

## Testing Packages

MSE Lab offers testing for individual parameters or, based upon your particular circumstances, you may opt for one of our comprehensive testing packages.

Common Contaminants* \$60.00	Complete Package* \$150.00	Metals* \$75.00
Conductivity Total Coliform Chloride Fluoride Nitrate/Nitrite Sulfate	Total Dissolved Solids Total Suspended Solids Total Coliform Alkalinity Conductivity Hardness pH Turbidity Arsenic Calcium Chloride Copper Fluoride Iron Lead Magnesium Manganese Nitrate/Nitrite Sodium Sulfate	Aluminum Arsenic Barium Cadmium Calcium Chromium Copper Iron Lead Magnesium Manganese Nickel Potassium Selenium Sodium Zinc
<b>Lead &amp; Copper*</b> \$20.00		
Lead Copper		

\* Please contact the lab for a sample kit.

### Certification

The MSE Lab is certified by the State of Montana's Environmental Laboratory to analyze samples from public drinking water systems in Montana. The certification applies to the analysis of a variety of metal contaminants and other parameters. The most recent certification will be available on our web site this year.

In March 2005, The lab received a Soil Import Permit by the United States Department of Agriculture (USDA), allowing soil samples to be imported to our lab through any U.S. port of entry.

Our analysts are certified by the Montana Department of Health and Human Services to provide analysis of microbiological contaminants and by the State of Montana Department of Environmental Quality to analyze all other parameters. Our staff can recommend necessary testing for your particular well or drinking water, help you interpret the results of the testing, and also recommend corrective actions or a local water treatment company.

Contact the Lab for a comprehensive list of services 406.494.7334 [www.mse-ta.com](http://www.mse-ta.com)

EPA Primary Maximum Contaminant Levels (MCLs) Public Water Systems	
CONTAMINANT	LEVEL
Turbidity	1 NTU
Total Coliform	5%
Antimony	0.006 mg/L
Arsenic	0.010 mg/L
Barium	2 mg/L
Beryllium	0.004 mg/L
Cadmium	0.005 mg/L
Chromium	0.1 mg/L
Copper	1.3 mg/L
Cyanide	0.2 mg/L
Fluoride	4 mg/L
Lead	0.015 mg/L
Mercury	0.002 mg/L
Nitrate	10 mg/L
Nitrite	1 mg/L
Selenium	0.05 mg/L
Thallium	0.002 mg/L

Prices contingent on prior consultation with MSE Laboratory regarding the source of samples, sample collection techniques, shipping procedures, sample bottles to be used, etc. For further information and pricing approval, contact

**Helen Joyce: 406-494-7232**

**Laboratory: 406-494-7334**

**Fax: 406-494-7128**

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MSE is a small business. We have performed projects or sold products across 45 states and several foreign countries. Visit us at [www.mse-ta.com](http://www.mse-ta.com) or follow us on twitter at [http://twitter.com/#!/MSE\\_Technology](http://twitter.com/#!/MSE_Technology).

**Contact Us 406.494.7334 [www.mse-ta.com](http://www.mse-ta.com)**

drinkingwaterservices2d1 2008-2011



# Drinking Water Analysis Services

Analyzing common drinking water contaminants

# Common Drinking Water Contaminants

## Coliform Group Bacteria

When present in drinking water, Coliform Group Bacteria (including E. coli) indicate that the water is bacteriologically polluted. Consuming water contaminated with these microorganisms can lead to water-borne illness. Certain strains of E. coli can be deadly.

## Nitrate/Nitrite

Nitrate is an inorganic compound that can be a natural or man made contaminant in drinking water. Due to its high solubility in water, Nitrate is one of the most common contaminants in rural and suburban areas. Nitrate and Nitrite can be an indicator of serious pollution problems as they are associated with septic waste and agricultural endeavors. Farmers and homeowners using nitrate bearing fertilizers often use a variety of pesticides and herbicides which may migrate to ground water supplies. The EPA has established a maximum contaminant level for Nitrate of 10 mg/L and for Nitrite of 1 mg/L.



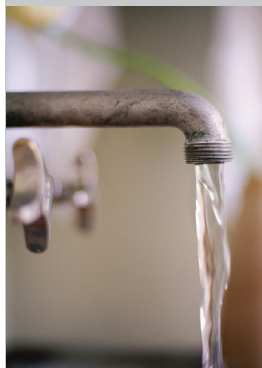
## Lead and Copper

Whether you are on a well or municipal water supply, corrosive waters can leach Lead and Copper from your plumbing (especially older plumbing), resulting in high concentrations of these metals in your water. Consuming waters containing high Lead

and/or Copper concentrations can cause specific health problems, especially with children. The EPA has established a maximum contaminant level for Lead of 0.015 mg/L and for Copper of 1.0 mg/L.

## Aesthetic Problems

If your well water tastes or smells “funny”, stains your fixtures or clothing, or has an abnormal color or cloudy appearance, it may contain a “secondary contaminant”. Some secondary contaminants common in this area are iron, manganese, sulfate, fluoride, TSS and TDS (total suspended and dissolved solids) and hardness. Often, several of these contaminants are present at once, requiring multiple treatment systems in order to make the water aesthetically pleasing. To isolate your particular problem, we recommend testing for the following parameters: Hardness, Alkalinity, Conductivity, pH, Turbidity, Chloride, Fluoride, Sulfate, Iron, Manganese, Sodium, Magnesium and Calcium.



## Well Testing

Your well has an increased likelihood of contamination if the soil around it is sandy or if it:

- is older,
- is shallow,
- is dug or driven rather than drilled or
- is near possible sources of contamination, such as: Cropland, Feedlots, Landfills, Industrial sites - active or abandoned.

For homeowners with a well, we recommend testing your water for Coliform Group Bacteria, Chloride, Fluoride, Sulfate, Nitrate & Nitrite. These tests can indicate bacteriological pollution as well as contamination from septic waste (sewage), fertilizer runoff (from yours or an adjoining property), animal waste, road salt or water softener backwash. We recommend you test your water annually or at any time that you notice a change in your water quality, or work on (or disturb) your well.

## Iron Bacteria and Sulfur Bacteria

Iron bacteria is generally more common than sulfur bacteria, simply because iron is abundant in ground water. Iron bacteria are “oxidizing agents” - they combine iron or manganese dissolved in ground water with oxygen. A side effect of the process is a foul smelling brown slime which can coat well screens, pipes, and plumbing fixtures. This slime isn’t a health hazard, but it can cause unpleasant odors, corrode plumbing equipment, and clog well screens and pipes. There are several signs that may indicate an iron bacteria problem including water discoloration, slime deposits, and a strange smell resembling fuel oil or cucumbers. Sometimes the odor will only be apparent in the morning or after other extended periods of non-use.

Sulfur-reducing bacteria (SRBs) live in oxygen-deficient environments. They break down sulfur compounds, producing hydrogen sulfide gas in the process. Hydrogen sulfide gas is foul-smelling and highly corrosive. The most obvious sign of a sulfur bacteria problem is the distinctive “rotten egg” odor of hydrogen sulfide gas. Blackening of water or dark slime coating the inside of toilet tank may also indicate a sulfur bacteria problem.

## Fluoride

Fluoride is a major, naturally occurring contaminant in drinking water in many regions of the world. Exposure to high levels of fluoride can cause structural tooth damage and skeletal damage. Several wells in the Ramsay/Fairmont area surrounding Butte have contained elevated levels of fluoride. The EPA has established a maximum contaminant level for fluoride of 4 ppm in drinking water and a 2 ppm standard set to protect against dental fluorosis.

