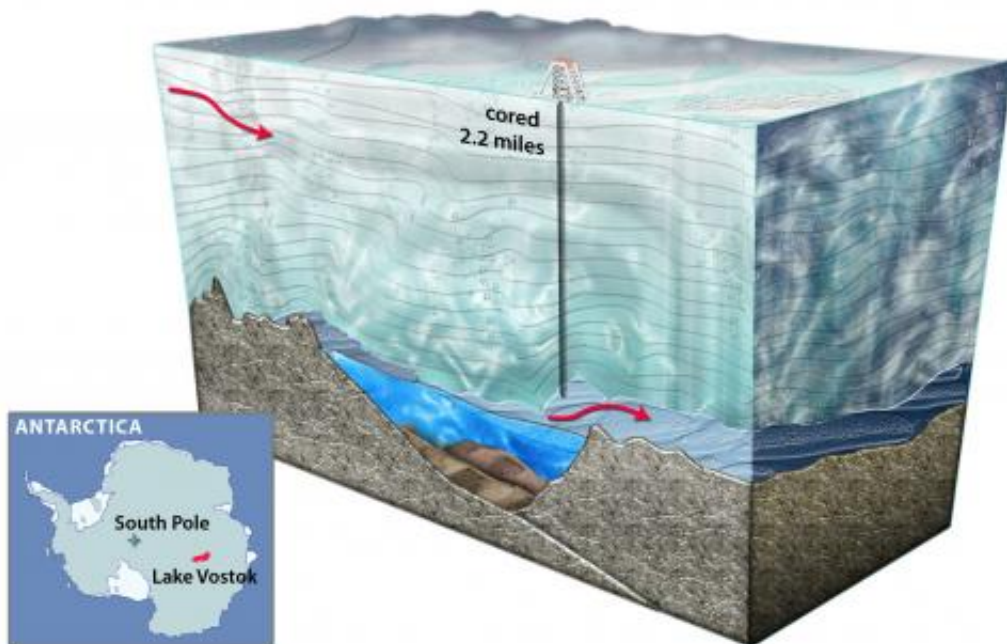


Russians announce retrieval of first clean ice sample from Lake Vostok

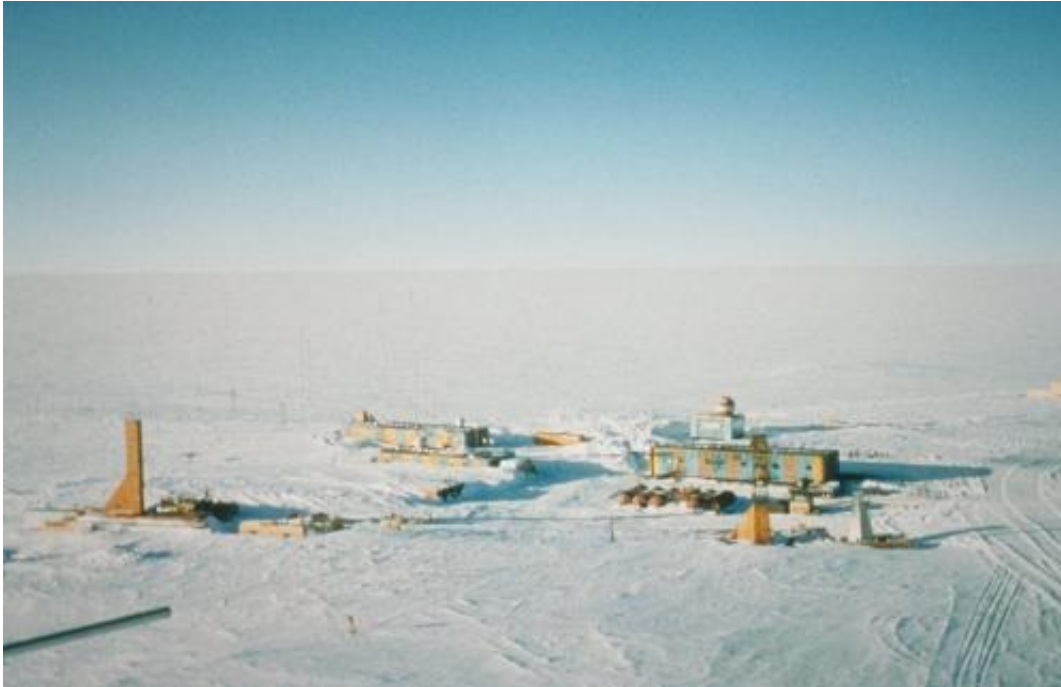
January 14 2013, by Bob Yirka



Credit: NSF

(Phys.org)—Researchers with Russia's Arctic and Antarctic Research Institute have announced that they have successfully retrieved a clean ice core sample from Lake Vostok in Antarctica. The sample, taken from a bore hole drilled over two miles through the ice to the lake underneath, is the result of years of effort. Researchers hope to find evidence in the ice of life on Earth as it existed as far back as 20 million years ago.

Lake Vosok, situated near the center of Antarctica, is water lying beneath a sheet of ice over two miles deep – it remains liquid due to geothermal heat underneath. Its existence was discovered in late 1996 and since that time, researchers have been eager to drill down to retrieve [water samples](#). Caution was advised, however, as scientists worried that drilling attempts might cause material from the surface to contaminate the water or samples received. One prior attempt to drill down to the lake by a British team failed leaving the Russians to give it a try. They made it to within 130 meters of the surface of the lake back in 1998, but halted work when scientists around the world expressed concerns about the lack of planning to prevent contamination. Over the years, the Russians worked out various plans to extract a sample without dirtying the lake but it was only recently that they settled on the simplest: Bore down to within just a few meters of the surface, then let the [water pressure](#) from the lake break through the remaining ice and push up into the [borehole](#) where it would freeze almost instantly. To collect a water sample from the lake would then require simply pulling up the [frozen ice](#) core. Unfortunately, when that approach was tried last year, the core sample retrieved showed [clear evidence](#) of contamination by drilling equipment, e.g. oil used as a lubricant.



Wostok-Station (NOAA)

Scientists the world over are hoping this new sample will contain evidence of a previously unknown form of life – a possible relative of some life forms still around today. If that turns out to be the case, a lot of research will go into its examination and study. Also, it might lead to new ideas for exploring other planets that are covered in ice sheets, but might be harboring life underneath.

With this latest extraction, the Russians insist they've retrieved a pure sample, but they won't know for sure until they get it back to their lab and study it – that won't happen though till it grows warm enough in Antarctica for a ship to arrive to carry the sample home in the spring.

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