

Cornish Lithium Blackwater Project FAQs

Who is Cornish Lithium?

- Cornish Lithium is an innovative mineral exploration and development company aiming to provide some of the raw materials for the energy transition
- 70+ employees based in Penryn, United Downs and St Dennis

Why do we need lithium?

- Important for the green energy transition as it's used in batteries
- Lithium-ion batteries are used in electric vehicles, grid storage of energy, electronics
- Currently no domestic supply so the UK imports everything that we use from across the globe

Why does Cornwall have so much potential for geothermal lithium?

- The granite rock which underlies Cornwall is rich in lithium, which can either be extracted directly from the granite, or found dissolved in the geothermal waters which circulate naturally through the rock beneath our feet
- This granite rock is also relatively hot compared to other rocks beneath the UK. Geothermal means 'heat from the earth'. It's possible to use this renewable heat source by pumping the geothermal waters to surface via boreholes
- From a 1.5-2km deep borehole the water temperature could be around 75-80 °C meaning there is the potential to use this geothermal heat in local businesses or houses
- The extraction of geothermal waters from these depths is not expected to have any adverse impacts on local water supply boreholes to properties, or to have any impacts on historic mine workings in the area

Why is there a need for exploration drilling at Blackwater?

- Blackwater has been identified as a highly prospective area to explore for lithium in geothermal waters from our extensive digital modelling of Cornwall's geology
- Boreholes are drilled to take samples of the rock from depth which our geologists then interpret, and to enable us to identify geological features where geothermal waters are flowing
- The drilling at Blackwater would provide data to add to that from our previous boreholes, to assess the lithium potential of the waters, and guide the Company's longer-term strategy to produce lithium from a number of relatively small, low-profile production boreholes and associated infrastructure across Cornwall

What would the drilling programme look like?

- Equipment would include a small drill rig and associated infrastructure, such as water storage bladders and welfare units
- A 4m high wall of straw bales would be placed around the Blackwater side of the drill rig to minimise visual and noise impacts, with tarpaulin to protect them
- We would monitor noise throughout the programme, and a background noise survey has been completed. As with our previous drilling, we would strictly adhere to noise limits set by the planning authority
- An ecological survey has been conducted which has informed project design to minimise any impacts
- Lighting used would be directed inwards and would be at a low level
- Traffic management plans are in place for the planned movement of the drill rig onto and off site, at the start and end of the project, which would comprise of only three HGVs for the rig transport. Daily vehicle movements would be light vehicles (i.e. cars, vans and pick-ups) as staff travel to and from the site, which is not expected to impact normal daily traffic. National Highways are satisfied that this is the case
- The borehole would be drilled using the 'diamond drilling' technique, which should generate no significant dust. This would be monitored and suppressed if necessary
- The borehole would be around 10cm wide, and we plan to target c.2000m deep

2022/23 Twelveheads drill site



Cornwall Resources' use of straw bales at their drill site in north Cornwall



How will we test the waters?

- Waters from the borehole would be pumped to the surface and samples would be taken to United Downs for the lithium content to be analysed in our laboratory. The temperature and flow rates would also be measured

How will we process the waters to extract the lithium if the project moves to the next phase?

- Lithium can be extracted from geothermal waters using Direct Lithium Extraction (DLE) technology
- DLE is a more environmentally responsible way of processing lithium-rich waters as it is highly efficient (creating little to no waste products) and plants have a small footprint compared to other processes
- Our DLE Pilot Plant at United Downs was commissioned in 2022 and our work to date has demonstrated that the technology works on Cornish geothermal waters, making it an exciting opportunity for Cornwall

What groundworks will happen at site and what will happen to the site after?

- The area of the field that the drill site would be located in is the end that is nearest to the A30
- The first step of preparing the site to be safely operational would involve groundworks to install a temporary hardstanding
- Ecological surveys have already been undertaken to inform any site works. An ecological clerk of works would supervise the groundworks to ensure that there are no adverse impacts on the wildlife
- The boundary would be marked by 'herras' style fencing, with straw bales set up around the drill rig on the village side
- Mud mats and gravel would be used on some of the ground to prevent it being churned up
- The entrance to the field, at the southern edge closest to the A30, would need to be widened temporarily, but would be restored at the end of the programme
- Water that's been pumped up from the boreholes would be stored temporarily on site in bladders, before disposal
- At the end of this proposed drilling programme, the site would be reinstated to its previous condition. This would be done under supervision of the ecological clerk of works
- After the reinstatement of the site, our geologists would need time to analyse the results from the programme. Any future work would require further planning permissions and consultation with the community

How can you get in touch with us?

- You can contact us via the contact form on our website: <https://cornishlithium.com/contact-details/>
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