Midwest Laboratories®

ENVIRONMENTAL TESTING - DRINKING WATER FAQs

Recommended Test Packages

	Required Sample Size	Turnaround Time	Price
W3 WATER QUALITY*	(2) 250mL & 125mL sterile	5 - 7 BD	**$70.00**
Total Coliform, Total Hardness, Manganese, E.coli, Conductivity, Sulfate, Sodium, Iron, Chloride, Calcium, Total Dissolved Solids (by calculation), Fluoride, Magnesium, pH, Nitrate Nitrogen			
W3A	(2) 250mL	5 - 7 BD	**$62.00**
Total Hardness, Manganese, Conductivity, Sulfate, Sodium, Iron, Chloride, Calcium, Total Dissolved Solids (by calculation), Fluoride, Magnesium, pH, Nitrate Nitrogen			
W4*	250mL & 125mL sterile	3 - 5 BD	**$35.00**
Nitrate-Nitrite Nitrogen (EPA 353.2), Total Coliform, E. coli			
W5: FHA LOAN*	(2) 125mL sterile (1) 250mL plastic (1) 1L plastic	5 - 7 BD	**$95.00**
Total Coliform, Nitrate Nitrogen, Lead, Fecal Coliform, Nitrite Nitrogen, E. coli			

** Samples must be received at the laboratory within 24 hours of sampling.*

- EPA recommends testing private wells annually for E. Coli, Total Coliform, and Nitrate Nitrogen. We recommended using our W4 package.
- If you have never tested your well before or see any changes such as different taste/smell or staining, we recommend either our W3 Water Quality package or W3A package.
- If this is for a real estate transaction, we recommend confirming with your lender exactly what needs to be tested. We most commonly offer our W4 Basic Suitability, or our W5 FHA Loan package.
- Proper containers are required for these packages. Please contact account manager at 402-334-7770 and we will get one sent out.
- We can offer additional testing outside of these packages. Please contact your account manager to learn more.

Example of a W3 Results Report

PARAMETER	SODIUM	CALCIUM	MAGNESIUM	pH	NITRATE	SULFATE	CONDUC-TIVITY	TOTAL DISSOLVED SOLIDS	HARDNESS	TOTAL COLIFORM	IRON	MANGANESE	CHLORIDE	FLUORIDE
METHOD	EPA 200.7	EPA 200.7	EPA 200.7	SM 4500 H+B	EPA 300.0	EPA 300.0	SM 2510 B	CALC	CALC	SM 9223B	EPA 200.7	EPA 200.7	EPA 300.0	EPA 300.0
UNITS	Na ppm	Ca ppm	Mg ppm		NO_3-N ppm	SO_4 ppm	mmhos/cm	ppm	gr/gallon	MPN/100 mL	Fe ppm	Mn ppm	Cl ppm	F ppm
LEVEL FOUND	118	0.35	0.21	7.84	n.d.	10	0.485	315	0.1	1	0.75	0.006	10	0.5
CAUTION LEVEL	100	80	30	6.5/9	10	400	0.75	500	20	1	0.3	0.05	200	4

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UNITS	Na ppm	Ca ppm	Mg ppm		NO_3-N ppm	SO_4 ppm	mmhos/cm	ppm	gr/gallon	MPN/100 mL	Fe ppm	Mn ppm	Cl ppm	F ppm
GRAPHIC														

Level Exceeds EPA limits
Problems Likely
Potential Problems
No Apparent Problems

All results are reported on an AS RECEIVED basis., n.d. = not detected , MPN = most probable number , ppm = parts per million, ppm = mg/kg, ppm = mg/L

- Nitrate Nitrogen should be less than 10 mg/L or ppm. No coliform or E. Coli can be present.
- EPA has Primary and Secondary drinking water standards, to compare your results please visit: www.epa.gov/dwstandardsregulations

Second page of your results report includes the EPA standards for drinking water.

SUGGESTED WATER QUALITY GUIDELINES FOR HUMAN CONSUMPTION

Sodium (Na)	Less than 20 ppm: No adverse effects.	20-80 ppm: Persons on restricted sodium diets should consult a physician concerning use.	More than 80 ppm: Should be used sparingly by persons on low-sodium diets.
Calcium (Ca)	Less than 80 ppm: No adverse effects.	80-150 ppm: Hard water problems such as scale formation can be expected.	More than 150 ppm: May be associated with high levels of sulfate (see sulfate below). Extreme hardness is undesirable for household use.
Magnesium (Mg)	Less than 30 ppm: No adverse effects.	30-80 ppm: Contributes to hardness when associated with high calcium levels.	More than 80 ppm: When associated with high sulfate, is likely to have a laxative effect (magnesium sulfate is Epsom Salts).
pH	Less than 6.5: Corrosive to metal.	6.5-8.5: No adverse effects.	Higher than 8.5: Possible bitter taste, and germicidal activity of chlorine is reduced, corrosive to pipes.
Nitrate Nitrogen (NO3-N)	Less than 2 ppm: No adverse effects.	2-10 ppm: No acute toxicity. Could have some negative health effects in young children.	More than 10 ppm: Increasing probability of health effect in children under 6 months of age due of reduced oxygen carrying capacity of the blood. EPA MCL standard of < 10 ppm.
Sulfate (SO4)	Less than 250 ppm: No adverse effects.	250-500 ppm: Likely to have a laxative effect, especially when first introduced. Diarrhea may or may not persist.	More than 500 ppm: Strongly laxative.
Conductivity	Less than 0.30: Extremely pure water can be corrosive metal.	0.30-1.50: No adverse effects.	Greater than 1.50: High levels of dissolved solids (see below).
Total Dissolved Solids (TDS)	Less than 200 ppm: No adverse health or nutritional effects. May be corrosive if extremely pure.	200-1000 ppm: No adverse effects.	More than 1000 ppm: Increasingly adverse effects, especially diarrhea. Water loses esthetic effect.
Hardness	Less than 6 gr/gal: No adverse effects (17.1 mg/L CaCO3 = (1 gr/gal).	6-12 gr/gal: Some scale may form in pipes and water heaters. Softening may be desirable.	More than 12 gr/gal: Scale will form rapidly and laundry will not come clean. Softening for household use is desirable.
Total Coliform*	Negative: No coliform bacteria present in 100 mL of water.		Positive: Coliforms are a bacteria that are naturally present in the environment and can be used to indicate the presence of other potentially harmful bacteria such as Fecal Coliform or *E.coli* . The presence of Fecal and *E. coil* may indicate a contamination from human or animal waste. The EPA acceptable level is less than one (<1) MPN (most probable number) per 100 mL of water.
Iron (Fe)	Less than 0.3 ppm: No adverse effects.	0.3-1.0 ppm: Some staining will occur.	More than 1.0 ppm: Iron oxide (rust) will cause extensive staining and will precipitate out, forming a red sludge. Taste will be bitter.
Manganese (Mn)	Less than 0.05 ppm: No adverse effects.	0.05-0.30 ppm: May cause black or brown staining of pipes, sinks and laundry.	More than 0.30 ppm: Besides the staining effect, will cause a metallic taste. It is harmful for infants 0-6 months at 0.30 to 1.0 mg/L. Greater than 1.0 mg/L is harmful for adults. May cause neurological issues. Refer to State Health Department.
Chloride (Cl)	Less than 200 ppm: No adverse effects.	200-500 ppm: Increasingly salty taste.	More than 500 ppm: Very salty taste.