Well Water Testing Description

Brunswick County Health Services, Environmental Health Section
25 Courthouse Drive NE ▪ P. O. Box 9
Bolivia, NC 28422
(910)253-2150
Email: septicplans@brunswickcountync.gov

Bacteria

Bacteria Test Includes Total Coliform Test And Fecal Coliform/Escherichia coli (E. coli) Test

Total Coliform: Total Coliform are a group of related bacteria that are (with few exceptions) not harmful to humans. However, United States Environmental Protection Agency (EPA) considers total coliforms as a useful indicator that other hazardous pathogens may be present in the drinking water. Total Coliforms are used to determine the adequacy of water treatment and the integrity of the distribution system.

Fecal Coliform/*Escherichia coli (E. coli):* Fecal Coliform bacteria are a specific kind of Total Coliform. The feces (or stool) and digestive systems of humans and warm-blooded animals contain millions of Fecal Coliform. Moreover, *E. coli* is part of the Fecal Coliform group. A positive test may mean that feces and harmful pathogens have found their way into your water system. These harmful germs can cause diarrhea, dysentery, and hepatitis.

Inorganic Chemical

Inorganic Chemical: Inorganic Chemicals are elements or compounds found in water supplies and may be natural in the geology or caused by activities of man through mining, industry, or agriculture. It is common to have trace amounts of many Inorganic Chemicals in water supplies. Moreover, some Inorganic Chemicals are essential elements, meaning your body needs it. Inorganic Chemicals that exceed United States Environmental Protection Agency (USEPA) and/or North Carolina drinking water standards can potentially pose aesthetic and/or health risk concerns.

Nitrate/Nitrite

Nitrate/Nitrite: Nitrate and Nitrite are found in water, air, soil, and rocks deep underground. Additionally, Nitrate in your well water can come from animal waste, private septic systems, wastewater, flooded sewers, polluted storm water runoff, fertilizers, agricultural runoff, and decaying plants. High Nitrate/Nitrite levels may cause a potentially fatal blood disorder in infants under six months of age called methemoglobinemia or "blue-baby" syndrome: this is the primary adverse health effect associated with human exposure to Nitrate/Nitrite. To cause methemoglobinemia, Nitrate must be converted to Nitrite within the human body. Drinking high levels of Nitrate and Nitrite can lead do decreased blood pressure, increased heart rate, headaches, vomiting, and stomach cramps. Boiling water does not remove Nitrates but instead concentrates them.

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Petroleum

Petroleum Sample Includes Testing For Petroleum and Volatile Organic Compounds (VOC)

Petroleum: Petroleum is a liquid mixture of hydrocarbons that is present in certain rock strata and can be extracted and refined to produce fuels including gasoline, kerosene, and diesel oil. If the suspected contaminant is a heavy oil or grease, request a Petroleum Sample.

Volatile Organic Compound (VOC): VOCs are industrial and fuel-related chemicals that may cause bad health effects at certain levels. Additionally, VOC's are chemicals that vaporize into air and dissolve in water. They are used in industry, agriculture, transportation, and many household products. Analytes included with this test are benzene, carbon tetrachloride, toluene, trichloroethelene, and methyl tertiary butyl ether (MTBE).

Four Types Of Pesticide Samples

Must Choose One Of The Following Four Sample Types

1) Organochlorine: This is the most common of the four Pesticide Samples that are analyzed at the NC State Lab of Public Health. Organochlorine pesticides are chlorinated hydrocarbons used extensively from the 1940's through the 1960's in agriculture and mosquito control. Representative analytes in this group include the following: DDT, Aldrin, Dieldrin, Endrin, Heptachlor, and Propachlor.

2) Nitrogen-Phosphorous: This Pesticide Sample has 5 analytes, which include Simazine/Prometon and Atrazine. These are common herbicides that are widely used to kill weeds, dissolvable in water, and most commonly utilized on farms. Furthermore, it has been used to keep weeds from growing on both highways and railroad rights-of-way.

3) Glyphosate: Glyphosate is one of the most commonly used herbicides, often sold under the trade name *Round-Up*

4) Herbicide: This Panel measures 16 analytes, including 2,4-D and Dicamba. Additionally, these herbicides are typically utilized on golf courses.
