

SULFATE REDUCING AND IRON REDUCING BACTERIA

(Source: Kaizen Environmental Services Inc. – February 2007 Newsletter Volume 2 Issue 1)

Odor, discolouration and gas caused by natural bacteria in a well or distribution system are common water well problems. Testing for bacteria will assist in determining the source of a well's water problems. Rusty slimes, plugging, yellow to orange waters, production losses from wells and blackened corrosive slimes have all been connected to Iron Reducing or Iron Related Bacteria (IRB). Taste and odor problems and "red water" are common symptoms. When the bacteria grow they produce a slimy by-product that adheres to almost every surface the water is in contact with. The slime can plug pipes, well screens, pumps (particularly the impellers and screens) and can even grow back into the groundwater of an aquifer. Sulfate-Reducing bacteria (SRB) are a group of anaerobic bacteria that generate hydrogen sulphide (H₂S). This product can cause a number of significant problems in water. Problems range from "rotten egg" odors to the blackening of equipment and the initiation of corrosive processes on casings and pumping equipment. Iron bacteria aggravate the problem by creating an environment that encourages the growth of sulphate reducing bacteria in the well. Sulfate reducing bacteria prefer to live underneath the slime layer that the iron bacteria form. Kaizen Lab offers a test for the determination of presence of Iron-Related Bacteria and Sulphate-Reducing Bacteria. Coupled with the determination of the amount of Total and Fecal Coliforms, these analyses are a good indicator of Microbiological Water Quality.