How does mine drainage occur?

Mine drainage is formed when pyrite (an iron sulfide) is exposed and reacts with air and water to form sulfuric acid and dissolved iron. Some or all of this iron can precipitate to form the red, orange, or yellow sediments in the bottom of streams containing mine drainage. The acid runoff further dissolves heavy metals such as copper, lead, and mercury into groundwater or surface water. The rate and degree by which acid-mine drainage proceeds can be increased by the action of certain bacteria.

Problems associated with mine drainage include contaminated drinking water, disrupted growth and reproduction of aquatic plants and animals, and the corroding effects of the acid on parts of infrastructures such as bridges.

Learn more:
- Mining and Water Quality
- EPA Abandoned Mine Drainage

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Plants naturally grow in and around lakes, but sometimes lakes and ponds can get an overgrowth of plants, algae, or bacteria. In many cases, humans are responsible. Chemicals that are used on lawns and in agriculture (like nitrogen and potassium) wash into our water systems. Once there, plants and algae have a feast on this “food”. Sometimes overgrowths of cyanobacteria (called “blooms”) can make...

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Yes. Crater lakes atop volcanoes are typically the most acid, with pH values as low as 0.1 (very strong acid). Normal lake waters, in contrast, have relatively neutral pH values near 7.0. The crater lake at El Chichon volcano in Mexico had a pH of 0.5 in 1983 and Mount Pinatubo’s crater lake had a pH of 1.9 in 1992. The acid waters of these lakes are capable of causing burns to human skin but are...

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