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Q WHY IS THE NAVY SAMPLING FOR PFCs?

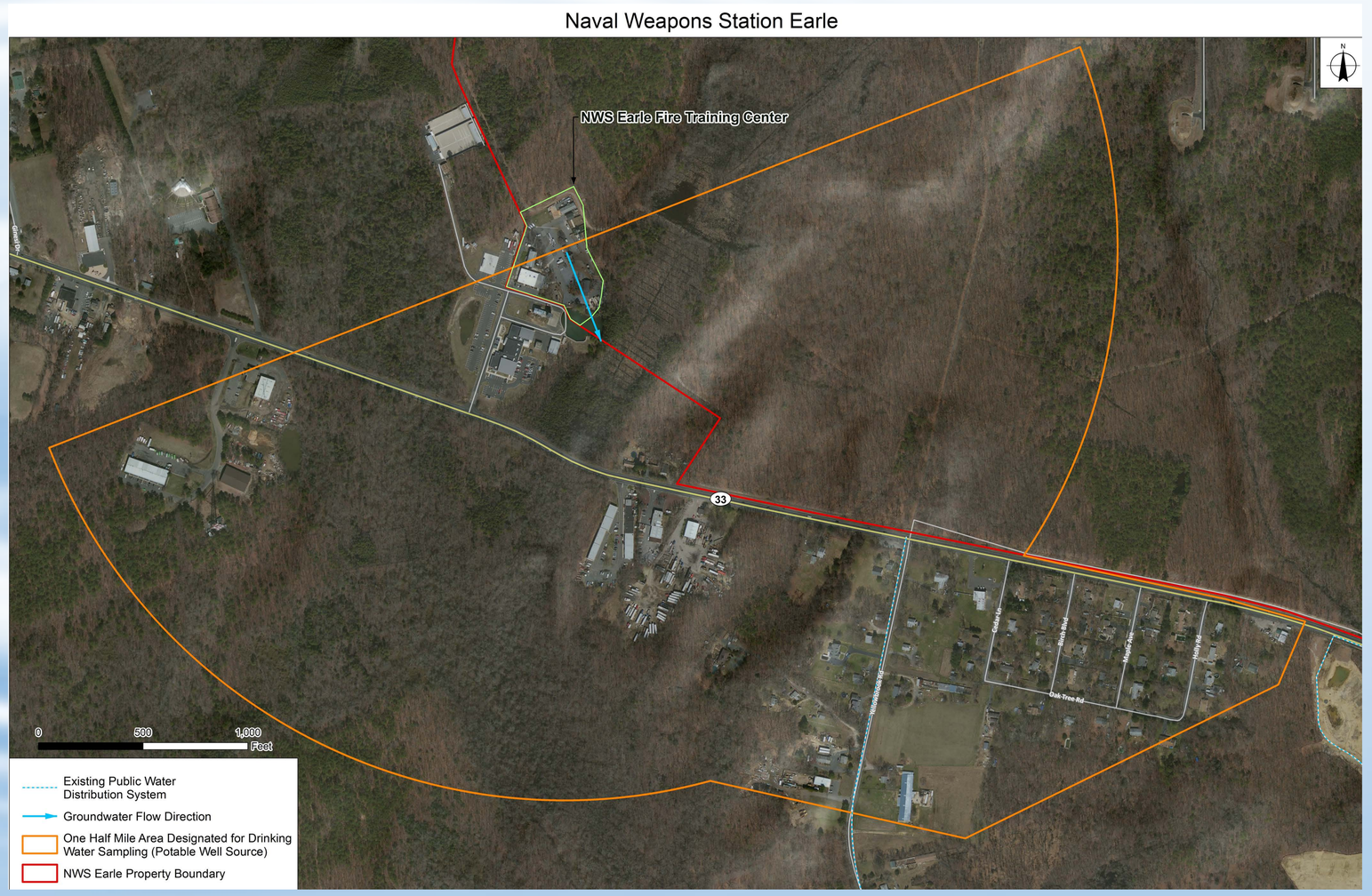
- A new Navy Perfluorinated Compounds (PFC) policy required drinking water sampling for sites with the potential to have PFCs.
- Fire-fighting foam that potentially contained PFCs was historically used at many Navy installations.

NWS EARLE FIRE TRAINING CENTER SAMPLING

- DECEMBER 2015 — Groundwater and drinking water sampling was conducted.
- JANUARY 2016 — Results were received.
  - **Drinking water results showed no PFCs above Health Based Levels.**
  - Groundwater results indicated PFOS above U.S. Environmental Protection Agency (U.S. EPA) Provisional Health Advisory levels and PFNA above New Jersey Interim Ground Water Quality Standard.
  - The Navy recognizes the potential for PFCs to migrate off-base in groundwater.
- FEBRUARY 2016 — Navy proposes to sample off-base drinking water within designated area.

GROUNDWATER RESULTS

PARAMETER	MAXIMUM RESULTS DETECTED IN GROUNDWATER	HBL	EXCEEDS HBL?	
Perfluorooctane Sulfonate (PFOS)	2.8 ppb	0.2 ppb	Yes	ppb = parts per billion HBL = Health Based Level
Perfluorooctanoic Acid (PFOA)	0.094 ppb	0.4 ppb	No	For PFOS and PFOA, health based level is U.S. EPA Provisional health advisory level based on a short-term exposure.
Perfluorononanoic Acid (PFNA)	0.015 ppb	0.01 ppb	Yes	For PFNA, health based level is NJDEP Interim Ground Water Quality Standard.



NAVY PFC TESTING AND RESPONSE GOES BEYOND SAFE DRINKING WATER ACT REQUIREMENTS TO PROTECT OUR NEIGHBORS.

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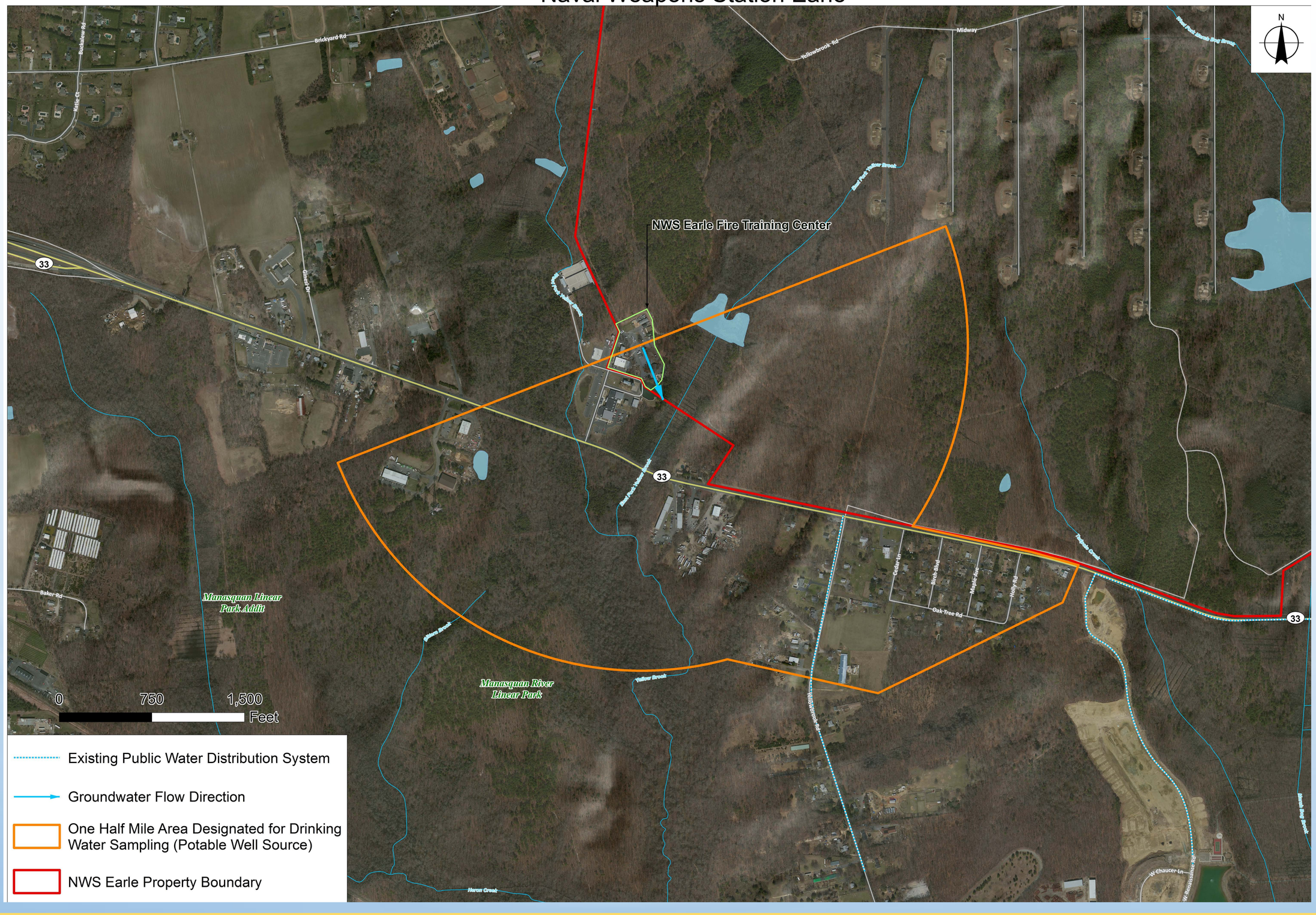
Naval Weapons Station Earle



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Naval Weapons Station Earle Fire Training Center

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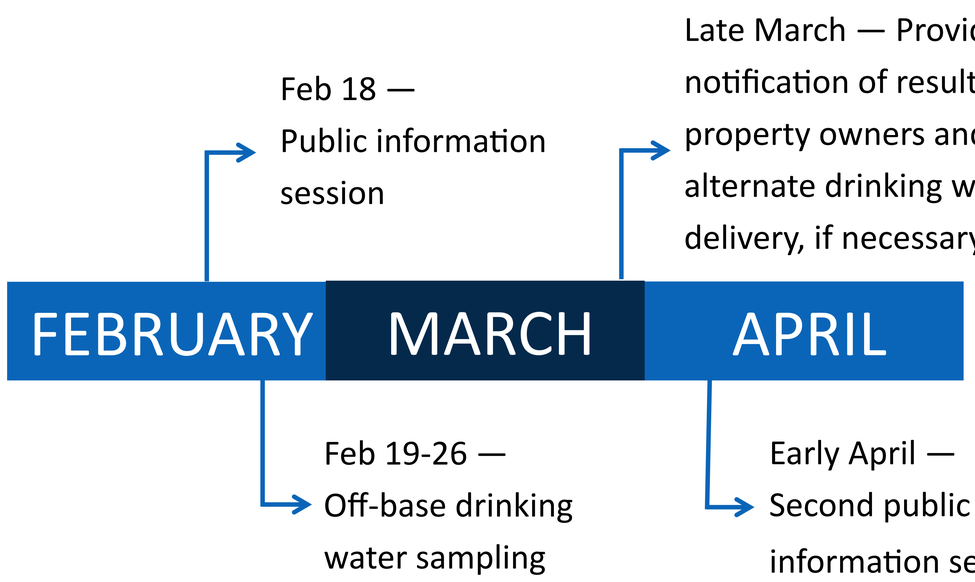
PRIVATE WELL DRINKING WATER SAMPLING

SAMPLING TIMELINE



SAMPLING PROCESS

1. Request 30-minute appointment for sampling of off-base drinking water well from owner.
2. Collect drinking water well information from owner, including location, well construction, and treatment.
3. Run cold water from faucet (typically kitchen sink) for 10-15 minutes.
4. Measure and record water information (e.g., pH & temperature).
5. Collect sample directly from the faucet into approved laboratory bottle by trained personnel.
6. Collect quality control sample within the same room and pour laboratory provided perfluorinated compounds (PFC)-free water into a sample container.
7. Ship sample overnight to an approved laboratory.
8. Validate all analytical data per U.S. EPA guidance.

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ACTIONS BASED ON RESULTS

ACTION CRITERIA	PFOA RESULTS	PFOS RESULTS	PFNA RESULTS	ACTION
At or greater than U.S. EPA Provisional Health Advisory or NJDEP Interim Ground Water Quality Standard for PFNA	Greater than 0.4 ppb	Greater than 0.2 ppb	Greater than 0.01 ppb	Provide alternate water
Greater than 25% of U.S. EPA Provisional Health Advisory or above detection limit for PFNA	0.1 ppb to 0.4 ppb	0.05 ppb to 0.2 ppb	Above detection limit (0.003 ppb)	Follow up sampling with further evaluation of potential action
Less than 25% of U.S. EPA Provisional Health Advisory and below the detection limit for PFNA	Below 0.1 ppb	Below 0.05 ppb	Not detected	No further action at this time

NEXT STEPS

- Provide residents with notification letters of results.
- Conduct additional quarterly drinking water sampling as necessary.
- If needed, provide residents with alternate water.
- Conduct an open house meeting for residents.

LONG-TERM GROUNDWATER SOLUTIONS

- Restoration of the groundwater will be addressed by the Navy Environmental Cleanup Program.
- Future groundwater investigation and any actions, if necessary, will be coordinated with U.S. EPA and NJDEP.

* **PRIVATE NOTIFICATION LETTERS LATE MARCH**

* **OPEN HOUSE MEETING EARLY APRIL**

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Q WHAT ARE PFOS, PFOA and PFNA?

Perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorononanoic acid (PFNA):

- Are all perfluorinated compounds (PFCs) and have similar properties
- Are man-made compounds
- Break down slowly, making them useful for home and industrial purposes, but long-lasting in the environment
- Have been used since the 1950s in many products because of their stain and water repellant properties:
  - Fire-fighting foam
  - Stains, paints, and grease
  - Fabric for upholstered furniture
  - Carpets
  - Nonstick cookware
  - Floor wax
  - Food packaging (e.g., lining of microwave popcorn bags, fast food wrappers)
- Are globally distributed in the environment and have been detected in the blood of humans, wildlife, and fish.

U.S. EPA CONTINUES TO INVESTIGATE AND WORK TO ELIMINATE SOURCES.

UNREGULATED CONTAMINANT MONITORING RULE (UCMR)

- There are no Safe Drinking Water Act regulatory limits for PFCs.
- U.S. EPA uses the Unregulated Contaminant Monitoring Rule (UCMR) program to collect data for contaminants suspected to be present in drinking water.
- U.S. EPA is working to improve its understanding of the prevalence and toxicity of PFCs to determine if safe drinking water regulatory limits are needed.

HEALTH BASED LEVELS

- U.S. EPA issued Provisional Health Advisories for PFOS and PFOA in 2009.

U.S. EPA LEVEL FOR PFOS IS 0.2 UG/L OR 0.2 PARTS PER BILLION.
U.S. EPA LEVEL FOR PFOA IS 0.4 UG/L OR 0.4 PARTS PER BILLION.

  - These are reasonable health based hazard concentrations, above which actions should be taken to reduce exposure.
- NJDEP issued an Interim Ground Water Quality Standard for PFNA in November 2015.

NJ LEVEL FOR PFNA IS 0.01 UG/L OR 0.01 PARTS PER BILLION.

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HEALTH EFFECTS

WHAT WE KNOW

- Exposure through a variety of sources to perfluorinated compounds (PFCs) appears to be widespread globally.
- 98% or more of the general U.S. population has PFCs in their blood (CDC 2007).
- Some studies on exposed human populations indicate PFCs may cause elevated cholesterol and uric acid levels, effects on the liver and immune system, and possibly low infant birth weight. New studies are continually becoming available.
- When animals are given large doses, they exhibit developmental, reproductive, and liver effects. Some human and animal studies suggest a link with certain cancers.
- Drinking PFC-contaminated water greatly increases individual exposure. Other household uses such as bathing and laundry are not a concern (U.S. EPA).

WHAT WE DON'T KNOW

- It is not possible to definitively link exposures to PFCs in water to a person's individual health issues.
- Blood tests are not routinely done because they provide limited information. The results can be inconclusive, do not allow for a determination of the source of the exposure, and do not predict health effects.
- Long-term exposure effects are still being investigated by the U.S. EPA and State regulatory agencies.

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- When animals are given large doses, they exhibit developmental, reproductive, and liver effects. Other studies suggest a link with cancer.
- Exposure through ingestion is the primary concern.

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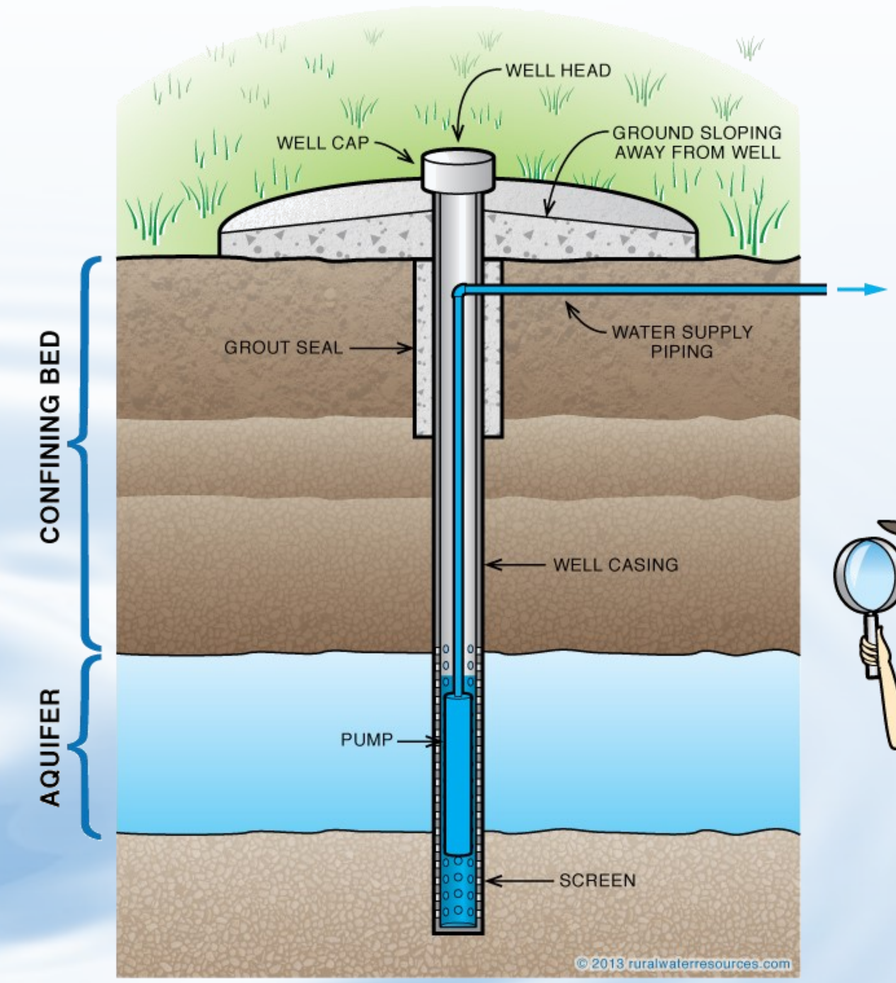
New Jersey

PRIVATE WELL WATER TESTING INFORMATION

- About 12% of New Jersey residents get their drinking water from private wells.
- Private well owners are solely responsible for monitoring the quality of their own well water and maintaining their own well.
- There are no specific testing requirements mandated by law other than the bacteriological test for fecal coliform at the time the well is drilled and/or prior to the well being put into service.
- The New Jersey Private Well Testing Act requires sampling prior to sale or lease of property.
- Testing once a year is a good idea. Regular testing can tell you the quality of the water.
- More frequent testing is recommended if you have a change in taste, odor, appearance, recurrent incidences of gastrointestinal illness, infants living in the home, or a failing septic system.
- The National Groundwater Association recommends you test for bacteria, nitrates/nitrites and any other contaminants of local concern.
- Never connect a well to a public water supply.
- Water conditioner (aka, “water softener”) equipment, if used, should be maintained and kept in working order.
- Do not dispose of hazardous materials or chemicals on your property or near your well.

TYPICAL WELL DESIGN



Information gathered from Sonoma County Dept. of Health Services

For more information about wells in NJ:
http://www.nj.gov/dep/watersupply/index.html

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