GUIDE TO **PRIVATE WELL** DRINKING WATER CONTAMINANTS

The EPA does not regulate private wells. Private well owners are responsible for the safety of their own well-water. This list may be used as a suggestion for determining potential well contaminants. Your local health department may be able to provide more information on common contaminants in your area as well as information regarding compliance to any state-required standards.

NOTE: Micro-Methods Laboratory is unable to perform any analyses on public drinking water samples without prior authorization from the appropriate public water supply company or utility.

Micro-Methods Laboratory is able to analyze the following **drinking water contaminants:**

MICROORGANISMS		
Contaminant	**Potential Effects**	**Sources of Contamination**
Heterotrophic Plate Count (HPC)[1]	No health effects; used to measure the variety of bacteria that are common in water. The lower the concentration, the better maintained the water system.	HPC measures a range of bacteria that are naturally present in the environment
Total Coliforms (including fecal and *E. Coli*)[1]	Not a health threat in itself; used to indicate whether other potentially harmful bacteria may be present	Naturally present in the environment and feces; fecal coliform and E. coli only come from human and animal fecal waste.
Turbidity	A measure of water cloudiness. Used to indicate water quality or filtration effectiveness. Higher levels of turbidity are associated with higher levels of disease-causing microorganisms which may cause nausea, cramps, diarrhea, and headaches.	Soil runoff

DISINFECTANT BYPRODUCTS		
Contaminant	**Potential Effects**	**Sources of Contamination**
Total Trihalomethanes (TTHMs)	Liver, kidney or central nervous system problems; increased risk of cancer	Byproduct of drinking water disinfection

DISINFECTANTS		
Contaminant	**Potential Effects**	**Sources of Contamination**
Chlorine (as Cl_2)	Eye/nose/skin irritation; stomach discomfort	Water additive to control microbes

MICRO-METHODS LABORATORY, INC.

INORGANIC CHEMICALS		
Contaminant	**Potential Effects**	**Sources of Contamination**
Aluminum	Colored water	Natural deposits
Antimony	Increased blood cholesterol; decreased blood sugar	Petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic	Skin damage; circulatory problems; increased risk of cancer	natural deposits; orchards; glass & electronics production waste
Barium[1]	Increased blood pressure	Drilling wastes; metal refineries; natural deposits
Beryllium[1]	Intestinal lesions	Metal refineries & coal-burning factories; Electrical, aerospace, and defense industries
Cadmium[1]	Kidney damage	Galvanized pipes; natural deposits; metal refineries; waste batteries & paint
Chloride	Salty taste	seawater ; heavily salted roadways nearby
Chromium (total)[1]	Allergic dermatitis	Steel & pulp mills; natural deposits
Color	Visible tint	Dissolved or suspended matter
Copper[1]	Short Term: GI distress Long Term: Liver or kidney damage Metallic taste; blue-green staining	Plumbing systems; natural deposits
Corrosivity : pH -Total Dissolved Solids -Alkalinity -Calcium Carbonate (as Ca)	Metallic taste; corroded pipes/fixtures; staining; Lead and copper in water are byproducts of corrosive water	Naturally "aggressive water"
Cyanide (as free)	Nerve damage or thyroid problems	Steel/metal factories; plastic & fertilizer factories
Fluoride	Bone disease (pain & tenderness); mottled teeth in children; tooth discoloration	Water additive; natural deposits; fertilizer & aluminum factories
Iron	Rusty color; sediment; metallic taste; reddish/orange staining	Household plumbing; natural deposits; industrial waste
Lead[1]	**Infants & children**: Delays in physical & metal development; slight deficits in attention span & learning abilities **Adults:** kidney problems; high blood pressure	Household plumbing; natural deposits
Manganese	Black to brown coloring; black staining; bitter metallic taste; odor	Natural deposits; Manufacturing processes
Mercury (inorganic)[1]	Kidney damage	Natural deposits; refineries & factories; landfills & croplands
Nitrate (as N)[1] Nitrite (as N)[1]	Children below 6 months may become seriously ill; shortness of breath and blue-baby syndrome	Fertilizer; septic tanks & sewage; natural deposits
pH	Low pH; bitter metallic taste; corrosion; High pH slippery feel; soda taste; deposits	Natural deposits; Chemical runoff
Selenium	Hair or fingernail loss; numbness in fingers or toes; circulatory problems	Petroleum refineries; natural deposits; mines
Silver	Skin discoloration; graying of sclera (white of eye)	Water treatment, carbon filters
Sulfate	Salty taste, odor, GI distress	Natural deposits; municipal & industrial discharge
Thallium	Hair loss; kidney, intestine, or liver problems	Ore-processing sites; electronics, glass, drug factories
Total Dissolved Solids	Hardness; deposits; colored water; bitter, salty taste	Natural deposits; municipal & industrial discharge; household plumbing
Zinc	Metallic taste, color, odor	Mining/smelting processes; metal refineries

MICRO-METHODS LABORATORY, INC.

PRIVATE WELL TESTING QUICK REFERENCE

Conditions or Nearby Activities:	Test For:
Recurring gastro-intestinal illness	Coliform bacteria
Household plumbing/service lines contain lead	pH, lead, copper
Corrosion of pipes, plumbing	Corrosion, pH, lead
Nearby areas of intensive agriculture	Nitrate, nitrite, pesticides, coliform bacteria
Coal/mining operations nearby	Metals, pH, corrosion
Gas drilling operations nearby	Chloride, sodium, barium, strontium
Dump, junkyard, landfill, factory, gas station, or dry cleaning operations nearby	Volatiles organic compounds, total dissolved solids, pH, sulfate, chloride, metals
Odor of gasoline or fuel oil, near gas stations or buried fuel tanks	Volatile organic compounds
Objectionable smell or taste	Sulfide, corrosion, metals
Stained plumbing fixtures or laundry	Iron, manganese, copper
Salty taste and seawater or heavily salted roadway nearby	Chloride, total dissolved solids, sodium
Scaly residue, soaps don't lather	Hardness[2]
Rapid wear of water treatment equipment	pH, corrosion
Water softener needed to treat hardness	Manganese, iron
Water appears cloudy, frothy, or colored	Color, turbidity
Skin irritation[3]	Coliform bacteria, hardness, arsenic, chromium, chlorine, pH

[1]MSDH certified

[2]Water hardness scale

a. Soft Water <17.1ppm
b. Slightly Hard 17.1-60ppm
c. Moderately Hard 60-120ppm
d. Hard 120-180ppm
e. Very Hard >180ppm

[3]Pesticide analyses is also available upon request