

## Update from UDDGP Project

October 2020

### TESTING PHASE – Second round

The second round of testing started a week later than anticipated. We were setting up on Monday 28<sup>th</sup> September and started the actual flow test the day after.

The flow testing went well and, although there was a small amount of micro-seismicity, it was very deep and did not reach the surface. Work then resumed on Wednesday 30<sup>th</sup> and similar results to the day before were achieved. During late morning, the micro-seismicity altered and there was a 1.6Ml event at over 5km depth. This was felt and heard at surface by many local residents. As per our protocol/ regulations, the flow of water was immediately reduced (it is important to reduce the flow slowly and not just switch it off) and then stopped. GEL decided not to carry out any testing on Thursday 1<sup>st</sup> October to allow the seismicity and geomechanics specialists time to analyse the activities of the day before and to plan the final day of testing. The final morning of testing took place on Friday 2<sup>nd</sup> October, which was successfully carried out.

### UNDERGROUND

The zone we are using for the UDDGP geothermal reservoir is made up mainly of granitic rock that has been broken and altered by the formation of the fault (our target) which was formed at least 60 million year ago. The aim is to use the gaps between the rock (fractures) to circulate water to extract the heat. Rock fractures in these zones can be blocked up with minerals and sediments, so when a geothermal project initially tests the water flow, some of these minerals and sediments can get washed away allowing more water to flow through. Sometimes the rock will move slightly too, resulting in micro-seismicity. Evidence from similar types of geothermal systems across Europe show that once the geothermal system is operational the micro-seismicity decreases and stops over time. Over 98% of geothermal micro-seismicity is not felt at the surface during the testing phase.

### GEOHERMAL REGULATIONS

Geothermal developments are regulated by Cornwall Council under Planning. The seismicity management protocols use existing British Standards and planning guidelines for blasting, quarrying and mining. Geothermal protocols are based on how much ground vibration is measured at the surface, rather than on the magnitude of the induced event. The 'unconventional' oil & gas extraction industry (often referred to as Fracking) is regulated by the Oil and Gas Authority (OGA), who have set the limits on induced seismicity and require the developers to operate a 'traffic light' system to manage their activities. Geothermal developers are not regulated by the OGA and are not required to adhere to their limits or their methodology. This does not mean that geothermal projects are unregulated.

### SOCIAL MEDIA

Social media has been used to communicate information to the local and wider community regarding the well testing. The GEL team have analysed the comments made, so that posts during and following the testing have been informative and used to correct misconceptions of the project and geothermal regulations. While comments on social media are welcomed, if anyone has queries or questions about work at the UDDGP project that they do not want to be seen publicly, emails can be sent to

[contact@geothermalengineering.co.uk](mailto:contact@geothermalengineering.co.uk)

### WEBSITE & YouTube

For more information about seismicity or about the UDDGP project take a look at our webpage:

<https://geothermalengineering.co.uk/united-downs/> There are downloadable information sheets in the Seismometers section.

The GEL YouTube channel has all the project films and educational animations: Search for **Geothermal Engineering Ltd** If you subscribe you will be notified when new films are uploaded.