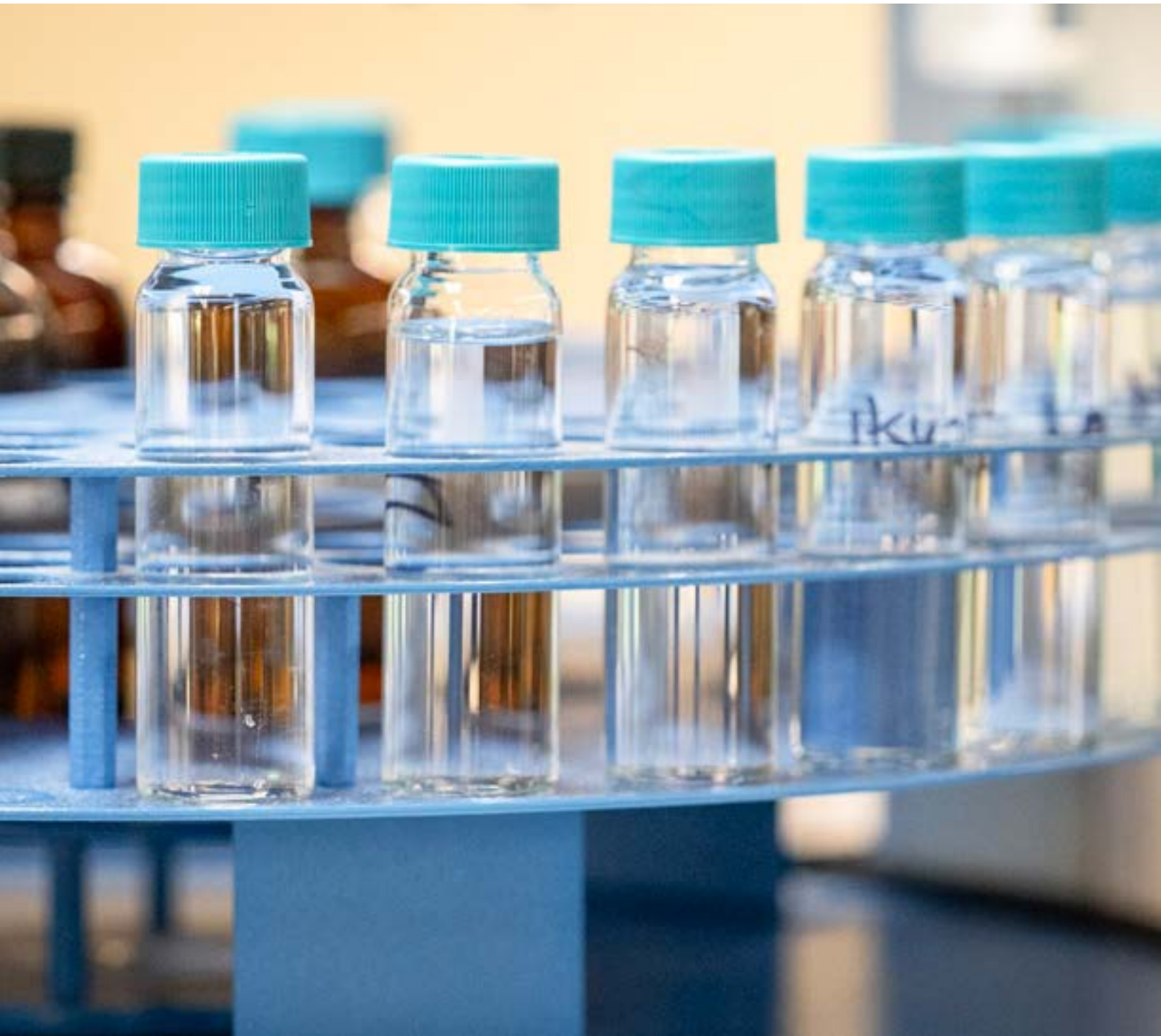


Prein&Newhof

Engineers • Surveyors • Environmental • Laboratory

Drinking Water Testing Guide



2025 Drinking Water Tests & Price List

Bacteria

Coliform (E-Coli) – Presence/Absence	\$20
Iron Reducing (IRB)	\$25
Sulfate Reducing (SRB).....	\$25

Corrosivity

Alkalinity, Calcium, pH, Temperature, Total Dissolved Solids

Disinfection Byproducts

Trihalomethanes (THM) and Haloacetic Acids (HAA5)

Drinking Water Full

Coliform Bacteria, Complete Metals, Minerals, Partial Chemistry, Silica, Strontium, Tannin, Total Dissolved Solids, Turbidity, Volatile Organic Compounds

Metals

Common Metals

Arsenic	\$25
Lead – First Draw or Flushed.....	\$25

Complete Metals.....

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel, Selenium, Thallium, Zinc

Minerals

Alkalinity, Calcium, Chloride, Conductance, Fluoride, Iron, Hardness, Magnesium, Nitrate, Nitrite, pH, Potassium, Silica, Sodium, Specific Sulfate

Nitrate and Nitrite.....

Partial Chemistry Test

Chloride, Fluoride, Hardness, Iron, Nitrate, Nitrite, Sodium, Sulfate

PFAS.....

We test for the 18 manufactured chemicals for which the U.S. EPA has a Certified Drinking Water Method.

Polynuclear Aromatic Hydrocarbons (PAH/PNA)

Often tested for when a fuel tank is or was on the property.

Radiological*

Gross Alpha	\$125
Radium 226	\$185
Radium 228	\$185

Synthetic Organic Compounds (SOCs)*

\$450
This is a list of 48 pesticides, herbicides, polychlorinated biphenyls (PCBs), and other organic compounds.

Tannin..... \$15

Total Organic Carbon (TOC)..... \$15

Volatile Organic Compounds (VOCs)..... \$100

This is a list of 63 volatile organic compounds.

*We have a partner lab perform these tests.

Need your drinking water tested for a Conventional Mortgage?

Be sure to ask your Mortgage Underwriter what tests they require.

- Typically required tests: Coliform Bacteria and Nitrate/Nitrite \$45
- Some require testing for: Lead, Coliform Bacteria, Nitrate/Nitrite..... \$70

Sample Collection & Drop Off

- If you choose to collect samples yourself, bottles and sample collection instructions are available at our Laboratory in Grand Rapids and at our Holland and Muskegon offices.
- Samples can be dropped off at our Lab for no additional charge. Please drop off samples at our Lab by 4:30 p.m. Monday – Thursday, and by 3:00 p.m. on Friday. To drop off samples at our Holland or Muskegon locations, please call our Lab to coordinate this service.
 - \$40 pick up fee for Holland office
 - \$50 pick up fee for Muskegon office
- We can collect and pickup your samples for an additional fee: \$2/mile round trip from our Lab to your site. (\$50 minimum)

Contact

Contact Lab Manager **Steve Bylsma (sbylsma@preinnewhof.com or 616-364-7600)** with any questions about drinking water testing, sample collection, reporting, pricing, or to schedule your project. Our hours are 8 a.m. to 5 p.m. Monday–Friday.

Interpreting Drinking Water Test Results

Here are the general guidelines for interpreting results of the most common types of chemical testing. **Contact your local health department for a more detailed evaluation.**

All results are in mg/L (parts per million)

Test Type	Excellent	Satisfactory	May be Objectionable	EPA Max. Contaminant Level (MCL)
Fluoride	1.0 – 1.2	0.07 – 2.0	> 4.0	4
Chloride	< 0.01 – 20	20 – 250	> 250	[250]*
Nitrite	< 0.1	0.1 – 1	> 1	1
Nitrate	< 0.1	1 – 10	> 10	10
Nitrite + Nitrate	< 0.1	1 – 10	> 10	10
Sulfate	< 0.2 – 50	50 – 250	> 250	[250]
Iron	< 0.008 – 0.2	0.2 – 0.5	> 0.5	[0.3]
Sodium	< 0.020 – 20	20 – 160	> 160	[20]
Hardness	25 – 100	100 – 250	> 250	
Lead	<0.001	0.001 – 0.015	>0.015	0.015
Arsenic	<0.001	0.001 – 0.010	>0.010	0.01
PFAS Compounds	<2	N/A	N/A	Varies

Helpful hints:

< means less than

> means greater than

*Maximum Contaminant Levels (last column) listed with brackets [] are secondary limits for aesthetic qualities

Test	Related Problems
Fluoride	Fluoride is naturally present in some water. Community water fluoridation is the adjustment of the natural fluoride level in public water systems to an optimal level to prevent tooth decay. Mottling of teeth possible at high levels.
Chloride	Taste and Corrosion
Nitrite	May cause methemoglobinemia in infants.
Nitrate	The largest use of nitrates is in fertilizer. In the body, nitrates are converted to nitrites. Infants below six months of age who drink water containing nitrate in excess of the MCL could become seriously ill. Symptoms include shortness of breath and blue baby syndrome. The long-term effects of nitrate on adults is still being studied.
Sulfate	Higher levels may have a laxative effect, especially for new supply users.
Iron	Staining, turbidity, taste, color and odor.
Sodium	Taste and special diets may require water of low sodium content.
Hardness	Scaling of water fixtures, laundry problems, water spotting, discoloration at high levels. Corrosion at low levels.

The above information is given for informational purposes only. Prein&Newhof does not make any health-based decisions on water testing results. Contact the local Health Department regarding any potential health-based concerns.

Units of Measurement

mg/L Milligrams per Liter	is equal to	ppm Parts per million
ug/L Micrograms per Liter	is equal to	ppb Parts per billion
ng/L Nanograms per Liter	is equal to	ppt Parts per trillion

How to Read your Lab Report

Analyses: List of the parameters that were tested.

Result: The amount of that parameter in your sample. The "<" symbol indicates that the amount is less than our Lab reporting limits.

Units: mg/L is milligrams per Liter and the same as ppm, parts per million. ug/L is micrograms per Liter, the same as ppb, parts per billion. For solids, the unit is mg/kg, milligrams per Kilogram.

RL: Reporting Limit is the lowest amount this Lab can reliably report for that parameter. These levels can change based on the dilutions we must make to samples, in order to produce that quality, reliable data. Other similar acronyms include PQL, MDL and RPT Limit.

MCL: EPA's Maximum Contaminant Level. Action Level is similar and referenced for lead. If there is an exceedance, the column right of the RL column will have the asterisk notation (*), and you will be notified by the Lab. In drinking water, if the result exceeds the MCL, action must be taken before this water is consumed. If no results exceed an MCL, the sample meets the safe drinking water criteria established for the parameter listed. Not all parameters have an MCL.

Analyst and Date: The analyst who did the analyses and the date the sample was analyzed.

Method number: The EPA-approved, parameter-specific method used to analyze the sample.

Trip/field blank: If Volatile (VOC) or PFAS were analyzed, there may be results associated with the trip/field blank. The trip/field blank is a known blank sample that travels with the other samples to the sampling site and back. This tells us whether any parameters may have been picked up during transit or sampling.

WO: This is the Work Order that is assigned to your sample. It is a unique number that identifies your sample(s).

Qual: This stands for Qualifier. This is where any notations about your sample would be if your sample exceeds the MDL or is analyzed out of hold.

*****: This qualifier is used when the reported value exceeds the maximum contaminant level.

H: This qualifier is used when the holding time for that analyte is exceeded.

Laboratory Acronyms (A-F)

A2LA	American Association for Laboratory Accreditation
ACS	American Chemical Society
ASTM	American Society for Testing and Materials
BNA	Base Neutral Acid organic compounds (aka SOC or SVOC)
BOD	Biochemical Oxygen Demand
BTEX	Benzene, toluene, ethylbenzene, Xylenes
CAS No.	Chemical Abstract Service Registry Number
CBOD	Carbonaceous Biochemical Oxygen Demand
CCV	Continuing Calibration Verification sample
CFC	Chlorofluorocarbon
CFR	Code of Federal Regulations
CFU	Colony-Forming Unit
COC	Chain of Custody
COD	Chemical Oxygen Demand
DBP	Disinfection Bi-Products
DCM	Dichloromethane (aka Methylene Chloride)
DMR	Discharge Monitoring Report
DMRQA	Discharge Monitoring Report Quality Assurance Program
DRO	Diesel Range Organics
DUP	Duplicate
DW	Drinking Water
EGLE	Michigan Department of Environment, Great Lakes, and Energy
ELAP	Environmental Laboratory Accreditation Program
FAA	Flame Atomic Absorption Spectrophotometer
FIA	Flow Injection Analyses
FID	Flame Ionization Detector
GC	Gas Chromatograph
GC/MS	Gas Chromatograph/Mass Spectrophotometer
GRO	Gasoline Range Organics
HAA5	Haloacetic Acids
HPLC	High Pressure Liquid Chromatography

Laboratory Acronyms (G-P)

IC	Ion Chromatography
ICP-AES	Inductively Coupled Plasma Atomic Emission Spectrometry
ICP-MS	Inductively Coupled Plasma- Mass Spectrometry
LCS	Laboratory Control Sample
LIMS	Laboratory Information Management System
MB	Method Blank
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
MPN	Most Probably Number
MRL	Method Reporting Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MUR	Method Update Rule
ND	Non Detect
NPDES	National Pollutant Discharge Elimination System
PAH/ PNA	Polynuclear Aeromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PE	Performance Evaluations
PID	Photoionization Detector
PQL	Practical Quantification Limit
QA	Quality Assurance
QC	Quality Control
RPT	Report
SIE	Selective Ion Electrode
SOC	Synthetic Organic Compounds
SVOA/ SVOC	Semi-Volatile Organic Analytes/ Analyses/Compounds
SW-846	Test methods for evaluating solid waste, physical and chemical methods
TCLP	Toxic Characteristics Leaching Procedure
TKN	Total Kjeldahl Nitrogen

Laboratory Acronyms (Q-Z)

TOC	Total Organic Carbon
TOH	Total Organic Halides
TOX	Toxicity Testing
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTHM/ THM	Total Trihalomethane
TTO	Total Toxic Organics
UST	Underground Storage Tank
UV	Ultra Violet Spectrophometer
VOA/ VOC	Volatile Organic Analyses/Compounds
WET	Whole Effluent Toxicity
ZHE	Zero Headspace Extraction

Prein&Newhof

Our Approach

At Prein&Newhof, our goal is to serve our clients wisely – meeting their infrastructure needs with a combination of experience, integrity, creativity, and common sense.

For 50 years, Prein&Newhof has been meeting infrastructure needs for township, municipal, and private clients across West Michigan. We offer a wide range of engineering, environmental consulting, surveying, GIS, and laboratory services.

Because every situation is different, we put a high value on personal attention. And because needs change over time, we are dedicated to crafting flexible, long-term solutions rather than quick fixes.

Our Values

Invest Wisely We will help you make the best use of your resources with long-term, sustainable solutions – refusing to cut corners or compromise quality.

Develop Relationships We will get to know your business, learn your long-term needs, and work with the people who can make it happen.

Take Responsibility We will be responsible to our clients, our colleagues, and our communities to be completely honest and ethical in all that we do.

Build Expertise We will strive to be experts in our fields, well-qualified to meet our clients' changing needs.

Build Our Community We will be a positive force in our communities – making every community we live in and every community we serve a better place to live and work.

History

Begun by Tom Newhof and Ed Prein in 1969, Prein&Newhof was founded on the belief that each engineer should take personal responsibility for meeting his or her clients' needs – building long-term relationships and managing each project from start to finish, from preliminary design to final construction. In 1974, we opened a laboratory to complement our engineering services, and it now has the capabilities to perform a variety of tests for municipal, commercial, and residential clients.

Other Professional Services

- Municipal Engineering
- Water & Wastewater Systems
- Stormwater Management
- Roads & Trails
- Airports
- Asset Management
- Landscape Architecture
- Environmental Consulting
- Laboratory Testing
- Structural Engineering
- Geotechnical Engineering
- Surveying
- GIS & Mapping

Locations

Laboratory

3260 Evergreen Drive NE
Grand Rapids, MI 49525
t. 616-364-7600
f. 616-364-6955

Grand Rapids (Corporate Office)
3355 Evergreen Drive NE
Grand Rapids, MI 49525
t. 616-364-8491

Holland (Sample Drop Off Location)

697 Ottawa Beach Road, Ste 2A
Holland, MI 49424
t. 616-394-0200

Muskegon (Sample Drop Off Location)

4910 Stariha Avenue
Norton Shores, MI 49441
t. 231-798-0101

Kalamazoo

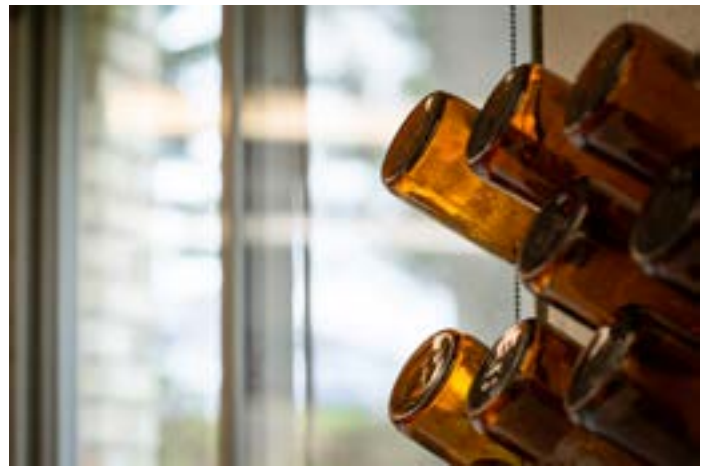
1707 South Park Street, Ste 200
Kalamazoo, MI 49009

Cadillac

100 E. Chapin Street, Suite A
Cadillac, MI 49601

Traverse City

990 Garfield Woods Drive, Ste A
Traverse City, MI 49686



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