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Water tainted by corpse bacteria



Danescourt Cemetery, where the tests were carried out

BBC West Midlands science correspondent David Gregory reports

Scientists studying a graveyard in Wolverhampton have found that water is being contaminated underground by bacteria from decaying bodies.

The finding has come from the first ever study of the impact of graveyards on groundwater.

Two years ago Danescourt Cemetery on the edge of Wolverhampton suffered massive subsidence in heavy rain.

Scientists from the British Geological Survey (BGS) were called in to determine what happened.

At the same time it was decided to take advantage of this opportunity to place bore holes in the cemetery and test the groundwater some 10 metres below the surface.

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They discovered the water was contaminated with bacteria, including faecal streptococci indicating a human source.



The groundwater also contained *Staphylococcus aureus*, a bacterium found on human skin this is responsible for most hospital-acquired infections and it is unusual to find it in groundwater.

The work began after graves collapsed

Julian Trick, from the BGS, said: "We found bacteria which, along with other analyses, indicate a human source.

"We suspect now that bacteria involved in the decaying process are actually reaching the groundwater."

According to the World Health Organisation, the groundwater was so badly affected it was described as "heavily contaminated".

What surprised the scientists was that bacteria don't survive very well in the environment and certainly shouldn't last the five years it would take them to reach the water table.

Rock fractures

But computer models of this site showed fractures in the rock were providing a fast route to groundwater level.

However, it is unlikely the contamination would spread far from the cemetery before being rendered harmless.

But the Midlands is the site of Britain's second most important drinking water bearing rock or aquifer.

Indeed there is a pumping station close to Danescourt Cemetery, though fortunately it is uphill and very unlikely to be contaminated.

Britain's water is also treated to stop any sort of contamination reaching the consumer.



Experts took samples from the water table

This research will be useful in developing countries where cemeteries are often close to local wells.

It is also proving important in Wolverhampton.

Although there is no immediate danger, there is increasing pressure both to find new sites for graveyards and to find new sources of drinking water.

In future the local council will be taking this research into account when looking for new cemeteries.

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