

Asbestos likely more widespread than previously thought

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Naturally occurring asbestos minerals may be more widespread than previously thought, with newly discovered sources now identified within the Las Vegas metropolitan area. The asbestos-rich areas are in locations not previously considered to be at risk, according to new report that will be presented at the Annual Meeting of the Geological Society of America (GSA) in Vancouver, Canada, on Sunday, 20 October.

"These minerals were found where one wouldn't expect or think to look," said Rodney Metcalf, associate professor of geology at the University of Nevada, Las Vegas, and co-researcher of the study. The naturally occurring [asbestos](#) was found in Boulder City, Nevada, in the path of a construction zone to build a multi-million dollar highway called the Boulder City Bypass, the first stage of an I-11 corridor planned between Las Vegas and Arizona.

Asbestos is a family of fibrous minerals which are known to cause lung cancer, mesothelioma, and other serious respiratory related illnesses when the fibers are inhaled. The GSA presentation will focus on the discovery of types of asbestos that geologists call fibrous iron sodium amphiboles and fibrous actinolite in Clark County, Nevada, and the geological settings that caused the unusual asbestos formation, said Metcalf.

"[Asbestos] is like a precious metal deposit, it forms at the confluence of several geologic features, which vary at each location," said Metcalf.

In this case, it was a geological confluence of groundwater interacting with rock salt and a cooling magma body deep below earth's surface to form the fibers and create this type of asbestos, said Brenda Buck, a professor of geology at UNLV and co-researcher of the study.

Later the rock was brought to the surface where it now exposed to rain and wind that can disperse it. This is the first discovery of asbestos in this kind of geological setting and it suggests the minerals could occur in other similar settings around the globe, said Buck, who has a background in medical geology.

Many regulations have been created to protect people from exposure to mined and refined asbestos, like fibrous actinolite, which the scientists discovered. But some naturally occurring asbestos is not regulated or labeled toxic under federal law, though they can be just as dangerous or even more toxic to humans, said Buck.

Naturally occurring asbestos can also be harmful and difficult to control, especially when it becomes dust and can be transported on the wind.

The research is being performed while the construction for a Boulder City bypass has been delayed due to concerns about the hazard of the naturally occurring asbestos. Boulder City has about 15,000 residents, and is about 32 kilometers (20 miles) from the Las Vegas metropolitan area, home to over 1.9 million people.

Scientists are still researching the amount of asbestos that is in the soil in the construction area, its toxicity to humans, and how far it can be transported by wind.

The new research Metcalf will be presenting could help scientists locate more formations of naturally occurring asbestos in areas that were not previously considered, he said.

"This means that there could be a lot of areas in the world that could have asbestos that we don't know about. So there are people that are being exposed that have no idea," said Buck.

More information: [gsa.confex.com/gsa/2014AM/webp ...
ram/Paper250494.html](http://gsa.confex.com/gsa/2014AM/webprogram/Paper250494.html)

Provided by Geological Society of America

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