

# 1998 ANNUAL WATER QUALITY REPORT

## WHERE IS ESCONDIDO'S WATER SOURCE?

**T**he City of Escondido uses three sources for its drinking water. The first one is local water, which originates from the watershed and well fields located near Lake Henshaw. Water from Lake Henshaw is transferred to Lake Wohlford via an open canal, which was

originally constructed at the turn of the century.

The second source is imported from the Colorado River via the Colorado Aqueduct.

The third source is imported from northern California via the State Water Project. Escondido purchases the imported water from the

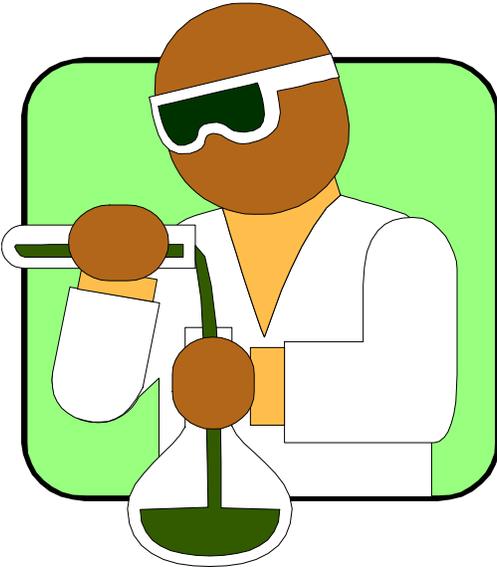
San Diego County Water Authority (CWA), which obtains it from Metropolitan Water District of Southern California.

All water, regardless of the source, is treated at the Escondido-Vista Water Treatment Plant located adjacent to Lake Dixon Dam.

Starting with the 1999 report, the format of this report will change. The Environmental Protection Agency has adopted a nation wide requirement of informing customers of the quality and health effects of the water they drink. California has been meeting this requirement since 1989 with the Annual Water Quality Report.

**CONSUMER CONFIDENCE REPORT**

The essence of the report will remain unchanged, although it will become more detailed. Information concerning health effects of detected contaminants will become part of the report. Look for these changes in the report for 1999.



What's in Escondido's water is no mystery. And though the sniff test won't tell you what's in it, our lab tests will. The City of Escondido is committed to providing a safe and reliable supply of high quality drinking water to its customers. As you read the accompanying statistical report, you will see that the water you receive not only meets, but surpasses, the state and federal standards for quality and safety. The City's water treatment specialists and chemists stand behind this claim.

**CITY OF ESCONDIDO**

<u>PARAMETER</u>	<u>UNITS</u>	<u>MCL</u>	<u>MCLG or (PHG)</u>	<u>EFFLUENT Range</u>	<u>DLR</u>
<b>PRIMARY STANDARDS - INORGANIC CHEMICALS</b>					
Aluminum	mg/L	0.2	none	ND – 0.10	0.05
Antimony	mg/L	0.006	(0.020)	ND	0.006
Arsenic	mg/L	0.05	none	ND	0.002
Asbestos	Fibers/L	7 million	7 million	ND	0.2million
Barium	mg/L	1	2	ND	0.1
Beryllium	mg/L	0.004	0.004	ND	0.001
Cadmium	mg/L	0.005	0.005	ND	0.001
Chromium	mg/L	0.05	0.1	ND	0.01
Cyanide	mg/L	0.2	(0.15)	ND	0.1
Fluoride (see C)	mg/L	1.4-2.4	(1)	0.19 – 0.3	0.1
Lead (see B)	mg/L	0.015	(0.002)	ND	0.005
Mercury	mg/L	0.002	0.002	ND	0.001
Nickel	mg/L	0.1	none	ND	0.01
Nitrate (as Nitrogen)	mg/L	10	(10)	ND – 0.63	0.4
Nitrite (as Nitrogen)	mg/L	1	(1)	ND	0.4
Selenium	mg/L	0.05	0.05	ND	0.005
Thallium	mg/L	0.002	0.0005	ND	0.001
<b>SECONDARY STANDARDS - INORGANIC CHEMICALS</b>					
Color	Units	15	none	1 - 1	
Odor Threshold	Units	3	none	N O O	
Corrosivity	mg/L	non-corrosive	none	non-corrosive	
Chloride	mg/L	250		49 - 82	76
Copper (see B)	mg/L	1.3	none	ND	
Iron	mg/L	0.3	none	ND	0.1
Manganese	mg/L	0.05	none	ND	0.02
MTBE	ug/L	5.0	none	ND	
Sulfate	mg/L	250	none	88 – 220	0.5
Silver	mg/L	0.1	none	ND	0.01
Thiobencarb	mg/L	0.001	none	ND	0.001
Zinc	mg/L	5	none	ND – 0.40.05	
Total Dissolved Solids	mg/l	500	none	340 - 580	
<b>ADDITIONAL ANALYZED</b>					
Alkalinity	mg/L	No Standard		80 - 110	
pH	Units	6.5 - 8.5		7.06 – 7.68	
Hardness	mg/L	No Standard		118 - 256	
Sodium	mg/L	No Standard		45 - 80	
Calcium	mg/L	No Standard		39 - 63	
Potassium	mg/L	No Standard		3.1 – 4.2	
Magnesium	mg/L	No Standard		13 - 24	
<b>RADIOACTIVITY</b>					
Gross Alpha Activity	pCi/L	15	none	ND - 5.7	1
Gross Beta Activity	pCi/L	50	none	ND – 4.34	
Tritium	pCi/L	20,000	none	ND	1000
Strontium-90	pCi/L	8	none	ND	2
Radium 226 & 228	pCi/L	5	none	ND – 1.91	
Uranium	pCi/L	20	none	ND - 3.5	2
<b>CLARITY</b>					
Turbidity	NTU	0.5		0.05 - 0.10	
<b>MICROBIOLOGY</b>					
Coliform Bacteria (see A)	% Positive	5	zero	0 – 2.2	
Giardia Lamblia		TT	zero		
Legionella		TT	zero		
Viruses		TT	zero		
<b>ORGANIC CHEMICALS</b>					
Trihalomethanes	mg/L	0.100	none	0.058 – 0.069	0.0005
Regulated Organics				61 Tested	
Unregulated Organics				84 Tested	

**UNDERSTANDING THIS REPORT**

Statistical reports can be bewildering with their rows and columns of unfamiliar information. To help you understand this report, the following definitions and summaries are provided.

**KEY TO ABBREVIATIONS**

<b>TT</b>	= Treatment Technique
<b>DLR</b>	= Detection Limit for Reporting
<b>PHG</b>	= Public Health Goal
<b>MCLG</b>	= Max Contaminant Level Goal
<b>MCL</b>	= Maximum Contaminant Level
<b>NOO</b>	= No Odor Observed
<b>ND</b>	= Not Detected
<b>NTU</b>	= Nephelometric Turbidity Unit
<b>mg/L</b>	= Milligrams per liter
<b>pCi/L</b>	= pico Curies per liter
<b>CFU</b>	= Colony Forming Units
<b>&lt;</b>	= Less than

**ORGANIC AND INORGANIC COMPOUNDS**

These are chemicals that are found in water sources throughout the nation. They come from pesticides, solvents, fertilizers, etc. During this reporting year, Escondido's water source was not subject to industrial pollution and runoff from farmland chemical application. Therefore, all of the regulated chemicals were below standards set by the State Department of Health Services.

**DETECTION LIMITS for REPORTING**

Listed in the table is the lower limit of detection for a given chemical or compound. Below this level the chemical or compound is considered to be NOT DETECTED (ND).

**PRIMARY STANDARDS**

Primary MCL's, specific treatment techniques (TT) adopted in lieu of primary MCL's, and monitoring and reporting requirements for MCL's that are specified in regulations are established by the State of California, Department of Health Services.

**SECONDARY STANDARDS**

These relate to the aesthetic qualities of water such as appearance, taste, and general acceptability of a water supply. Escondido's water is well within the general guidelines set by the state.

**TREATMENT TECHNIQUE (TT)**

A specific treatment technology may be specified in order to reduce the risk of certain pathogens, i.e. cryptosporidium, giardaria, legionella, and viruses passing through the treatment process and into the water system. The multi-barrier process is utilized at the water treatment plant to accomplish risk reduction.

**MICROBIOLOGICAL**

This refers to the variety of organisms found in untreated water. Most of them do not pose a health hazard to people. However, in order to insure that the water is safe, it is tested regularly for the presence of coliform bacteria. Tests of Escondido's water show that minimal coliform bacteria were present in 1998.

**MAXIMUM CONTAMINANT LEVEL (MCL)**

The highest level of a contaminant that is allowed in drinking water. MCL's are set close to the PHG's and MCLG's as is economically or technologically feasible.

- No more than 5% of the monthly samples may be total coliform positive. The occurrence of two consecutive total coliform-positive samples, one of which contains fecal coliform/E. Coli, constitutes an acute MCL violation. Standards and results are based on distribution-system monthly sampling averages.
- The Federal MCL for lead has been replaced with a treatment technique requiring agencies to optimize corrosion control treatment. There is a similar treatment technique requirement for copper.
- State level is dependent upon air temperature.

**PUBLIC HEALTH GOAL (PHG)**

The level of a contaminant in drinking water below which there is no known or expected risk to health. PHG's are set by the California Environmental Protection Agency.

**MAXIMUM CONTAMINANT LEVEL GOAL (MCLG)**

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's are set by the U.S. Environmental Protection Agency.

**TURBIDITY**

Turbidity is usually thought of as cloudiness of the water, and is caused by suspended matter. Organic and inorganic material, silt, or other tiny particles can contribute to turbidity.

On July 21, 1998 a portion of Escondido had a high level of turbidity in the water. This was caused by a sudden surge and change of direction of flow of the water in the pipelines. This surge caused some of the settled silt particles to become resuspended in the water. The result was a yellowish colored cloudy water.

Immediate action by City water personnel limited the duration of the cloudy water. Flushing the pipelines to remove the silt resulted in "normal" water by the next morning.

The EPA has set a level of 0.5 NTU as the maximum level of turbidity for filtered water. The turbidity leaving the treatment plant is consistently below 0.1 NTU.

**TRihalOMETHANES  
THM's**

Since untreated water from Lake Wohlford and Lake Dixon contains organisms and organic compounds that might make consumers ill, a disinfectant is used at the water treatment plant. Chlorine is used as the primary disinfectant at the water treatment plant and a combination of chlorine and ammonia is used to maintain a level of disinfection in the pipes that bring water to homes and businesses.

When organic compounds react with the disinfectant, they produce disinfection by-products. Some of them are THM's. The current MCL for these THM's is 0.100 mg/L based on a quarterly average. Escondido's water averaged 0.063 mg/L in 1998.

It should be noted that any harmful health effects caused by disinfection by-products are small compared with inadequate disinfection.

**T.O.N.**

"T.O.N." refers to Threshold Odor Number, a measurement of the amount of odor contained in water after it has been treated.

Unusual taste and odors can come from a variety of sources, including algae, decaying leaves or dissolved gasses. Another cause is sludge buildup in a home's hot water heater.

During December of 1998 the amount of odor detected in the water increased. This was due to an unusual amount of algae by-products in our local water source. The compounds which cause "musty" and "moldy" odors are NOT HARMFUL. In fact the level of these compounds is so small that 0.00002 mg/L can offend the nose. Although the quantity is extremely low, it is very difficult to treat and remove.

**DO YOU TAKE YOUR DRINKING WATER FOR GRANTED ?**

**WE DON'T !**

Should you have any questions regarding this report or would like additional information please contact Mr. Timothy Kwak, Supervising Chemist at 760-839-6244.