

## IDENTIFICATION GUIDE:

## Iron Bacteria

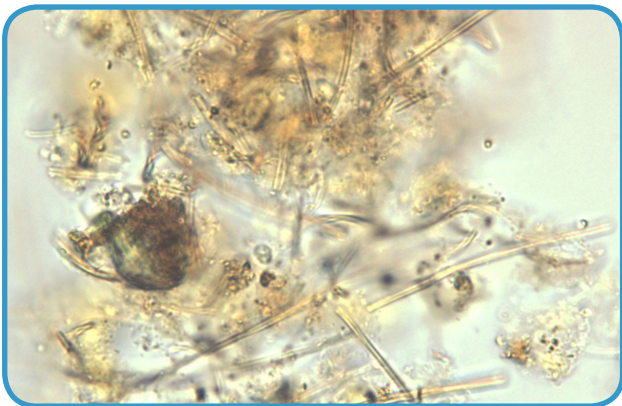
# fact sheet



Iron bacteria's orangish-red coating



Blue film caused by iron bacteria



Magnified iron bacteria sheaths with typical iron coating (ferric oxide)

### Types of Iron Bacteria:

*Gallionella*, *Thiobacillus*, *Leptothrix*

### Description:

Iron bacteria are a group of microscopic, unicellular organisms that grow in chains and excrete a mucilaginous material that forms either a sheath, tail, or stalk may appear light brown from iron oxide that appears as a fuzzy coating. Iron oxide is formed as the bacteria converts ferrous iron to ferric iron when it is exposed to air and water, a process called oxidation. It is the oxidation of ferrous to ferric that produces the energy needed for the bacteria to survive. This reaction also makes a by-product that looks like blue oil on the water. This blue film can be distinguished from oil by taking a stick and running it through the film. If the film breaks apart, it is from iron bacteria; if it quickly pulls back together, it is oil.

### Habitat:

Iron bacteria live in streams, lakes, ponds and ditches worldwide. They grow in slow moving water with high amounts of iron. They are commonly found in streams or seeps fed by groundwater. Iron bacteria do not need air or light to grow so they are frequently found in wells.

### Significance:

Iron bacteria are indicative of iron rich water, groundwater seeps and low-flow conditions. They can create taste and odor problems in well water and may stain clothing. Otherwise, iron bacteria are harmless and do not pose an environmental or human health risk.

North Carolina Division of Water Resources

Learn more: [www.algae.nc.gov](http://www.algae.nc.gov)