

# Water Quality

## Delivering high quality water is top priority

Coachella Valley Water District is committed to delivering high quality drinking water that meets stringent government standards. This annual report documents that the water served to all CVWD water users (obtained from wells drilled into the Coachella Valley's vast groundwater basin) meets all drinking water standards.

The district's Water Quality staff is tasked with ensuring that the drinking water meets all state and federal drinking water quality standards. These highly trained employees monitor the water systems and collect drinking water samples that are tested at the district's state-certified laboratory. A few specialized tests are performed by other certified laboratories. In addition to the detected constituents listed in the table on pages 12-13, CVWD's water quality staff monitors for more than 100 other regulated and unregulated chemicals. All of these are below detection levels in CVWD's domestic water.

CVWD is governed by a locally elected, five-member board of directors who normally meet in public session at 9 a.m., on the second and fourth Tuesdays of each month at the district's Coachella office at Avenue 52 & Highway 111.

While all of CVWD's domestic water supply meets current requirements, drinking water supplied to some service areas does contain low levels of naturally occurring arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

With respect to the presence of arsenic in drinking water in excess of 10 ug/L but less than 50 ug/L — the state Department of Public Health warns that some people who drink water containing arsenic in excess of the maximum contaminant level (MCL) over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

All drinking water delivered by CVWD last year meets

**To receive a summary of the district's source water assessments, or for additional water quality data or clarification, readers are encouraged to call the district's Water Quality staff at (760) 398-2651.**

**Complete copies of source water assessments may be viewed at the Coachella Valley Water District office, 85-995 Avenue 52, Coachella, CA 92236.**

**Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien. También puede llamar al distrito de agua al número de teléfono (760) 398-2651.**

the 10 ug/L standard.

Radon is a naturally occurring, radioactive gas — a by-product of uranium — that originates underground but is found in the air. Radon moves from the ground into homes primarily through cracks and holes in their foundations. While most radon enters the home through soil, radon from tap water typically is less than two percent of the radon in indoor air.

The U.S. Environmental Protection Agency (USEPA) has determined that breathing radon gas increases an individual's chances of developing lung cancer, and has proposed a maximum contaminant level of 300 picoCuries per liter (pCi/L) for radon in drinking water. This proposed standard is far less than the 4,000 pCi/L in water that is equivalent to the radon level found in outdoor air. The radon level in district wells ranges from none detected to 460 pCi/L, significantly lower than that found in the air you breathe.

Nitrate in drinking water at levels above 45 milligrams per liter (mg/L) is a health risk for infants younger than six months old. High nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of skin. Nitrate levels above 45 mg/L may

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**"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 can be particularly at risk from infections.**

**These people should seek advice about drinking water from their health care providers.**

**USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline 1-800-426-4791 or [www.epa.gov/safewater](http://www.epa.gov/safewater)."**

**—California Department of Public Health Services**

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also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

Groundwater nitrate is the most closely monitored chemical in drinking water and nitrate levels do not change quickly in the district's deep wells used to supply drinking water. If the nitrate level in a well begins to increase, CVWD increases its monitoring frequency and, if necessary, wells are taken out of service before they exceed the standard.

As noted, all drinking water served by CVWD comes from wells. The California Department of Public Health requires water agencies to state, however, "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."

"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 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, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

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

"In order to ensure that tap water is safe to drink, USEPA and the state Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems."

Department 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. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791)."

#### Drinking Water Source Water Assessments

The district has conducted source water assessments that provide information about the vulnerability of district wells to

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## Level of pharmaceuticals in drinking water insignificant

Earlier this year, CVWD received results from an American Water Works Association research study to determine if pharmaceutical drugs and other specific compounds occur in drinking water at levels associated with health affects.

The nationwide research study, which attracted national media attention, concluded that pharmaceuticals and other compounds studied, when present in drinking water, occur in insignificantly low amounts.

Two of CVWD's wells were tested as part of the study. In one well, no compounds were detected. In the other well, three compounds were found in the parts-per-trillion range. For the compounds found in this well, a person would have to drink 9,000 to 18 million liters of water each day over a lifetime before consuming an amount that researchers determined might cause health effects.

The study was initiated by the water industry because the long-term health effects of exposure to these miniscule amounts of pharmaceuticals has yet to be studied. Water agencies are not required to test drinking water for pharmaceuticals and only research laboratories like the ones that participated in this study are able to perform these advanced tests. CVWD does test more than 20,000 water samples annually to ensure compliance with all state and federal drinking water standards.



Assistant General Manager Mark Beuhler fields media questions about pharmaceuticals in the drinking water.

# CVWD 2007 domestic water quality summary

CVWD analyzes more than 22,000 water samples annually to ensure that your drinking water meets state and federal standards. Every year, the district is required to analyze a select number of these samples for more than 100 regulated and unregulated substances. This chart lists those substances that were detected in the district's six service areas. Shaded boxes indicate no substance was detected. The data on the chart, which summarizes results of the most recent monitoring completed between 1999 and 2007, shows that CVWD continues to deliver drinking water that meets all water quality standards.

**To read this chart:** First, determine in which service area you live (columns 4-9). Then move down the column, comparing the detection level of each chemical or other contaminant with the Public Health Goal, Maximum Contaminant Level Goal and Maximum Contaminant Level (columns 2-3). For example, if you live in La Quinta and want to know the level of fluoride detected in your service area, you would look down the Cove Communities column and stop at the fluoride row. The average fluoride level in that service area is 0.5 mg/L with the range of results varying between no detection and 1.0 mg/L. Compare these values to the MCL in Column 3. Fluoride levels in this water comply with the MCL of 2.0 [mg/L]. The range can show a level above the MCL and still comply with the drinking water standard when compliance is based on average levels found in each water source.

## Definitions & Abbreviations

**AI or Aggressive Index** — This is a measurement of corrosivity. Sources with AI values of 12 or greater are non-corrosive. AI values between 10 and 12 are moderately corrosive and AI values less than 10 are corrosive.

**AL or Regulatory Action Level** — The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**MCL or Maximum Contaminant Level** — The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to public health goals or maximum contaminant level goals as economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.

**MCLG or Maximum Contaminant Level Goal** — 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. Environmental Protection Agency.

**mg/L** — Milligrams per liter (parts per million)

**MRDL or Maximum Residual Disinfectant Level** — The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

**MRDLG or Maximum Residual Disinfectant Level Goal** — The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLs are set by the U.S. Environmental Protection Agency.

**N/A** — Not applicable

**NA** — Not analyzed

**ND** — None detected

**NL or Notification Level** — Health based advisory level established by the California Department of Health Services for chemicals in drinking water that lack maximum containment levels (MCLs) as stated by CDHS.

**None** — The government has not set a Public Health Goal or Maximum Contaminant Level for this substance.

**NTU** — Nephelometric turbidity units (measurement of suspended material)

**pCi/L** — picoCuries per liter

**PDWS or Primary Drinking Water Standard** — MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirement.

**PHG or Public Health Goal** — Level of a contaminant in drinking water below which there is no known or expected risk to health. Public Health Goals are set by the California Environmental Protection Agency.

**Secondary Drinking Water Standard** — Based on aesthetics, these secondary maximum contaminant levels have monitoring and reporting requirements specified in regulations.

**ug/L** — Micrograms per liter (parts per billion)

**uS/cm** — Microsiemens per centimeter

1	2	3	4	5	6	7	8	9	10
Detected parameter, units	PHG or (MCLG)	Primary or (secondary) MCL	Cove Communities <sup>(1)</sup> Range (Average)	Indio Hills, Sky Valley & areas around Desert Hot Springs Range (Average)	Mecca, Bombay Beach, North Shore & Hot Mineral Spa Range (Average)	Desert Shores, Salton Sea Beach & Salton City Range (Average)	Valerie Jean Range (Average)	Thermal Range (Average)	Major Source(s)
Aluminum, mg/L	0.6	1.0, (0.2)	ND-1.6 (ND)						Erosion of natural deposits
Arsenic, ug/L <sup>(2)</sup>	0.004	10	ND-4.7 (ND)		ND-13 (5.4)		ND-15 (7.9)	2.0-2.2 (2.1)	Erosion of natural deposits
Boron, mg/L <sup>(3)</sup>	None	NL=1.0				0.3-0.4 (0.4)			Erosion of natural deposits
Chloride, mg/L	None	(500)	6.7-49 (15)	12-22 (17)	6.4-62 (28)	180-270 (220)	7.5-8.8 (8.2)	7.5-17 (12)	Leaching from natural deposits
Chlorine (as Cl <sub>2</sub> ), mg/L <sup>(4)</sup>	MRDLG 4.0	MRDL 4.0	ND-2.1 (0.3)	0.1-0.6 (0.3)	ND-1.2 (0.3)	ND-0.9 (0.2)	ND-0.5 (0.4)	ND-0.3 (0.2)	Result of drinking water chlorination
Chromium, ug/L	(100)	50	ND-19 (ND)	13-20 (17)			14-18 (16)	ND-19 (ND)	Erosion of natural deposits
Chromium VI, ug/L <sup>(3)</sup>	None	None	1.5-18 (8.3)	9.1-19 (15)	ND-6.7 (3.4)		8.1-13 (11)	21-22 (22)	Erosion of natural deposits
Copper, mg/L <sup>(5)</sup> [homes tested/ sites exceeding AL]	0.17	AL=1.3	0.12 [55/0]	0.96 [20/0]		0.13 [22/0]			Internal corrosion of household plumbing
Copper, mg/L	None	(1.0)	ND-0.1 (ND)						Leaching from natural deposits
Corrosivity, AI	None	(Non-corrosive)	11-13 (12)	12	11-12 (12)	12	11-12 (11)	12	Natural balance of hydrogen, carbon and oxygen
Fluoride, mg/L	1	2.0	ND-1.0 (0.5)	0.4-0.7 (0.5)	0.9-1.1 (1.0)	0.2-1.6 (0.9)	0.7-0.9 (0.8)	0.6-1.1 (0.9)	Erosion of natural deposits
Gross alpha particle activity, pCi/L	(Zero)	15	ND-13 (3.9)	3.5-14 (7.5)	ND-3.0 (ND)	ND-9.4 (4.2)	ND-4.2 (ND)	ND-4.8 (ND)	Erosion of natural deposits
Hardness (as CaCO <sub>3</sub> ), mg/L	None	None	27-310 (120)	120-200 (170)	14-20 (17)	170-230 (200)	9.6-16 (13)	25-57 (41)	Erosion of natural deposits
Iron, ug/L	None	(300)	ND-1.8 (ND)						Leaching from natural deposits
Lead, ug/L <sup>(5)</sup> [homes tested/ sites exceeding AL]	2	AL=15	1.6 [55/0]						Internal corrosion of household plumbing
Nitrate (as NO <sub>3</sub> ), mg/L	45	45	ND-40 (6.0)	ND-6.2 (3.8)		4.4-7.7 (5.7)		ND-3.0 (ND)	Leaching of fertilizer, animal waste, natural deposits
Odor threshold, units	None	(3)	ND-1.0 (ND)			ND-1.0 (ND)			Naturally occurring organic materials
pH, units	None	None	7.2-8.3 (7.8)	7.7-7.9 (7.8)	6.9-8.9(8.2)	7.7-8.0 (7.8)	8.8-9.1 (9.0)	7.7-8.0 (7.9)	Physical characteristic
Sodium, mg/L	None	None	17-58 (28)	58-80 (66)	42-56 (46)	200-230 (220)	43-47 (44)	37-50 (44)	Erosion of natural deposits
Specific conductance, uS/cm	None	(1,600)	220-730 (370)	570-780 (660)	240-320 (260)	1,400-1,700 (1,500)	220-240 (230)	260-300 (280)	Substances that form ions when in water
Sulfate, mg/L	None	(500)	11-160 (38)	150-220 (170)	0.6-30 (15)	200-300 (240)	18-23 (20)	28-32 (30)	Leaching from natural deposits
Tetrachloroethylene (PCE), ug/L	0.06	5	ND-1.5 (ND)						Discharge from dry cleaners and auto shops
Total Coliform bacteria, positive samples/month	(0)	more than 5% <sup>(6)</sup> more than 1 <sup>(7)</sup>	ND-0.5 (ND)		ND-1(ND)				Naturally present in the environment
Total dissolved solids, mg/L	None	(1,000)	130-480 (220)	370-520 (430)	110-190 (150)	800-990 (880)	120-150 (140)	150-170 (160)	Leaching from natural deposits
Total trihalomethanes, ug/L <sup>(4)</sup>	None	80	1.8-2.9 (2.4)	7.1	1.4	4.8	9.4	0.7	By-product of drinking water chlorination
Turbidity, NTU	None	(5)	ND-2.4 (ND)			ND-1.3 (0.3)			Leaching from natural deposits
Uranium, pCi/L	0.43	20	ND-12 (4.0)	ND-11 (5.6)	ND-2.6 (ND)	2.4-5.3 (3.6)	2.6-5.0 (3.8)	3.1-3.8 (3.5)	Erosion of natural deposits
Vanadium, ug/L <sup>(3)</sup>	None	NL=50	4-39 (13)	5.8-26 (14)	ND-19 (7.0)	6-21 (15)	20-34 (26)	22-25 (24)	Erosion of natural deposits

## Footnotes

<sup>(1)</sup> Includes the communities of Rancho Mirage, Thousand Palms, Palm Desert, Indian Wells, La Quinta and portions of Bermuda Dunes, Cathedral City and Riverside County.

<sup>(2)</sup> Effective Jan. 23, 2006, the federal arsenic MCL is 0.010 mg/L (or 10 ug/L). The initial compliance determination for this MCL began September 2007 for sources serving Mecca and Valerie Jean. A new state MCL has not yet been adopted and remains as 0.05 mg/L (or 50 ug/L).

<sup>(3)</sup> Unregulated contaminants are those for which EPA and the California Department of Health Services have not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist both regulatory agencies in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

<sup>(4)</sup> The reported average represents the highest running annual average based on distribution system monitoring.

<sup>(5)</sup> Reported values are 90th percentile levels for samples collected from faucets in water user homes. No sample exceeded the regulatory action level.

<sup>(6)</sup> Systems that collect more than 39 samples per month; <sup>(7)</sup> Systems that collect less than 40 samples per month.

contamination. In 2002, CVWD completed a comprehensive source water assessment that evaluated all groundwater wells supplying the district's six public water systems. An assessment is performed on each new well added to CVWD's system. Groundwater from these district wells are considered vulnerable to activities associated with urban and agricultural uses.

Urban land uses include the following activities: known contaminant plumes, dry cleaners, underground storage tanks, septic systems, automobile gas stations (including historic),

automobile repair shops, historic waste dumps/landfills, illegal/unauthorized dumping, sewer collection systems and utility stations' maintenance areas.

Agricultural land uses include the following activities: irrigation/agricultural wells, irrigated crops, pesticide/fertilizer/petroleum and transfer areas. The following activities have been associated with detected contaminants: known contaminant plumes, dry cleaners and irrigated crops.

The drinking water supplied by CVWD's wells to our communities complies with all state and federal drinking water standards.

## Emergency Preparedness & Drinking Water

*In the event of a natural disaster, such as an earthquake or flooding, Coachella Valley Water District's water delivery system could be compromised and you could be advised not to drink the water. The following information will help guide you through such an emergency.*

### How do I know if my tap water becomes unsafe to drink?

In the event of an emergency, CVWD may issue a boil water notice as a precautionary measure if water quality is in doubt. CVWD will test the water for contaminants. If the water is deemed unhealthful, a boil water notice will be issued until the problem is located and solved, and the water is tested again and shown to meet specific state and federal quality standards. Notification will be made through the media, the district's web site ([www.cvwd.org](http://www.cvwd.org)), posted fliers in public spaces and other means.

### If my drinking water is unsafe, what do I do?

1. You're first choice for replacing tap water for drinking and cooking should be commercially bottled water. Everyone should include in their emergency supply kit a three to five day supply of bottled water (at least one gallon of water per person per day, plus extra water for pets). If you use your own storage containers, place a date on the outside, store in a cool, dark place and replace every six months. Bottled water can keep longer, but check the expiration date and replace as needed.
2. If you don't have bottled water, you should use boiled tap water. Boiling water will kill most types of disease-causing organisms. If the water is unusually cloudy, murky or colored, filter it first through a clean cloth or allow it to settle and draw off the clear water for boiling. Then, bring to a rolling boil and leave for one minute.
3. If you're unable to boil water, you're next best choice is to disinfect it with household bleach. Bleach will kill some (but not all) types of disease-causing organisms. If the water is unusually cloudy, murky or colored, filter it first through a clean cloth or allow it to settle and draw off the clear water for disinfection. Then, add 1/8 teaspoon (or 8 drops) of regular, unscented liquid household bleach for each gallon of water, stir well and let it stand for 30 minutes before using. Store disinfected water in clean containers with covers.

Do not use scented, powdered or swimming pool bleach since these products may contain dangerous chemicals. A faint chlorine smell is normal.

