

Eden Geothermal Community Liaison Group

Minutes of group meeting Wednesday 16th March, 18:30 (Zoom)

Present: Roy Taylor (Chairman); Matthew Luke (Treverbyn PC); Doug Scrafton (SE LAG); Kelvin Simms (St Blaise TC); Michael Grindley (Luxulyan PC); Henry Orchard (Eden Neighbours Foun); Myles Breary (Carlyon PC); Dan James (Eden Project); Gus Grand (EGL); Tony Bennett (EGL); Claire Judd (EGL – minutes).

Apologies: None received.

DJ agreed to chair the meeting as RT was experiencing technical issues.

<u>ITEM</u>	<u>ACTIONS</u>
<p>1. Minutes of last meeting and matters arising Minutes of meeting 09/09/21 proposed as an accurate record by ML, seconded by RT.</p>	
<p>2. Well testing and recent felt seismicity GG provided a summary of events:</p> <ul style="list-style-type: none"> • Injection testing started late January. Community informed in advance (website, social media, emails). • Indications early on in testing that the system would be seismically sensitive, so initial set up (large and powerful pumps) demobilised and replaced with smaller pumps to carry out testing using lower flow rates. This started ~ 3 weeks later. • ~ 300 microseismic events associated with low flow testing. Mostly very small. • No indications that any seismicity had been felt prior to Weds 9th March, when an event at 9.20pm, 1.7ML, 1.56 mm/s PGV, was widely felt. Subsequently some individuals stated that they had felt earlier events, although there had been no indication of this previously. • Telegram system created auto alert for 9th March event. Team then looked at social media / checked emails and phones and clearly event had been felt. • Pre-prepared statement issued straight away (website; social media) acknowledging responsibility. • Seismicity stakeholder group alerted via WhatsApp / email following morning (Thurs 10th). Wider EGCLG later that day. • More detailed update issued (website; social media) lunchtime Thurs 10th March. Information about the event and context. • Most of Thurs / Fri spent managing media / public comms. • Local and national press coverage. • ITV and Cornwall Live picked up restart of testing today. Front page of Cornish Guardian. <p>TB provided added comments relating to the technical context:</p> <ul style="list-style-type: none"> • EGL had taken a cautious approach to injection testing from the outset, working from premise that the system might be sensitive. • The March 9th event had been surprising, coming on the back of several much smaller events. • Seismicity is proving to be a limiting factor in terms of what is 	

achievable with our well testing.

Group members had a number of questions and comments.

HO asked whether there had been a previous larger event, in the week leading up to 9th March. GG confirmed that there had been a 1.6ML event at around 1pm Sat 5th March, but no reports of it being felt had been found, and that EGL's approach has been to issue public statements in case of felt seismicity only.

HO reported that elderly neighbours had contacted him in the evening of March 9th but he had been unable to provide any information because he had not been contacted by EGL. GG acknowledged that the seismicity stakeholder group should have been informed immediately, rather than waiting until the following morning. This would have enabled members to pass on information to others in the community who were not internet users. EGL would prioritise this approach going forward.

ML stated that he and others in the vicinity of his home had not heard or felt the event, but he would have been happy to be alerted in the late evening and to relay information to others.

DJ noted that EGL's approach had been responsible, careful and transparent, while acknowledging HO's comments about elderly neighbours and reiterating the need to ensure community representatives are prioritised with info so that they are able to pass this on.

HO asked about where most reports of having felt or heard the event had come from. TB responded that the majority of reports appeared to have come from the north and east of the well site, particularly St Blazey / Luxulyan areas. TB confirmed that the well is drilled directionally towards Luxulyan and that geological structures probably influence the pattern of the event being felt. One person at Castle-an-Dinas had reported feeling the event. RT confirmed having felt the event at Tywardreath, and having taken calls from people in Penpillick.

DS asked TB for more information on how the well testing programme could be constrained by seismicity. TB replied that the flow rates and injection volumes which could be achieved would be limited, as we would need to avoid build-up of pressure which could trigger seismicity.

DS asked whether seismicity is predominantly felt during well testing or can be associated with the operation of established geothermal systems. TB confirmed that the greatest risk of seismicity is during initial development, as the well is encouraged to produce water. Once the system is operating, it is expected that the system settles into an equilibrium.

HO asked about the largest event sizes associated with geothermal development. TB reported that the largest event at United Downs Deep Geothermal Project (UDDGP) had been a 1.7ML. In different geology, in mainland Europe, larger events had been experienced. E.g. ~3 – 3.4ML in the Rhein Graben. Magnitude is a logarithmic scale, so this is considerably larger than any of the Cornish events.

In future, EGL to issue info to stakeholder group before or at same time as website / social media statements published

TB to distribute plan / map of well location

MG asked whether the smaller events had gradually increased in size or were up or down. TB confirmed that they had been up and down. The 1.7 ML event occurred after a small cluster of much smaller events, and there had not been evidence of anything gradually building up.

TB underlined that ground velocity is the better measure of how an event is felt or experienced than magnitude. The British Standards accepted level for the ground velocity level at which an event would be likely to be felt is ~2mm/s; the EGL event was significantly smaller than this. This may be related to geological features. GG added that architecture plays a part; events are more likely to be felt upstairs and / or in more modern houses.

TB reported that most events had occurred between 4000m and 5000m depth.

DS asked how much longer we would be pumping for, at the current rate. TB confirmed that we are nearing the end of this stage of the programme, with 1 further test envisaged on Friday 18th March. Going forward, a production test (low seismicity risk) is envisaged, in addition to further injection testing in late April / May, depending on information obtained from planned wireline logging (no association with seismicity) in the interim.

HO asked whether we would be carrying out any tests for Lithium in April / May. TB confirmed that this is not currently envisaged and the focus remains on the geothermal aspect for now.

3. General operations update and future programme

Covered by discussions under item 2.

4. Press and Community Liaison

GG stated that there had been local and national press coverage of the felt seismic event, of varying quality / degrees of accuracy.

HO noted that EGL had been very open with neighbours during the project as a whole. This had been of benefit and the Neighbours Forum had felt involved. Some work would now be needed to 'get worried neighbours back onside' following the felt seismicity.

It was agreed that the main learning / action points from handling of the recent felt seismicity in terms of community liaison should be:

- Issuing info in the right order: stakeholder group / EGCLG before website and social media, irrespective of time of day.
- Looking at the wording of the pre-prepared statements: it had been too early to say that 'no damage had been reported' and this had not been well received.

5. Community Fund

CJ shared a summary of activity on the 9 projects awarded a share of the Community Fund.

- St Blaise TC - Penarwyn Green play area: project had been completed and rockers installed. Photos received.
- Luxulyan School - garden for reflection and remembrance: project delayed due to building works but due to start soon

CJ to update EGL website with progress on the projects and to 'chase' those projects which have not reported back

<ul style="list-style-type: none"> • Bugle School - wildlife-friendly outdoor learning area: lots had been done; CJ would update website with more information. • Cornish Acorn - facilities for outdoor learning: CJ had not received a response to requests for a report, and would chase. • Trethurgy Village Hall - playing field refurbishment: goal posts had been installed and installation of table tennis table had started. Organisers had promised a full update and photos soon. ML commented the funding had kick-started wider improvements to the field and all was going well. • Treverbyn Community Trust - funding for 1 year's running costs of mobile community larder: going well and we would be provided with a formal update soon. • Friends of Menacuddle Well – improving access: new path had been completed and chicane removed, with photos on website. • Biscovey Academy - outdoor learning area: no response to requests for report received. CJ would chase. • Bugle Library of Things seed library and plant swaps: seeds had been purchased, construction of signage was underway and seed library would be launched on Fridays. Wildflower seed bundles had been distributed various groups. 	
<p>6. AOB RT thanked DJ for chairing the meeting.</p>	
<p>7. Date of next meeting To be arranged just prior to next phase of injection testing.</p>	<p>CJ to arrange between Easter and end April</p>

