

How Reclaimed Water is Produced from Effluent

Pima County treats our wastewater to standards required by State and Federal environmental agencies. Some of this 'secondary' effluent is piped to Tucson Water's recharge basins at the Sweetwater Wetlands and elsewhere. The earth acts as a natural filter as the water seeps into the ground. Some is piped directly to Tucson Water's Reclaimed Water Plant where it passes through pressure filters containing anthracite coal and sand and is disinfected with chlorine.

'Recharged' water from the Wetlands and other basins is recovered by wells, mixed with the filtered water produced at the plant, and chlorinated. This ensures that the reclaimed water delivered to customers meets the quality standards set by the Arizona Department of Environmental Quality. The water is then delivered to parks, golf courses and schoolyards through the Reclaimed Water system.



Tucson Water's Reclaimed Water Plant cleans effluent (wastewater) for use in irrigation of golf courses, parks and school yards.

Your Water Connection

NEWS & TIPS FOR TUCSON WATER CUSTOMERS

Water 101

Effluent Used as Reclaimed Water Saves Our Drinking Water

***Water 101* is beginning a series of articles about our water resources and how they are currently being used. Tucson Water's Long Range Water Resource Plan is being presented to Tucson's Mayor and Council this month, and soon we will begin discussing with you what our water future will be. Information about our water resources will be an important part of that discussion.**

Tucson's one water resource that is always increasing is effluent – treated wastewater. The more water we use, the more wastewater we produce.

During the past 20 years, Tucson Water has used as much effluent as possible, further cleaning it and using it to irrigate golf courses, parks, school yards, street medians and residences. We deliver about

Water 101 continued inside

Have a question for Water 101 or a suggestion for a topic? Call us at 791-4331 or email to

TW_Web1@ci.tucson.az.us

Effluent Used as Reclaimed Water Saves Our Drinking Water

Water 101 continued from front

3.4 billion gallons of this 'Reclaimed' Water each year. It's delivered through a system that includes more than 100 miles of pipe and a number of reservoirs – a system that is separate from our drinking water system. But the billions of gallons of effluent we use in this way each year is only a small portion of the total amount produced annually by Pima County at its major wastewater treatment plants. The enormous amount that is left over is discharged into the Santa Cruz River north of Roger Road and flows downstream. It eventually sinks into the riverbed, where it is filtered through the earth and 'recharges' the water table in the area north and west of Tucson.

It's important to remember that every gallon of effluent we use as Reclaimed Water saves a gallon of drinking water that would have been used for irrigation. The 3.4 billion gallons used each year saves enough drinking water to serve more than 30,000 homes in Tucson. In the future, Tucson Water will be working to develop additional possible uses for this plentiful water resource, including increasing the use of Reclaimed Water and finding other ways to make use of this critical water supply. You can learn more about effluent and Reclaimed Water on Tucson Water's website at

www.tucsonaz.gov/water (click on the "Water Resource" button) or by calling us at 791-4331.

Facilities Irrigated with Reclaimed Water

Effluent treated to Reclaimed water standards is used at -

- **14 golf courses**
- **32 City and County parks**
- **40 schools including the University of Arizona and Pima Community College**



Hundreds of millions of gallons of effluent are recharged into the earth at the Sweetwater Wetlands, then recovered with wells, added to water from the Reclaimed Water Plant, and used for irrigation.



On the Water Front

For decades, Tucson Water customers have conserved water better than almost any other water customers in the southwest. You are responsible stewards of this most precious of the desert's natural resources.

Also for decades, Tucson Water has promoted water conservation during the hot summer months through our Beat the Peak program. Although Beat the Peak and our duck mascot, Pete the Beak, are designed for the most part to appeal to our younger customers, the program serves as a highly visible reminder to all of us that conserving water is very important to Tucson.

The on-going drought throughout the southwest, our Governor's recent call for more water conservation and the growing competition among cities and states for water resources, calls for even greater attention to this critical issue. Tucson Water will soon begin reminding you throughout the year of the importance of water conservation. We'll make more conservation tips and information available to you, make sure you're aware of free workshops on conservation that we sponsor, and remind you more often of the free assistance the Zanjeros can provide you in reducing the water use in your home.

Our commercial and industrial customers are also going to hear more from us. We'll increase our water audits of commercial properties and add more water waste enforcement. We'll keep you informed of the progress we make in this area.

We know that most of our customers are already doing a great deal to preserve our water and use it wisely. Tucson Water believes it's important, however, that we all remember, year round, that we live in a desert where water is scarce. Preserving our water today means preserving our quality of life and our environment for future generations.

Dave Modeer
Director, Tucson Water

Clearwater Quality Report- September 2004

51	Sodium (mg/L)
230.3	Mineral Content (mg/L)
124	Hardness (mg/L)
8.12	pH (S.U.)
Neg	Coliform Bacteria
0.72	Chlorine level average (mg/L)
79.3	Temp (deg F)

Visit the Tucson Water Web Site at www.tucsonaz.gov/water

Your Water Connection is produced by Tucson Water. To receive a copy, or to receive this information in Spanish, call 791-4331 or mail your request to: Tucson Water, Customer Information, P.O. Box 27210, Tucson, AZ 85726-7210.

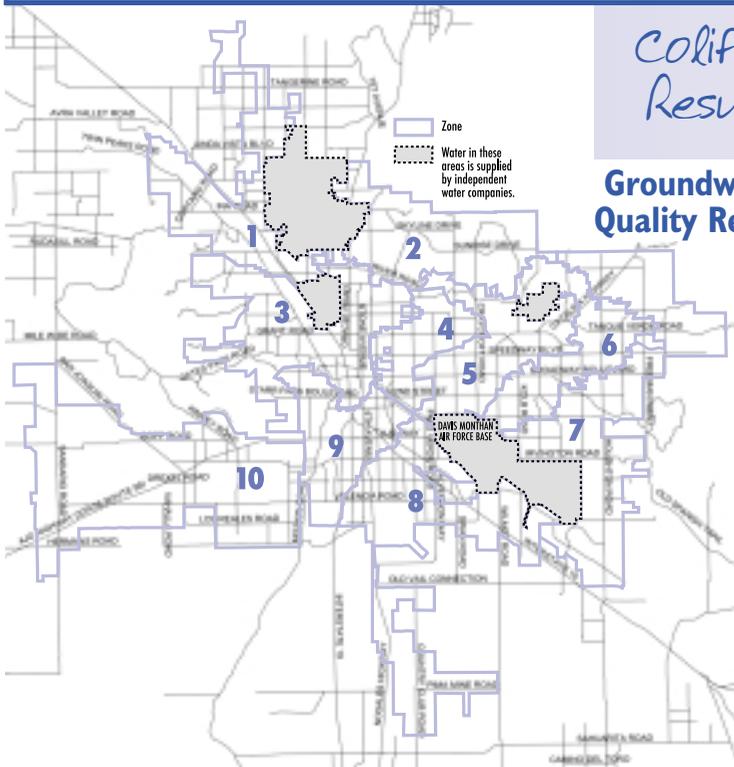
City of Tucson TTY number: 791-2639

Si usted desea este documento escrito en español, por favor, llame al 791-4331.



Groundwater Quality Report - August 2004

Water Quality Zone		1	2	3	4	5	6	7	8	9	10	System Wide
Sodium (mg/L)	Average	50	50	48	39	45	43	39	44	44	44	44
	Range	39-61	48-53	28-56	31-50	41-50	30-48	25-50	40-48	38-50	40-50	25-61
Mineral Content (mg/L)	Average	374	310	307	256	289	294	266	367	278	249	296
	Range	206-554	301-321	173-371	188-317	197-356	214-332	182-318	308-466	213-447	213-308	173-554
Hardness (mg/L)	Average	226	125	132	103	119	128	119	173	103	92	126
	Range	153-335	120-130	78-168	67-130	106-133	109-140	106-132	120-271	71-166	75-122	67-335
pH (S.U.)	Average	7.6	7.9	7.7	7.7	7.7	7.7	7.6	7.5	7.8	7.8	7.7
	Range	7.3-7.9	7.5-8.1	7.3-8.1	7.3-8.0	7.2-8.1	7.2-8.1	7.2-8.0	7.1-7.8	7.3-8.1	7.3-8.0	7.1-8.1
Temperature (deg F)	Average	84	89	87	88	87	87	87	86	89	89	87
	Range	75-90	87-91	78-92	82-91	79-92	80-93	82-93	83-94	81-95	87-92	75-95



Coliform Bacteria Testing Results - August 2004

Groundwater Quality Report



EPA Standard for Positive Samples

5%

Number of Positive Samples for Total Coliform

0.79%



Target = 0.6 to 1.0 mg/L

Monthly Average

0.7 mg/L

252 Sample Points

Chlorine Level Average

"mg/L" means milligrams per liter;
1 mg/L = 1 teaspoon in 1,302 gallons

To give you a more accurate measurement of the water quality in your neighborhood, the Tucson Water service area has been divided into 10 zones based on differences in water pressure and water quality. For a detailed description of the zone boundaries, call 791-4331.

With the exception of chlorine and coliform bacteria, none of the water quality parameters reported here have U.S. Environmental Protection Agency primary standards set for them. For more information about primary and secondary water quality standards, visit Tucson Water's website at www.tucsonaz.gov/water.