Well Water Contaminants in Lenoir County

Contaminant	Drinking Water Standard	Private Well Water Test Results					
		Total wells tested	Number of wells tested above standard	Percentage (%) of wells tested above standard	Minimum	Maximum	Average
Maximum Contaminant Level (MCL)							
Arsenic	*10*	170	0	0%	0.71	7.07	2.96
Barium	*2000*	98	0	0%	70.71	400	83.11
Beryllium	*4*	5	0	0%	2.12	2.12	2.12
Cadmium	*5*	111	0	0%	0.71	3.54	0.81
Chromium	*100*	98	0	0%	7.07	7.07	7.07
Copper	*1300*	98	0	0%	35.36	230	38.96
Lead	*15*	170	1	0.59%	3.54	24	3.8
Mercury	*2*	84	0	0%	0.35	0.35	0.35
Nitrate	*10000*	79	2	2.53%	707.11	15000	1416.33
Nitrite	*1000*	79	0	0%	70.71	70.71	70.71
Selenium	*50*	98	0	0%	3.54	22	3.72
Uranium	*30*	0	-	-	-	-	-
NC 2L Groundwater							
Barium	*700*	98	0	0%	70.71	400	83.11
Boron	*700*	0	-	-	-	-	-
Cadmium	*2*	111	4	3.6%	0.71	3.54	0.81
Chromium	*10*	98	0	0%	7.07	7.07	7.07
Cobalt	*1*	0	-	-	-	-	-
Nickel	*100*	0	-	-	-	-	-
Zinc*	*1000*	94	2	2.13%	35.36	2200	94.15
Health Advisory							
Iron*	*2500 (DEQ)*	98	34	34.69%	70.71	14000	693.21
Manganese*	*300 (EPA)*	170	47	27.65%	21.21	3100	62.43
Sodium	*20000 (EPA)*	92	92	100%	1900	210000	19143.48
State Health Goal							
Hexavalent Chromium	*0.07*	0	-	-	-	-	-
Thallium	*0.2*	5	5	100%	1.41	1.41	1.41
Vanadium	*0.3*	0	-	-	-	-	-

Contaminant levels are measured in micrograms per liter (µg/L), which is equal to parts per billion (ppb). Note: Copper and Lead standards are called "Action Levels".

**The EPA also has a nuisance standard for aesthetic effects caused by these contaminants, however, this table uses the health-based standard.*

Maximum Contaminant Level (MCL): The highest level of a contaminant that the US EPA allows in drinking water supplied by public utilities. An MCL takes into consideration the best available treatment technology and associated costs along with health risk. More information about MCL standards: https://bit.ly/epa-MCL.

NC 2L Groundwater: Set by NC DEQ as the highest level of a contaminant allowed in groundwater, which may be tolerated without creating a threat to human health or which would otherwise make the groundwater unsuitable for its intended best usage, such as a drinking water. Note: Barium, Cadmium, and Chromium have different standards under state and federal regulations; both are included in this table. More information about NC 2L Groundwater standards: https://bit.ly/nc2Lgw.

Health Advisory: In the absence of federal standards, the US EPA and state agencies can issue advisories to communicate the level of a contaminant in drinking water at which harmful health and/or aesthetic effects are not anticipated to occur over a specific period of time.

State Health Goal: In the absence of state and federal standards, level established by NC DHHS to communicate to private well users the risk associated with using their well water.

For more information visit:
https://sph.unc.edu/superfund-pages/for-communities/

Eaves LA, Keil AP, Rager JE, George A, Fry RC. Analysis of the novel NCWELL database highlights two decades of co-occurrence of toxic metals in North Carolina private well water: Public health and environmental justice implications. Sci Total Environ. 2022 Mar 15;812:151479. doi: 10.1016/j.scitotenv.2021.151479. Epub 2021 Nov 9. PMID: 34767890.

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