

**Transcript of part of BBC Radio Cumbria  
Breakfast programme with Ian Timms, presenter  
Broadcast on Wed 23 May 2012, 06:30 - 08:00**

*Timings of the BBC radioplayer recording in square brackets.*

*Speakers: IT – Ian Timms, presenter; RS – Richard Shaw; RSH – Stuart Haszeldine.*

[42:03] IT: ... and apparently the west of the county has spoken, and it does want a high-level nuclear waste repository somewhere. 68% or 2 out of 3 people living in Copeland are in favour of searching for an appropriate site to build a huge underground repository, to store all of the UK's high level radioactive waste. So with the idea moving closer to reality, we wanted to know exactly what such a store would look like; [42:27] what possible dangers it could cause.

So joining me now is Richard Shaw. [42:31] Richard is the Principal Scientific Officer and radioactive waste team leader at the British Geological Survey, and Professor Stuart Haszeldine, em, who is a geologist at Edinburgh University. Stuart and Richard, thanks to both of you for joining us; good morning.

RS and RSH (in unison): Good morning.

IT: Richard first of all: em, with the support, this means the search now begins for an appropriate site. Do you believe the geology of West Cumbria is suited to, to such a store? Can a good site be found?

RS: Eh, I think the geology in West Cumbria offers potential to find a good site; clearly there's still a lot of work to be done yet to actually identify sites, ah, eh, and then to prove that they are, are good enough for the long-term safe disposal of radioactive waste.

IT: So it's not a perfect site we are looking for, it's somewhere that's good enough.

RS: Yes, indeed, you can't – there's an argument that says you can't actually find the perfect site, because by the time you've found it and drilled it is no longer perfect.

IT: [43:26] Professor Stuart Haszeldine, to bring you in here I, em, understand that I have talked to you at length in the past, that you believe the geology of West Cumbria is not suitable for such a repository.

RSH: Eh, that's correct, and I think it's also misleading to say that there's public support, because, eh, it's clear that 8 out of 10 people in the public poll admitted they didn't know what they were talking about with the repository - they'd either never heard of it or didn't know anything about it. Er, and also I think this poll ignores the evidence from the, eh, Planning Inquiry Inspector who visited the Partnership in West Cumbria on the 29th of March, and told the West Cumbria Partnership in no uncertain terms that this area was geologically unsuitable [44:04], ignored international designs, and was against European planning law.

IT: [44:09] Why geologically unsuitable – what's wrong with West Cumbria?

RSH: Eh, well I think it was - West Cumbria is one of the very few areas in the country of the UK which has been very well investigated indeed, as Richard Shaw knows, eh, and then £400 million was spent in the 1990s, investigating the geology, and that found it was extremely complicated geology, very faulted and fractured, with a flow, underground water [44:33] which is the wrong chemistry, and that flow comes through the waste repository and comes up towards the surface, carrying radioactive gas and any dissolved radioactivity with it.

IT: Richard, what do you make of that; [44:44] the geochemistry of West Cumbria is unsuitable, it is too complex - you would have to search for a long time to find the right site.

RS: Well, I, I think first of all, the Public Inquiry in the 1990s actually was only looking at a very small part of West Cumbria, at Longlands Farm; so, first of all there was a whole lot of the area that's not been looked at in any detail at all. Em, I think the evidence from the 1990s suggests that the, the groundwater is actually reducing at depths that the repository [45:10] would be, and, eh, that is not necessarily an issue for the repository; em, you don't want oxidising water, and there's a lot of geochemical evidence to suggest that the water at the depths the repository would have been at Longlands Farm is not oxidising.

IT: Are we not creating a sort of legacy that we could – we could live to regret? If there is very complex geology in West Cumbria; and indeed, if you've got gas companies wanting to frack in Morecambe Bay and north of Cumbria in Longtown, and we had a bit of an earth tremor earlier on this year on the west coast; do all of those things not converge on - maybe think again?

RS: Well I think, eh, anywhere in the UK in terms of earthquakes, the earthquakes that we have are relatively small on global standards; they might cause a little bit of damage, but that's at t's surface; at depth the effects are probably absolutely minimal at the depths that we are talking about.

IT: What sort of – how deep ... would it be ... what do we mean by ...?

RS: What, for a repository?

IT: Yeah.

RS: Between 200 and 1000 metres deep.

IT: So this is like a mineworking, effectively.

RS: It's like a, eh, yeah, a moderate depth mineworking.

IT: Richard, eh, and to Stuart as well thanks for joining us on Breakfast this morning; Richard Shaw there, the Principal Scientific Officer at the, at the British Geological Survey, and eh, Professor Stuart Haszeldine, one of the geologists at Edinburgh University.

[46:35] If I had to make that decision, based on those conflicting views, I wouldn't have a clue which way to go at the moment ! Maybe that's where most of the people in West Cumbria are: yes, explore, they say, look for a site, but also this figure that not many people truly know what the site would mean and what it would be in that part of the world, it needs some more information and a good deal more exploration yet.

[47:00]

*Transcript by David Smythe from the BBC Radioplayer.*