The Strange Environments some Microbes call “Home” Case Study

Berkeley Pit Lake in Butte, Montana, sits on the site of an abandoned open-pit copper mine. It would seem polite to describe the site as an environmental disaster. At a pH of 2.5, the more than 30 billion gallons of water in the lake are highly acidic. High levels of dissolved iron, copper, zinc, and aluminum compounds make the situation even worse. In a recent study of the site, Dr. Andrea Stierle from the Department of Chemistry of the University of Montana and her colleagues found a compound called berkelic acid. This compound, known as a spiroketal, is produced by a member of the genus *Penicillium* that lives in the lake. Studies of this unique compound show that it has a selective inhibitory activity against OVCAR-3 cells. These cells are an ovarian cancer cell line belonging to the National Cancer Institute’s cell library.

* *What name is given to organisms that live in such a seemingly inhospitable environment?*