

# Wynstone Water System

## Introduction

The Clay RWS assumed operation of the Wynstone water system on Sep. 1, 2005. Information in this section of the Annual Report deals specifically with the Wynstone water system. In 2005 a total of 7,104,000 gallons of potable water was supplied to the residents of the development.

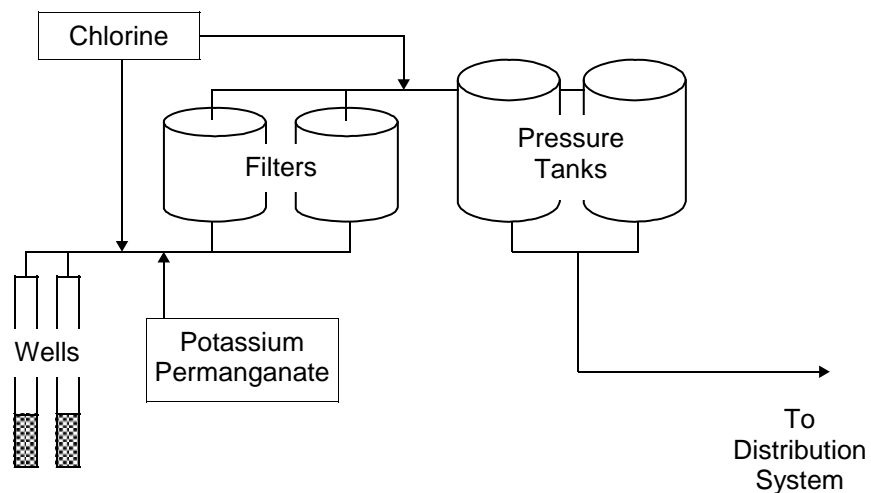
## Where Does Our Water Come From?

A total of 100 residences were served an average of 19,500 gallons per day in 2005. Water is drawn from two wells located in the Dakota Formation aquifer. The wells are approximately 300' deep. The State has performed an assessment of our source water and they have determined that the relative susceptibility rating for the Wynstone system is low. We are currently working with the SD Association of Rural Water Systems on a source water protection program. Results of that program will be mailed to all residents when the plan is complete.

## Treatment Process

The Wynstone water treatment plant is an iron/manganese removal plant with a daily capacity of 100,000 gallons.

Water is pumped from two wells located near the plant. As water enters the plant a small dose of chlorine and potassium permanganate is added to oxidize iron and manganese from the water. The water then enters two pressure filters that filter out iron and manganese. An additional dose of chlorine is then added to disinfect the water before it enters the distribution system. Two hydro pneumatic tanks provide some water storage during peak use periods.



# 2005 Water Quality Test Results

## Summary of Results

The Clay Rural Water System routinely tests its water for over 80 substances. The attached table lists all the drinking water contaminants that we detected during the 2005 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done Jan. 1 - Dec. 31, 2005. The State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

We monitor for lead and copper in some of our users homes to determine if it is leaching from plumbing fixtures. Due to the chemical stability of the water we deliver, the measured lead and copper levels are well below the highest level allowed by EPA.

Substance	Highest Level Detected	Range	Date Tested	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Units	Major Source of Contamination
Alpha Emitters	4.1		12/30/04	15	0	pCi/l	Erosion of natural deposits.
Barium	0.015		03/27/03	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium	2.5		03/27/03	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits.
Combined Radium	0.70		12/30/04	5	0	pCi/l	Erosion of natural deposits.
Copper	0.5	#Sites >1.3 AL- 0	09/23/04	AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Fluoride	1.55		03/27/03	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Lead	2	#Sites >15 AL - 0	09/23/04	AL=15	0	ppb	Corrosion of household plumbing systems; erosion of natural deposits.

### Definition of Terms

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter (ug/l) - one part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.

Picocuries per liter (pCi/l) - a measurement of radioactivity.

Action Level (AL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level (MCL) - the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

*The Maximum Contaminant Levels are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink two liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.*