



North Carolina State Laboratory of Public Health
Environmental Sciences
Inorganic Chemistry
Certificate of Analysis

4312 District Drive
MSC 1918
Raleigh, NC 27699-1918
<http://slph.ncpublichealth.com>
Phone: 919-733-7308
Fax: 919-715-8611

FINAL REPORT

Report to: Environmental Health

FRANKLIN CO ENVIRONMENTAL HEALTH

127 S BICKETT BLVD
LOUISBURG, NC 27549

Name of System:

Walter Carter

124 Winn Dr
Louisburg, NC 27549

EIN: 566000299EH

Delivery: NC Courier

StarLiMS ID: ES240925-0029

Date Collected: 09/24/2024

Time Collected: 10:38

By: Dawn Davis

Date Received: 09/25/2024

Time Received: 07:57

Sample Type: Raw

Sampling Point: Well head

Well Permit No.

Sample Source: Well water

Receipt Temp. :

GPS Number:

Profile: Inorganic Chemical + Metals I

Analyte	Test Result	Allowable Limit	Unit	Qualifier(s)
Arsenic	<0.001	0.010	mg/L	
Barium	<0.1	2.0	mg/L	
Cadmium	<0.0005	0.005	mg/L	
Calcium	6		mg/L	
Chloride	<5	250	mg/L	
Chromium	<0.02	0.10	mg/L	
Copper	0.059	1.3	mg/L	
Fluoride	0.152	4.00	mg/L	
Iron	3.48	0.300	mg/L	
Lead	0.003	0.015	mg/L	
Magnesium	2		mg/L	
Manganese	0.021	0.05	mg/L	
Mercury	<0.0004	0.002	mg/L	
Nickel	<0.01	0.1	mg/L	
pH	6.8		N/A	
Selenium	<0.005	0.05	mg/L	
Silver	<0.01	0.10	mg/L	
Sodium	9.9		mg/L	
Sulfate	<5	250	mg/L	
Total Alkalinity	44		mg/L	
Total Hardness	25		mg/L	
Zinc	1.73	5.0	mg/L	

Report Date: 10/09/2024

Reported By:

Marc Komlos

The State of North Carolina
DEPARTMENT OF HEALTH AND HUMAN SERVICES
Results from the NCDHHS Be Well Informed Guide
Created Oct 15, 2024

Information provided in this report is for informational purposes only and should not be substituted for direct consultation with a qualified water treatment professional. Other conditions or factors related to your well or home not considered by this online guide may determine the most appropriate water treatment option.

About the Results

Based on what you entered from your laboratory report, the Results Summary below indicates whether your water meets NC DPH drinking water goals. These drinking water goals are often referred to as "limits" on your laboratory report. If your water exceeds or is approaching these drinking water limits for the contaminant(s) entered, additional health information and treatment options will be shown. **Several contaminants, such as magnesium and potassium, do not have established drinking water goals.**

Results Summary

Key

	Meets the Drinking Water Limit		Close to the Drinking Water Limit
	Above the Drinking Water Limit		Consult NCDHHS Private Wells: Frequently Asked Questions about Testing

Result	Element	Your Entry	Limit	About Your Well Water
	Arsenic	0 mg/L	0.01 mg/L	The value entered meets the NC DPH drinking water goal.
	Copper	0.059 mg/L	1.3 mg/L	The value entered meets the NC DPH drinking water goal.
	Fluoride	0.152 mg/L	4 mg/L	The value entered meets the NC DPH drinking water goal.
	Iron	3.48 mg/L	0.3 mg/L	The value entered exceeds the NC DPH drinking water goal.
	Lead	0.003 mg/L	0.015 mg/L	The value entered meets the NC DPH drinking water goal.
	Manganese	0.021 mg/L	0.05 mg/L	The value entered meets the NC DPH drinking water goal.
	Zinc	1.73 mg/L	1 mg/L	The value entered exceeds the NC DPH drinking water goal.
	Gross Alpha		15 pCi/L	Test your water.
	Radon		4000 pCi/L	Test both the air in your home and in your water for radon.
	Uranium		30 µg/L	Test your water. Groundwater uranium is generally found in the geologic areas known as the Raleigh Belt, Carolina Slate Belt, and the Charlotte and Milton belts.

Water Treatment Systems That Remove Copper, Iron and Zinc

The water treatment is based on the water quality information you entered. Details concerning water treatment are below.

Treatment Order

Step 1

Whole House Cation Exchange
Water Softener



Step 2

Point-of-Use (POU) Reverse Osmosis (RO) System



Regardless of water treatment technology, it is essential that system maintenance be performed on schedule to maintain system effectiveness.

What does “whole house” mean? The term whole house indicates that the treatment technology is installed at the point where water enters your home to treat all of the water used in your home.

What to Do First

Before deciding on a water treatment system for your home, it is important to complete testing for inorganics and bacteria. This is because there are many considerations when choosing the best and safest water treatment system. For example, a water softener can be used to treat hardness, iron and radium, but it will not remove arsenic. If you have not completed this testing you may contact your local health department to request these tests.

Pretreatment is sometimes necessary for some treatment systems. This is because some contaminants (usually hardness, iron or manganese) can make the treatment system less effective at removing the contaminant you want it to.

NCDHHS recommends contacting a water treatment specialist to get the most up-to-date treatment information and estimates. It is usually a good idea to get estimates and treatment recommendations from more than one water treatment specialist before you make your decision. Once the system is installed, you will need to maintain it. Be sure to ask for maintenance cost estimates, too.

Print this report and make final water treatment decisions with a qualified [water treatment professional](#).

More Information about selecting appropriate water treatment devices is available from [NSE](#).

More Information is available from [NHDES](#) and [US EPA](#)

Results Details

Key

- | | |
|--------------------------------|--|
| Meets the Drinking Water Limit | Close to the Drinking Water Limit |
| Above the Drinking Water Limit | Consult NCDHHS Private Wells: Frequently Asked Questions about Testing |

Result	Element	Your Entry	Limit	About Your Well Water
	Aluminum		0.2 mg/L	
	Antimony		0.006 mg/L	
	Arsenic	0 mg/L	0.01 mg/L	The value entered meets the NC DPH drinking water goal.
	Barium		2 mg/L	
	Beryllium		0.004 mg/L	
	Boron		0.7 mg/L	
	Cobalt		1 µg/L	
	Cadmium		0.005 mg/L	
	Chloride		250 mg/L	
	Chromium		0.1 mg/L	
	Copper	0.059 mg/L	1.3 mg/L	The value entered meets the NC DPH drinking water goal.

Interpretation of Results:

Does my well water meet the **NC DPH drinking water goal for copper** [<https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations#inorganic>]? Yes, your water meets the NC DPH drinking water goal as it contains less than 1.3 mg/L of copper.

Health Concerns:

Can consuming water containing copper affect my health? Consuming water containing less than 1.3 mg/L of copper is not harmful to most people. However, if you or someone in your household has Wilson's Disease, you should talk with your doctor about the level of copper in your water. The presence of copper in your water may also indicate that other pollutants, such as lead, may be present in your water.

Treatment Options:

What should I do? If you haven't already done so, you should also test your water for lead, which can cause serious health problems, especially for babies, children, and pregnant women.

	Fluoride	0.152 mg/L	4 mg/L	The value entered meets the NC DPH drinking water goal.
---	----------	------------	--------	---

Interpretation of Results:

Does my well water meet the **NC DPH drinking water goal for fluoride** [<https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations#inorganic>]? Yes, your water meets the NC DPH drinking water goal as it contains less than 4.0 mg/L of fluoride.

Health Concerns:

Can consuming water containing fluoride affect my health? Consuming water containing an optimal level of fluoride helps protect against tooth decay. The U.S. Department of Health and Human Services' recommended optimal range for fluoride in drinking water is 0.6 - 0.8 mg/L. Since your water contains less than the optimal level, you should talk with your dentist and doctor about the level of fluoride in your water and ask whether fluoride supplements or treatments are right for you or your family. Click [here](http://www.cdc.gov/fluoridation/fags/wellwater.htm) [<http://www.cdc.gov/fluoridation/fags/wellwater.htm>] for more information from the U.S. Centers for Disease Control and Prevention about private well water and fluoride.

	Hardness	-		
	Hexavalent Chromium	0.07 µg/L		
	Iron	3.48 mg/L	0.3 mg/L	The value entered exceeds the NC DPH drinking water goal.

Interpretation of Results:

Does my well water meet the **NC DPH drinking water goal for iron** [<https://www.epa.gov/sdwa/secondary-drinking-water-standards-guidance- nuisance-chemicals>]? No, your water does not meet the NC DPH drinking water goal as it contains more than 0.3 mg/L of iron.

Health Concerns:

Can consuming water containing iron affect my health? Consuming water containing iron is not harmful to your health.

Elevated levels of iron can cause a metallic taste, bad smell, rusty-colored water, mineral deposits or sedimentation, or reddish or orange staining on laundry or surfaces that come in contact with the water. None of these effects poses a health risk.

Elevated levels of iron or manganese (commonly found together in water wells) may also cause the growth of iron or manganese bacteria, which produce a slime that can clog filters and plumbing. Although these bacteria can make water unappealing and cause a bad taste or smell, there is no health risk associated with them.

Treatment Options:

How can I reduce the level of iron in my water? Install one of the following water treatment systems to reduce the level of iron in your water. Your test results show that your water contains less than 0.005 mg/L of arsenic, so installing a treatment system for arsenic is not needed.

1. An NSF/ANSI Standard 44 certified whole house cation exchange water softener.

OR

2. An NSF/ANSI Standard 42 certified whole house oxidizing filter system that uses air as the oxidizing agent. Your test results show that your water contains less than 0.1 mg/L of manganese, so using a strong oxidizing agent, such as chlorine or permanganate, is not needed.

More information about treatment for iron can be found in [Iron and Private Wells \[https://epi.dph.ncdhhs.gov/eee/docs/IronAndPrivateWells.pdf\]](https://epi.dph.ncdhhs.gov/eee/docs/IronAndPrivateWells.pdf).

	Lead	0.003 mg/L	0.015 mg/L	The value entered meets the NC DPH drinking water goal.
	Manganese	0.021 mg/L	0.05 mg/L	The value entered meets the NC DPH drinking water goal.

Interpretation of Results:

Does my well water meet the **NC DPH drinking water goal for manganese** (<https://www.epa.gov/sdwa/secondary-drinking-water-standards-guidance-chemicals>)? Yes, your water meets the NC DPH drinking water goal.

Health Concerns:

Can consuming water containing manganese affect my health? Consuming water containing less than 0.3 mg/L of manganese is not harmful to your health.

Elevated levels of manganese can cause a metallic taste, bad smell, rusty-colored water, mineral deposits or sedimentation, or brown or black staining on laundry or surfaces that come in contact with the water. None of these effects poses a health risk.

Elevated levels of iron or manganese (commonly found together in water wells) may also cause the growth of iron or manganese bacteria, which produce a slime that can clog filters and plumbing. Although these bacteria can make water unappealing and cause a bad taste or smell, there is no health risk associated with them.

	Mercury	0.002 mg/L		
	Molybdenum	0.018 mg/L		
	Nickel	0.1 mg/L		
	Nitrate-N	10 mg/L		
	Nitrite-N	1 mg/L		
	pH	6.5-8.5 standard units		
	Selenium	0.05 mg/L		
	Silver	0.02 mg/L		
	Sodium	20 mg/L		
	Strontium	2.1 mg/L		
	Sulfate	250 mg/L		
	Thallium	0.2 µg/L		
	Vanadium	0.3 µg/L		
	Zinc	1.73 mg/L	1 mg/L	The value entered exceeds the NC DPH drinking water goal.

Interpretation of Results:

Does my well water meet the **NC DPH drinking water goal for zinc** (<https://deq.nc.gov/media/28963/download?attachment>)? No, your water does not meet the state of NC DPH drinking water goal as it contains more than 1 mg/L of zinc.

Health Concerns:

Can consuming water containing zinc affect my health? Zinc is considered an essential element, meaning your body does need it in small amounts. However, drinking high levels of zinc may cause adverse health effects like stomach cramps, nausea and vomiting. Drinking high levels over long periods can cause anemia and reduced copper absorption.

Treatment Options:

How can I reduce the level of zinc in my water? You can install a treatment system to reduce the levels of zinc in your private well. The treatment systems that reduce the levels of zinc in your well water are ion exchange and activated carbon. You can also reduce your exposure by using bottled water or connecting to a public water supply, if possible. More information about treatment for zinc can be found in [How to select a well-water treatment system](https://epi.dph.ncdhhs.gov/oe/docs/HowtoSelectaWellWaterTreatmentSystemforYourHome.pdf) [https://epi.dph.ncdhhs.gov/oe/docs/HowtoSelectaWellWaterTreatmentSystemforYourHome.pdf]

	E. coli	0 CFU/100 mL or Absent	
	Total Coliform	0 CFU/100 mL or Absent	
	Gross Alpha	15 pCi/L	Test your water.
	Radon	4000 pCi/L	Test both the air in your home and in your water for radon.
	Uranium	30 µg/L	Test your water. Groundwater uranium is generally found in the geologic areas known as the Raleigh Belt, Carolina Slate Belt, and the Charlotte and Milton belts.
	Acetone	6000 µg/L	
	Acrylonitrile	0.5 µg/L	
	Benzene	1 µg/L	
	Bromobenzene	60 µg/L	
	Bromochloromethane	7.7 µg/L	
	Bromodichloromethane	0.6 µg/L	
	Bromoform	4 µg/L	
	Bromomethane	10 µg/L	
	2-Butanone	4000 µg/L	
	n-Butylbenzene	70 µg/L	
	sec-Butylbenzene	70 µg/L	
	tert-Butylbenzene	70 µg/L	
	Carbon Disulfide	700 µg/L	
	Carbon Tetrachloride	0.5 µg/L	
	Chlorobenzene	100 µg/L	
	Chloroethane	3000 µg/L	
	Chloroform	70 µg/L	
	Chloromethane	3 µg/L	
	2-Chlorotoluene	100 µg/L	
	4-Chlorotoluene	100 µg/L	
	Dibromochloromethane	0.5 µg/L	
	1,2-Dibromo-3-chloropropane	0.04 µg/L	
	Dibromoethane (1,2-)	0.02 µg/L	

Result	Element	Your Entry	Limit	About Your Well Water
	Dibromomethane		70 µg/L	
	1,2-Dichlorobenzene		600 µg/L	
	1,4-Dichlorobenzene		6 µg/L	
	1,1-Dichloroethane		6 µg/L	
	1,2-Dichloroethane		0.5 µg/L	
	1,1-Dichloroethene		7 µg/L	
	(cis 1,2)-Dichloroethene		6 µg/L	
	(trans 1,2)-Dichloroethene		100 µg/L	
	Dichlorofluoromethane		1000 µg/L	
	1,2-Dichloropropane		0.6 µg/L	
	(cis 1,3)-Dichloropropene		0.5 µg/L	
	(trans 1,3)-Dichloropropene		0.5 µg/L	
	Ethylbenzene		700 µg/L	
	2-Hexanone		40 µg/L	
	Isopropyl Ether		70 µg/L	
	Methylene Chloride		5 µg/L	
	4-Methyl-2-pentanone		100 µg/L	
	Methyl tert-butyl ether		20 µg/L	
	Naphthalene		100 µg/L	
	Styrene		100 µg/L	
	1,1,1,2-Tetrachloroethane		1 µg/L	
	1,1,2,2-Tetrachloroethane		0.5 µg/L	
	Tetrahydrofuran		6300 µg/L	
	Tetrachloroethene		5 µg/L	
	Toluene		600 µg/L	
	1,2,3-Trichlorobenzene		6 µg/L	
	1,2,4-Trichlorobenzene		70 µg/L	
	1,1,1-Trichloroethane		200 µg/L	
	1,1,2-Trichloroethane		0.6 µg/L	
	Trichloroethylene		1 µg/L	
	Trichlorofluoromethane		2000 µg/L	
	2,4,5-T		70 µg/L	
	Vinyl chloride		0.03 µg/L	
	Xylenes		1000 µg/L	
	Aldrin		0.1 µg/L	
	Chloramben		100 µg/L	
	Dieldrin		0.1 µg/L	

Result	Element	Your Entry	Limit	About Your Well Water
--------	---------	------------	-------	-----------------------

☐	Endrin		2 µg/L	
☐	Heptachlor		0.1 µg/L	
☐	Heptachlor epoxide		0.1 µg/L	
☐	Hexachlorobenzene		0.1 µg/L	
☐	Hexachlorocyclopentadiene		50 µg/L	
☐	Lindane		0.1 µg/L	
☐	Methoxychlor		40 µg/L	
☐	Propachlor		90 µg/L	
☐	Toxaphene		0.1 µg/L	
☐	Trifluralin		10 µg/L	
☐	Alachlor		2 µg/L	
☐	Atrazine		3 µg/L	
☐	Simazine		4 µg/L	
☐	Vernolate		7 µg/L	
☐	Glyphosate		700 µg/L	
☐	Bromoacetic acid		60 µg/L	
☐	Bromochloroacetic acid		60 µg/L	
☐	Chloroacetic acid		60 µg/L	
☐	Dibromoacetic acid		60 µg/L	
☐	Dichloroacetic acid		1.5 µg/L	
☐	Trichloroacetic acid		60 µg/L	
☐	Acifluorfen		1 µg/L	
☐	Bentazon		200 µg/L	
☐	Dalapon		200 µg/L	
☐	2,4-D		70 µg/L	
☐	DCPA		70 µg/L	
☐	Dichloroprop		250 µg/L	
☐	Dinoseb		7 µg/L	
☐	4-Nitrophenol		60 µg/L	
☐	Pentachlorophenol		0.4 µg/L	
☐	Picloram		500 µg/L	
☐	2,4,5-TP		50 µg/L	