

# Drinking Water Safety in Vermont

*Guidance • Support • Prevention • Protection*

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# Drinking water sources

- Surface water
  - Lakes
  - Reservoirs
- Groundwater
  - Deep drilled wells
  - Dug wells



## **Drinking water safety**

- The United States has one of the safest drinking water supplies in the world
- However, quality of drinking water varies in place and in time
- Contaminants in drinking water may cause significant health problems

# Drinking water contaminants

Micro-organisms

Inorganic chemicals

Radionuclides



## Micro-organisms



- May cause diarrhea
- Examples, *giardia*, *cryptosporidium*, *E coli*
- Coliform bacteria used as indicator
- Lab report will either say “positive” or “negative for coliform bacteria.
- If result is positive, well will need to be disinfected and retested.

## **Inorganic chemicals**

- Arsenic- bladder, lung, and skin cancer
- Copper- nausea, vomiting, diarrhea
- Lead- Nervous system, kidney
- Nitrate- methemoglobinemia ( blue-baby syndrome), and possible link to cancer
- Sodium- high blood pressure

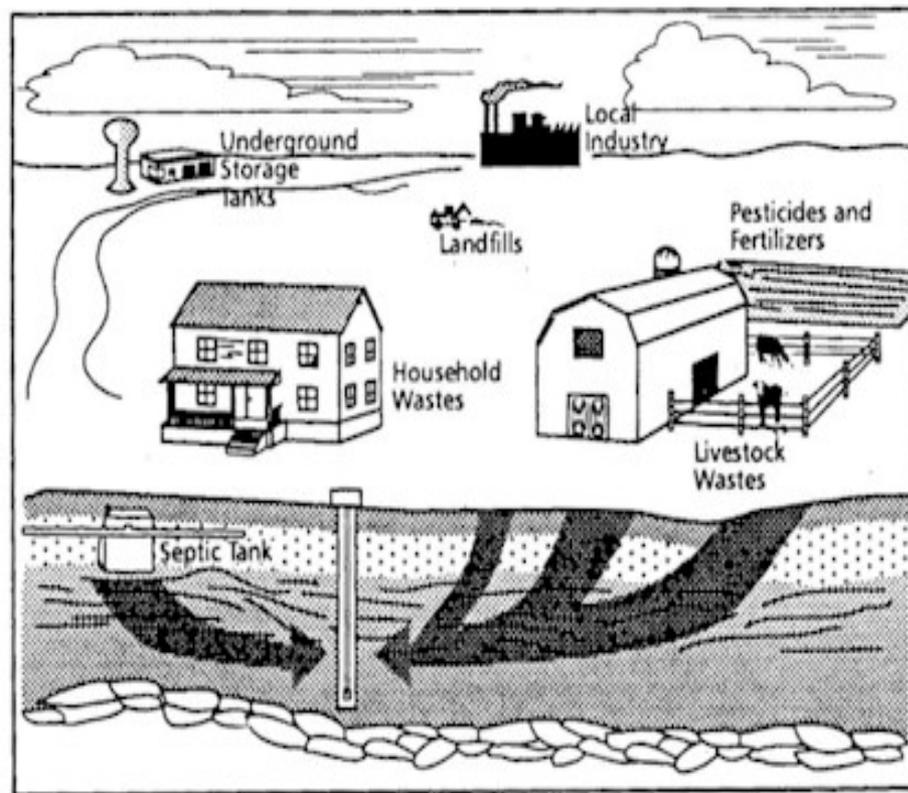
## Radioactivity



- Results from decay of naturally-occurring radionuclides in soil and rocks
- E.g. uranium, radium, radon
- Uranium may cause kidney damage or cancer
- Radium is linked to bone cancer
- Radon is a gas which can cause lung cancer

# Contaminant sources

- Environment
  - Naturally occurring
  - in rocks, soil
- Human sources
  - Agricultural runoff
  - Industrial effluent
  - Household waste
  - Septic leaks





## Detecting contamination

- The only way to tell if your drinking water is contaminated is to **TEST IT!**
- Responsibility for testing water differs if water comes from public or private supplies.
- Public suppliers must test
- Private homes are not required, but testing is **highly recommended**

## **Types of Water Suppliers**

- Public supply
- Private rental housing
- Private non-rental housing

## **Public water supplies**

- Any system with  $\geq 15$  connections and/or serving 25 people  $\geq 60$  days of the year
- Water supply rules enforced by Vermont Department of Environmental Conservation
- Regularly tested for contaminants
- 70% of Vermont drinking water

## **Public water supplies**

- Information resource (will be copied by the Water Supply Division)
  - Boil water advisories
  - Do-not-use/do-not-drink advisories
  - Contaminants exceeding standards
- If contacted by a consumer of public water, THO should direct them to the **Department of Environmental Conservation, Water Supply Division** at 800-823-6500

## **The role of THO in public water supplies**

- Supportive role in situations involving public water supplies
- Alert Water Supply Division if you become aware of issues with your local public water supply (break ins, leaks etc.)

## Private water supplies

- Serves one or less than 15 few homes.
- Safety monitoring and maintenance by owner
- 30% of Vermont drinking water, including many rental properties



## **Testing of private water supplies**

- Rental Housing code requires potable water and testing.
- The Vermont Department of Health (VDH) Guidelines for testing are:
  - Coliform bacteria, yearly (Kit A)
  - Inorganic chemicals every five years (Kit C)
  - Gross alpha radiation every five years (Kit RA)
- Test kits are available from the Public Health Laboratory (800-660-9997)

## **The role of the THO in private rental water supplies**

- Assuring safety of private water supplies serving rental housing



## **Private water and rental housing**

- All tenants are entitled by law to an adequate supply of safe drinking water Vermont Dept of Health Rental Housing Code III(2)
- When contacted by a tenant on a private water supply, the town health officer (THO) may assist in...
  - Water testing
  - Enforcement of health regulations

## **Private water and rental housing**

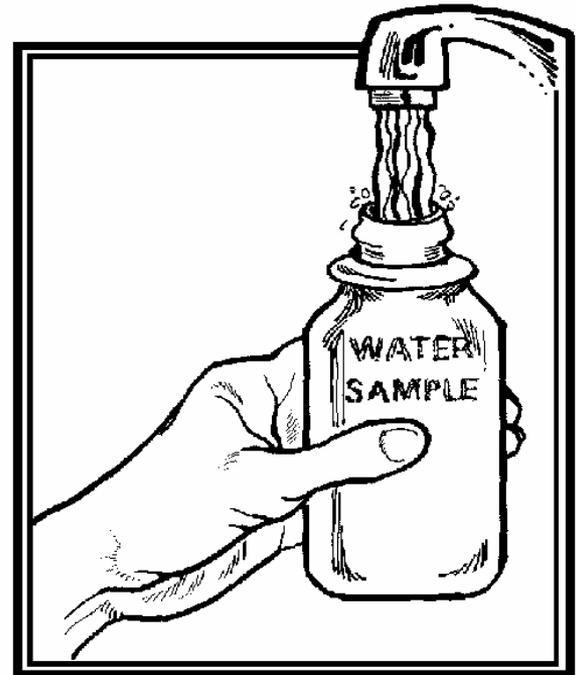
- To ensure water safety, the THO may...
  - Seek voluntary cooperation of the property-owner. Request water test results, contact the Health Department's Environmental Health Section at 800-439-8550 for assistance in laboratory interpretation.
  - If all else fails issue a health order

# The role of the THO in private non- rental water housing

The duties are primarily educational

## Topics

What the testing the guidelines are, how to test, where to get test kits, interpreting results, treatment options



## The THO role in Non-rental private housing cont.

- Refer individuals to...
  - Vermont Department of Health, Environmental Health at 800-439-8550 (technical assistance)
  - Public Health Laboratory at 800-660-9997 (test kits)



VERMONT DEPARTMENT OF HEALTH LABORATORY  
Division of Health Surveillance  
199 COLCHESTER AVENUE  
BURLINGTON, VERMONT 05405-1189  
802-241-8007

WATER SAMPLE COLLECTION INFORMATION

DATE OF SAMPLE: \_\_\_\_\_

NAME OF COLLECTOR: \_\_\_\_\_ DATE OF SAMPLE COLLECTION: \_\_\_\_\_ NAME OF WATER TAP OR SOURCE: \_\_\_\_\_ DATE OF SAMPLE COLLECTION: \_\_\_\_\_

NOTE: ONLY ORIGINAL WATER SAMPLE COLLECTION INFORMATION FORM CAN BE SUBMITTED WITH SAMPLE. INCOMPLETE INFORMATION ON THIS REQUEST FORM MAY RESULT IN THE EXAMINATION BEING DELAYED OR THE SAMPLE BEING REJECTED.

SECTION BELOW FOR REGULATED PUBLIC WATER SYSTEM USE ONLY

## **The THO role in Non-rental private water housing cont.**

- If called upon to resolve a contamination dispute (e.g. a private water supply is contaminated by neighbor)
  - Moderate between parties
  - Contact the Vermont Department of Health, Environmental Health 800-439-8550 for guidance
  - Facilitate testing
  - Pesticide contamination, manure contaminating wells, contact **Dept of Agriculture 802-828-3475**

## **Drought conditions**

- Public water shortage dealt with by Water Supply Division
- THOs may be contacted by private water owners whose wells have dried up.
  - Refer to town select board
  - Town select board may request mobile water tanker for shortage areas from Vermont Emergency Management
  - THO should ensure that residents test wells for bacterial contamination before drinking water after drought ends

# Summary

- Drinking water must be tested according to schedule to ensure safety from contamination
- Coliform bacteria, yearly (Kit A)
- Inorganic chemicals every five years (Kit C)
- Gross alpha radiation every five years (Kit RA)
  
- The THO primary role is to verify landlord's compliance with the rental housing code III(2) for supplying potable water.
  
- The THO has additional supportive responsibilities with private, non-rental water and public water supplies

## For more information...

- Contact Vermont Department of Health, Environmental Health at 800-439-8550
- Refer to the Vermont Town Health Officer Manual
- Environmental Protection Agency at [www.epa.gov](http://www.epa.gov)
- Dept of Environmental Conservation, Water Supply Division 800-823-6500
- Dept of Agriculture 802-828-3475

