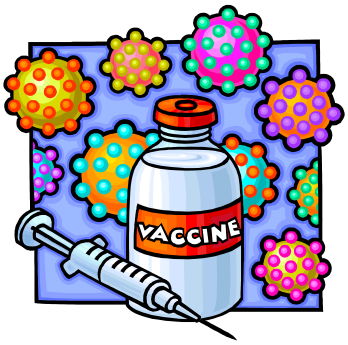
Immunoassay Tests,
Comparison to the BART testers.



A whole new science called immunology was developed when it was realized that microorganisms all developed unique chemical signals. Some of those signals were specific to disease producing microorganisms and caused a specific response in the body enabling the body to become resistant (immune) to the pathogen. Today a whole biochemical science has evolved so that many microorganisms can be very precisely identified by unique chemical signals carried by the cells of a specific species. Some of these chemicals are called antigens and the infected body produces antibodies that neutralize them. By applying these antibodies wearing color coded tags it is possible to detect specific species of bacteria. These tests are more effective in a laboratory setting with highly trained technologists, however, some field tests do exist although there are often many precise steps in conducting the test. For example, an immunoassay test for sulfate reducing bacteria can involve six or more steps, precise timing and various apparati to achieve a result. The highly precise technique used in the field test opens the door for a variety of errors to occur, resulting in false positives, or negatives. BART testers examine samples for whole communities of bacteria looking primarily for the quantification of the activity levels (population size) and reactions that are achieved (qualitative determination of the types of bacteria present). In simple terms the immunoassay tests are only better than the BART testers when the need is to detect a specific species of bacteria in the sample. In most samples there are active communities present that can include as many as eight to sixteen species just in each of those communities and for these conditions the BART testers offer more information with a simpler test method. Immunoassay tests are generally both complicated and expensive while the BART testers are simple, economical and can detect the nuisance bacteria causing the problems.