London.

Fast forward to the present day and we find ourselves surrounded by devices powered using small, lightweight and efficient lithium rechargeable batteries. These include laptops and mobile phones, but increasingly electric vehicles and many other digital and electronic devices. It is the use of lithium in electric vehicle batteries and in power storage batteries that is expected to lead to a huge increase in demand for the metal over the coming decades.

Lithium batteries also have a large role to play in renewable energy sources such as wind and solar energy storage, related industries which incidentally already have firm roots within the Cornish landscape.

## What is lithium used for?

Until the commercial development of the lithium-ion battery in 1991, lithium was mainly used in ceramics, pharmaceuticals and other industrial applications. The rapid growth in demand for portable electronics has spurred similar growth in demand for lithium, so that batteries accounted for approximately 50% of total demand in 2017.

This source of demand is expected to grow extremely rapidly given the development of electric vehicles and batteries for power storage: technologies that are widely expected to revolutionise transportation and power distribution in the coming decades. Lithium is the ideal metal for batteries given its high electrode potential and low atomic mass, giving batteries a high charge- and power-to-weight ratio.

A fully electric vehicle (such as a Tesla Model S) contains an estimated 63kg of lithium and so the growth and widespread uptake of electric vehicles is driving a global increase in demand for lithium. As renewable energy sources are increasingly used to generate power, lithium is also used within grid-scale battery storage (required to even-out the supply of energy to the grid).



## How do I apply for a job?

The Cornish Lithium team is growing fast and welcomes CVs from potential applicants. Please send a CV and cover letter through to [careers@cornishlithium.com](mailto:careers@cornishlithium.com) and should a suitable position arise, you will be invited to apply to it. Also, keep checking our website for available posts <https://cornishlithium.com/contact-details/careers/>

Cornish Lithium will provide regular communication updates, which will be on its website ([www.cornishlithium.com](http://www.cornishlithium.com)) and sent to all stakeholders. The Cornish Lithium website has more details about the Company and its projects in Cornwall.

## Contact

For more information  
please contact us on  
**[trelavour@cornishlithium.com](mailto:trelavour@cornishlithium.com)**  
call the drilling team on  
**01726 420001**

Tremough Innovation Centre  
Penryn  
Cornwall  
TR10 9TA