

2021-12-14

## Wales, NY Community Well Sampling

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### Overview

- 20 wells sampled by NYSDOH
- 6 sampling kits mailed
  - 2 returned
- 22 wells total
  - 18 wells near agriculture (AG)
  - 4 wells near a cemetery (CEM)
- 15 coliform detections
  - 4 CEM
  - 11 AG
- 2 E. coli detections
  - 1 CEM
  - 1 AG
- Very hard water, only 3 wells below 120 mg/L as CaCO<sub>3</sub>
- Extremely high levels of iron (>3 mg/L -> 10 times the MCL) in a few wells
- 11 of the 20 wells sampled by NYSDOH had a disinfection system installed

**Tables**

There are no regulations for maximum contaminant levels in private wells in New York State. All references to exceedances are recommended levels.

Number of wells by number of exceedances

All wells

# of Wells ≥1 Exceedance	# of Wells ≥2 Exceedance	# of Wells ≥3 Exceedance	# of Wells ≥4 Exceedance
20	13	11	9
91%	59%	50%	41%

CEM wells

# of Wells ≥1 Exceedance	# of Wells ≥2 Exceedance	# of Wells ≥3 Exceedance	# of Wells ≥4 Exceedance
4	2	1	1
100%	50%	25%	25%

AG wells

# of Wells ≥1 Exceedance	# of Wells ≥2 Exceedance	# of Wells ≥3 Exceedance	# of Wells ≥4 Exceedance
16	11	10	8
89%	61%	56%	44%

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All wells

<b>Contaminant</b>	<b># of Exceedances</b>	<b>% of Wells</b>
Coliform	15	68%
Iron + Mn	11	50%
Iron	11	50%
Turbidity	7	32%
Manganese	5	23%
E. coli	2	9%
Chloride	2	9%
<b>Total</b>	<b>53</b>	

CEM wells

<b>Contaminant</b>	<b># of Exceedances</b>	<b>% of Wells</b>
Coliform	4	100%
Iron + Mn	1	25%
Iron	1	25%
Manganese	1	25%
E. coli	1	25%
Turbidity	0	0%
Chloride	0	0%
<b>Total</b>	<b>8</b>	

AG wells

<b>Contaminant</b>	<b># of Exceedances</b>	<b>% of Wells</b>
Coliform	11	61%
Iron + Mn	10	56%
Iron	10	56%
Turbidity	7	39%
Manganese	4	22%
Chloride	2	11%
E. coli	1	6%
<b>Total</b>	<b>45</b>	

**Treatments**

Contaminant or Substance	Water Treatment Unit or System						
	Adsorption Media		Reverse Osmosis (RO)	Distillation	Ion Exchange	Oxidizing Filter	Oxidation- Filtration System
	Activated Carbon Filter	Specialty Adsorption Media					
Arsenic <sup>1,3</sup>		X	X	X	X (Anion) <sup>4</sup>	X	X
Boron <sup>1</sup>			X	X			
Fluoride <sup>1</sup>			X	X			
Hard Water Minerals <sup>2</sup>				X	X (Cation)		
Hydrogen Sulfide <sup>1</sup>	X					X	X
Iron/ Manganese <sup>2</sup>				X	X (Cation)	X	X
Lead <sup>1</sup>			X	X			
Nitrate <sup>1</sup>			X	X	X (Anion) <sup>5</sup>		
Radon <sup>1</sup>	X						
Sulfate <sup>1</sup>			X	X	X (Anion)		
VOCs <sup>1</sup>	X						

Minnesota Department of Health Well Management Section. (2014). *Well Owner's Handbook: A Consumer's Guide to Water Wells in Minnesota*.