



ANNUAL

WATER
QUALITY
REPORT

Water testing performed in 2009



Presented By:
WALNUT VALLEY
WATER DISTRICT

PWS ID#: 1910234

Continuing Our Commitment

Once again we are pleased to present our annual water quality report. This edition covers all testing completed January 1 through December 31, 2009. We are pleased to tell you that our compliance with all state and federal drinking water laws remains exemplary. As in the past, we are committed to delivering the best quality drinking water. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Last year, the Walnut Valley Water District (District) delivered to its customers more than seven billion gallons of water that was tested every day at the entry and exit points of the District's 27 reservoirs. In addition to testing by the District, the Metropolitan Water District of Southern California (MWD) and the Three Valleys Municipal Water District (TVMWD) also thoroughly sampled and tested the drinking water delivered by the District. Combined, these agencies took over 300,000 samples last year from transmission and distribution system access points and analyzed them for over 120 different chemical parameters.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.



The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or www.epa.gov/safewater/hotline/.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Ty Maddux, Water Quality Technician, at (909) 595-1268, ext. 321.



Water Saving Measures Outside Your Home

- Use a broom instead of a hose to clean driveways and sidewalks and save an estimated 150 gallons or more per use.
- Don't leave the hose running while washing your car. Use a self-closing nozzle for your hose and save 20 gallons per minute.
- Repair any leaks around pool and spa pumps.
- Repair leaking hose bibs.
- Install covers on your pool and spa to reduce evaporation.
- Use California-friendly plants in your garden. Look for plants that are well suited to regional and local conditions.
- Water plants only when needed.
- Avoid runoff and overspray when watering.
- Routinely cultivate your soil, incorporating organic matter such as compost. Doing so improves the soil's ability to resist evaporation and retain moisture.
- Mulch. A two to four-inch layer of mulch evens out temperature extremes, keeps soil cool on hot days and warm on cool days.
- Plant trees. Trees help to lower air and soil temperatures, reducing plant and soil moisture loss.
- Turn your sprinklers off during and after rain.

For more water conservation ideas visit the following web sites: www.wvwd.com and www.bewaterwise.com.

Where Does My Water Come From?

As you may be aware, our District is dependent on surface water that is imported into southern California by MWD. MWD imports and treats surface water transported through two major conveyance systems: the 242-mile-long Colorado River Aqueduct and the 444-mile-long State Water Project (SWP). Water transported via the Colorado River Aqueduct originates in the Colorado River basin states, and water transported by the State Water Project conveyance system originates in the Sacramento-San Joaquin Delta. MWD treats this water at their Weymouth Filtration plant in the city of La Verne. The water is then purchased by the District through our designated wholesale water agency, Three Valleys Municipal Water District.

Community Participation

The District's board meetings are typically scheduled, unless otherwise noticed, for 6:00 p.m. on the third Monday of each month, in the board room of the District's headquarters located at 271 South Brea Canyon Road, Walnut, California. The Board meetings are open to the public. Anyone who is interested in the operations and business of the District is encouraged to attend.

Office Hours: The Customer Service Department is open Monday through Thursday 7:00 a.m. to 5:00 p.m., and Friday 7:00 a.m. to 4:00 p.m. (909) 595-1268. www.wvwd.com.

What's a cross-connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden

hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We continuously survey all industrial, commercial, and institutional facilities in our service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. Also, each backflow preventer is required to be inspected and tested annually.

For more information, review the Cross-Connection Control Manual from the U.S. EPA's Web site at www.epa.gov/safewater/crossconnection.html. You can also call the Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment

In December 2002, the MWD completed a source water assessment of its Colorado River and State Water Project supplies. Colorado River supplies are considered to be most vulnerable to recreation, urban and stormwater runoff, increasing urbanization in the watershed, and wastewater. State Water Project supplies are considered to be most vulnerable to urban and stormwater runoff, wildlife, agriculture, recreation, and wastewater. A copy of the assessment can be obtained by contacting MWD at (213) 217-6850.

Water Conservation

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

For more water conservation ideas go to bewaterwise.com.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent, according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their web site at www.nrdc.org/water/drinking/bw/exesum.asp.

What Makes Water Hard?

If substantial amounts of either calcium or magnesium, both nontoxic minerals, are present in drinking water, the water is said to be hard. Hard water does not dissolve soap readily, so making lather for washing and cleaning is difficult. Conversely, water containing little calcium or magnesium is called soft water.

Substances That Could Be in Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH and U.S. EPA regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

Inorganic Contaminants, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

Radioactive Contaminants, that can be naturally occurring or can be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Naturally Occurring Bacteria

The simple fact is, bacteria and other microorganisms inhabit our world. They can be found all around us: in our food; on our skin; in our bodies; and in the air, soil, and water. Some are harmful to us and some are not. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacteria form in drinking water is a concern because it indicates that the water can be contaminated with other organisms that can cause disease. Throughout the year, we tested many water samples for coliform bacteria. In that time, none of the samples came back positive for the bacteria. Federal regulations now require that public water that tests positive for coliform bacteria must be further analyzed for fecal coliform bacteria. Fecal coliform are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal coliform to be present in water at any concentration. Our tests indicate no fecal coliform is present in our water.

What Causes the Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, toothbrush holders and on pets' water bowls is caused by the growth of the bacterium *Serratia marcescens*. *Serratia* is commonly isolated from soil, water, plants, insects, and vertebrates (including man). The bacteria can be introduced into the house through any of the above-mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive.

The best solution to this problem is to continually clean and dry the involved surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help to eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence.

Serratia will not survive in chlorinated drinking water.

Lead and Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Sampling Results

The District is pleased to report that during the past year, the water delivered to your home or business complied with, or surpassed, all state and federal drinking water requirements. For your information, the District has compiled the following tables showing what substances were detected in your drinking water during 2009. Although all of the substances listed under the Maximum Contaminant Level (MCL) set by the U.S. EPA and the California Department of Public Health, it is important that you know exactly what was detected and how much of the substance was present in the water.

The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES											
				Walnut Valley Water District		TVMWD		MWD			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppb)	2009	1000	600	NA	NA	NA	NA	160	110–240	No	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (ppb)	2009	10	0.004	NA	NA	NA	NA	2.2	ND–2.5	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppb)	2009	1000	2000	NA	NA	NA	NA	120	110–140	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chloramines (ppm)	2009	[4.0 (as Cl ₂)]	[4 (as Cl ₂)]	1.96	1.45–2.05	2.39	2.23–2.51	2.40	1.50–3.0	No	Drinking water disinfectant added for treatment
Combined Radium (pCi/L)	2009	5	(0)	NA	NA	0.4	NA	NA	NA	No	Erosion of natural deposits
Control of DBP precursors [TOC] (ppm)	2009	TT	NA	NA	NA	1.6	1.1–2.3	NA	NA	No	Various natural and man-made sources
Fluoride (ppm)	2009	2.0	1	NA	NA	0.106	NA	0.8	0.7–1.0	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2009	15	(0)	NA	NA	NA	NA	5.2	ND–7.6	No	Erosion of natural deposits
Gross Beta Particle Activity ¹ (pCi/L)	2009	50	(0)	NA	NA	2.24	0.05–3.6	4.2	ND–9.7	No	Decay of natural and man-made deposits
Haloacetic Acids (ppb)	2009	60	NA	19.7	13.9–25.9	15.6	10.3–18.8	11	5.6–20	No	By-product of drinking water disinfection
Nitrate [as nitrate] (ppm)	2009	10	10	NA	NA	0.575	ND–0.818	0.4	ND–0.4	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Radium 226 (pCi/L)	2009	5	0.05	NA	NA	0.06	NA	NA	NA	No	Erosion of natural deposits
Radium 228 (pCi/L)	2009	5	0.019	NA	NA	0.05	NA	NA	NA	No	Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2009	80	NA	40.6	28.0–61.6	42.2	35.7–47.1	43	25–67	No	By-product of drinking water chlorination
Tritium (pCi/L)	2009	20,000	400	NA	NA	386	NA	NA	NA	No	Decay of natural and man-made deposits
Uranium (pCi/L)	2009	20	0.43	NA	NA	0.16	NA	2.9	2.4–3.4	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2009	1.3	0.3	0.058	0/30	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2009	15	2	2	0/30	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

					Walnut Valley Water District		TVMWD		MWD			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE	
Aluminum (ppb)	2009	200	NS	NA	NA	5.15	NA	160	110–240	No	Erosion of natural deposits; residual from some surface water treatment processes	
Chloride (ppm)	2009	500	NS	NA	NA	75.8	NA	98	89–100	No	Runoff/leaching from natural deposits; seawater influence	
Color (Units)	2009	15	NS	ND	NA	NA	NA	2	1–2	No	Naturally occurring organic materials	
Corrosivity (SI)	2009	Non-corrosive	NS	NA	NA	0.10	-0.27–0.27	0.33	0.25–0.41	No	Natural or industrially-influenced balance of hydrogen, carbon and oxygen in the water; affected by temperature and other factors	
Corrosivity (AI)	2009	Non-corrosive	NS	NA	NA	11.97	11.65–12.22	12.2	12.0–12.4	No	Natural or industrially-influenced balance of hydrogen, carbon and oxygen in the water; affected by temperature and other factors	
Manganese (ppb)	2009	50	NS	NA	NA	1.05	NA	NA	NA	No	Leaching from natural deposits	
Odor–Threshold (TON)	2009	3	NS	NA	NA	NA	NA	2	NA	No	Naturally occurring organic materials	
Specific Conductance (µS/cm)	2009	1,600	NS	NA	NA	443	NA	1000	850–1100	No	Substances that form ions when in water; seawater influence	
Sulfate (ppm)	2009	500	NS	NA	NA	45	NA	240	180–260	No	Runoff/leaching from natural deposits; industrial wastes	
Total Dissolved Solids (ppm)	2009	1,000	NS	NA	NA	279	210–350	620	510–660	No	Runoff/leaching from natural deposits	
Turbidity (NTU)	2009	5	NS	0.02	ND–0.07	0.05	0.03–0.11	0.06	0.05–0.06	No	Soil runoff	

UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	TVMWD		MWD		TYPICAL SOURCE
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	
Alkalinity (ppm)	2009	78	55–165	120	100–130	Measure of water quality
Boron (ppb)	2009	190	NA	130	120–140	Runoff/leaching from natural deposits; industrial wastes
Calcium (ppm)	2009	25.9	NA	68	54–76	Measure of water quality
Chlorate (ppb)	2009	262	NA	74	ND–79	By-product of drinking water chlorination; industrial processes
Chromium VI [Hexavalent Chromium] (ppb)	2009	NA	NA	0.13	0.04–0.13	Industrial waste discharge; could be naturally present as well
Hardness [total] (grains per gallon)	2009	NA	NA	16.4	13.4–18.2	Measure of water quality
Hardness [total] (ppm)	2009	100	NA	280	230–310	Measure of water quality
Magnesium (ppm)	2009	8.41	NA	27	23–30	Measure of water quality
pH (Units)	2009	8.25	7.82–8.5	7.9	7.8–8.0	Measure of water quality
Potassium (ppm)	2009	3.06	2.91–3.2	4.8	4.2–5.3	Measure of water quality
Sodium (ppm)	2009	63.2	NA	99	84–100	Measure of water quality
Total Organic Carbon (TOC) (ppm)	2009	1.6	1.1–2.3	2.3	1.9–2.4	Various natural and man-made sources
Vanadium (ppb)	2009	NA	NA	3.2	ND–3.8	Naturally occurring; industrial waste discharge

¹ Effective 6/11/2006, the gross beta particle activity MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ. 50 pCi/L is used as a screening level.

Definitions

AL (Regulatory Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

$\mu\text{S}/\text{cm}$ (microSiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

PDWS (Primary Drinking Water Standard): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

PHG (Public Health Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California EPA.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TON (Threshold Odor Number): A measure of odor in water.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

