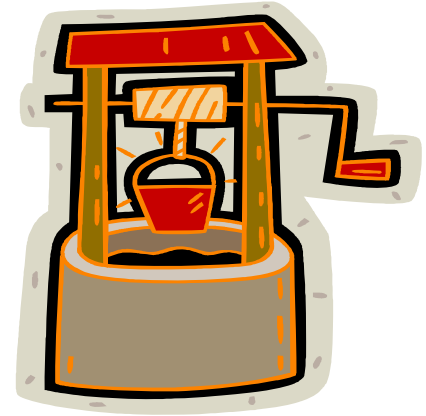


# Can You Sample My Water? A Volunteer Domestic Well Monitoring Project



Environmental Protection Department  
Winnebago Tribe of Nebraska

April 26, 2010



# Winnebago Tribe of Nebraska



# Project Goal

The primary purpose of the project was to monitor the ground water of domestic drinking water wells of Tribal and non-tribal volunteers residing on the Reservation.

Information used to:

- Identify a baseline for ground water quality
- Provide volunteers with vital information about the quality of their drinking water source
- Identify the possible presence and location of a contaminant that could potentially cause human health concerns

# In The Beginning

- Funding Source: Clean Water Act Section 106: Water Pollution Control Grant Program
- Preparation of Standard Operating Procedure for the Collection of Ground Water from Domestic Drinking Water Wells
- Preparation and approval of the Ground Water/Domestic Drinking Water Assessment Quality Assurance Project Plan



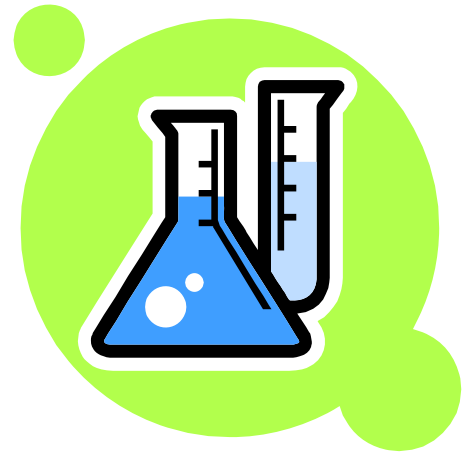
# Village Meeting



- Flyers were made and posted in the 3 villages
- Authorization Letter prepared giving the Tribe permission to conduct sampling and GPS wellheads
- One meeting held in the Village of Winnebago to sign up volunteers
- Called volunteers to set up time for sampling
- Called volunteers the day prior to sampling to confirm sampling schedule

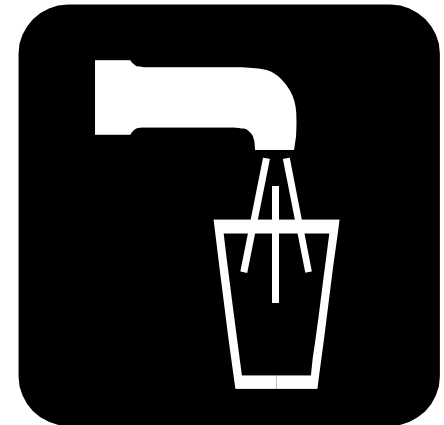
# Parameters of Interest

- pH
- Total Dissolved Solids
- Specific Conductance
- Fecal Coliform
- E. Coli
- Nitrate Nitrogen
- Nitrite Nitrogen
- Total Kjeldahl Nitrogen
- Ammonia Nitrogen
- Sodium
- Calcium
- Magnesium
- Total Hardness
- Iron
- Manganese
- Sulfate
- Chloride
- Fluoride
- Total Phosphorous
- Mercury
- Arsenic
- Alachlor
- Metolachlor
- Metribuzin
- Simazine
- Atrazine



# Day of Collection

- Location: inside faucet or outside faucet attached to house
- Decontamination: flamed metal faucets and alcohol swabbed plastic faucets
- Ran cold side for 5 minutes to clear line
- Pre-labeled sample containers while water was running
- Collected grab samples wearing gloves
- Placed preservative in sample containers
- Stored containers in coolers of ice
- Transported samples immediately to laboratory
- If permission given, wellheads were spatially located



# Problems Encountered Volunteers

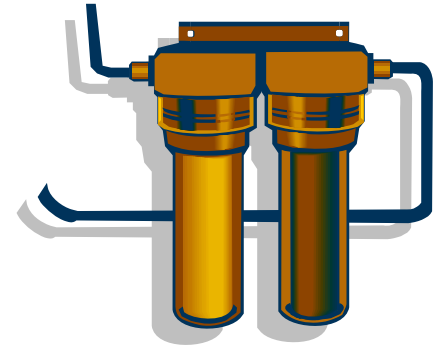
- Difficult to get in contact with someone to get a time scheduled for sampling
- Meeting was held only in the Village of Winnebago, not sure if enough opportunity was provided to volunteer
- Small area of volunteers located mainly around the village of Winnebago
- All volunteers were Tribal members





# Problems Encountered Collection

- Folks not home when scheduled
- Dogs
- Making sure that the faucet was not connected to a water softening system
- Having to sample from a faucet not attached to the house
- E. coli only has a 6 hour holding time so limited the number of volunteers sampled in a day and had to contract a laboratory that is close
- Had to re-sample on occasion for fecal coliforms due to contamination during sampling



# Successes

- Able to detect some trends in geographic areas
- On occasion was able to demonstrate an improvement in ground water quality
- Provided the Tribe and EPA with vital ground water information
- Provided volunteers information about their drinking water source
- Provided a service to both Tribal and non-tribal residences
- Good Tribal response
- Low cost, around \$300.00 per well



# Contact Information

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