

Oil-Like Films and Slimes (Bacteria): A Naturally-Occurring Phenomena

The Department of Environmental Quality often receives complaints claiming that “someone dumped paint or a rust-colored substance” or that there is an unnatural colored oil-like sheen in moist areas or in a water body. Some oil-like films, coatings, and slimes, although they may look bad, are natural phenomena. These phenomena are caused by single-celled organisms called bacteria.

Slimes, films, and rock coatings can be found anywhere that groundwater carry minerals such as iron, manganese, copper, and sulfur. Slimes, oil-like films, and rock coatings are often made by bacteria that are reacting to the presence of minerals in the water. Bacteria live in wet areas, including: on the water surface, in the water column, and in the lake sediment. Some bacteria are getting energy and some are performing other life functions by transforming minerals to different chemical forms. These bacteria are of no threat to human health and have been involved in the iron and manganese cycles for billions of years. Some bacteria are very useful because they remove harmful materials from water.



A bacteria film is on the water: notice the broken appearance.

Bacteria create oil-like films when they attach themselves to the water surface. Sunlight bounces off the films, giving them an oily appearance. To test the difference between a bacterial film and oil floating on the water, break the film. If the film stays broken, it is a natural bacterial film. If it flows back into place, it is petroleum, which indicates pollution.



Notice the purple (sulfur).

Bacteria produce different color films, coatings, and slimes. Bacteria that precipitate (take out of water as a solid) copper minerals may make turquoise blue films. Green and purple bacterial slimes may appear when sulfur is present, while white slimes occur in the presence of aluminum, sulfur, or calcium minerals.

If you find pollution and believe it is human-induced, please report it to the State of Michigan’s Pollution Emergency Alerting System (PEAS) hotline at 1-800-292-4706. For more information please contact any Water Bureau district office or call the State of Michigan’s Environmental Assistance Center at 1-800-662-9278.

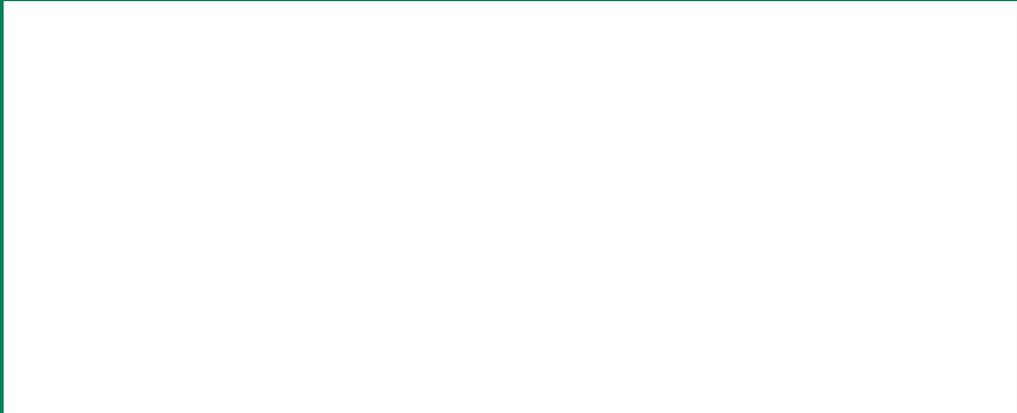


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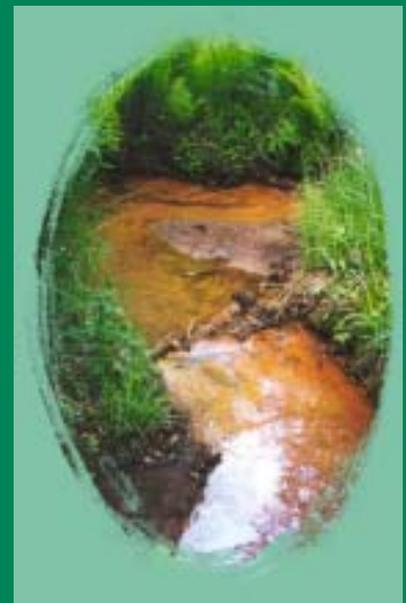
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Bacteria



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