

# Annual Water Quality Report

Water Testing Performed in 2011



## District Water Supply Meets All Federal and State Standards

Dear Joshua Basin Water District Customer:

We are pleased to present to you this year's Annual Water Quality Report. We're proud that your drinking water meets or exceeds all Federal and State requirements with no violations.

This report, required by State law, is designed to inform you about the water quality and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to be aware of the efforts we make to continually improve and protect our water resources. We are committed to ensuring the quality of your water.

The sources of drinking water in general (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells, though not all of these sources apply to Joshua Tree. Our water source comes from District-owned wells located throughout the community that draw from underground aquifers.

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. A source water assessment plan is available from our office that provides more information such as potential sources of contamination. We have learned through our monitoring and testing that some constituents have been detected, as in nearly all water systems. The EPA has determined that your water IS SAFE at these levels.

Contaminants that may be present in source water in general, not necessarily in Joshua Tree, 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 naturally occur 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, agricultural application, 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, the U.S. Environmental Protection Agency (USEPA) and the State Department of Public Health (DPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DPH regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Joshua Basin Water District routinely monitors for constituents in your drinking water according to Federal and State laws. The table included *shows* the results of our monitoring for the period of January 1st to December 31st, 2011. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk. All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Maximum Contamination Levels, (MCL's) are very stringent limits set by State and Federal law which may not be exceeded. They are set such that out of every 10,000 or 1,000,000 people (depends upon how the MCL was developed) drinking two liters of water every day for a lifetime, only one of those people may experience the described health effect.



Water Production Operator Bill Kline tests the strength of chlorine which is used in one of our many district well sites.

While Joshua Basin Water District is responsible for providing high quality drinking water, we cannot control the variety of materials, such as lead, used in plumbing components in homes and businesses. 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. When your water has been sitting for several hours, you can minimize the potential for lead exposure from your own water pipes 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 due to your own private water lines, 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 <http://www.epa.gov/safewater/lead>.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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. The Environmental Protection Agency, and the Center for Disease Control provide guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants they are available from the Safe Drinking Water Hotline (800-426-4791).

The California Department of Public Health completed a drinking water source assessment for Joshua Basin Water District on August 24, 2001. This assessment examined the District's Well 10 and Well 14 and determined these sources are most vulnerable to high-density residential septic systems. Septic systems can leach nitrates and other contaminants, and these impurities are compounded in highly populated developments.

The District completed a drinking water source assessment for Well 15 in February 2005. This assessment determined that Well 15 is most vulnerable to low-density septic systems. In this environment, septic systems are not always properly sited or properly maintained, contributing to contaminant leaching. Additionally, agricultural uses and pesticides contribute to the water source's vulnerability.

A drinking water source assessment for Well 17 completed in December 2008 determined that Well 17 is most vulnerable to low-density septic systems, transportation corridors and National Pollutant Discharge Elimination System/Water Discharge Regulation permitted discharges.

A drinking water source assessment for Well 16 completed in July 2010 determined that Well 16 is most vulnerable to the density of septic systems and airports-maintenance/fueling areas.

Additional copies of this report are available by contacting the District. Please contact Randy Little, Water Production Supervisor, at 760-366-8438 for more information. A summary of the assessment may be requested by contacting the District's sanitary engineer from the California Department of Public Health at (909) 383-4308 or (909) 383-4745 (fax). A copy of each source's complete assessment may be viewed at the Joshua Basin Water District office or at: CDPH San Bernardino District Office, Government Center 4<sup>th</sup> Floor, 464 West Fourth Street, Suite 437 San Bernardino, CA 92401.

Joshua Basin Water District has completed several scientific studies in association with the United States Geological Survey (USGS). The purpose of these studies has been threefold: (1) improve the understanding of the geohydrologic framework of the water in the Joshua Tree and Copper Mountain groundwater sub-basins; (2) determine the distribution and quantity of recharge using field and numerical techniques; and (3) develop a groundwater flow model that can be used to help manage the water resources of the region. Our partnership with USGS in understanding our aquifer through these scientific studies, assures that we can continue delivering a high quality and dependable source of water in the future.

If you have questions about this water quality report, please call me or Randy Little at 760-366-8438. We at Joshua Basin Water District work around the clock to provide top quality water to every tap. We ask that all of our customers help us along the way. You can help preserve water quality by taking toxic cleaners, paint, oil and other chemicals to an authorized disposal site rather than putting them into the septic tank. Help preserve water quantity by conserving whenever you can, and by notifying the District if you suspect a mainline leak. Thank you for allowing us to continue providing your family with clean, quality water this year.

Sincerely,

Joe Guzzetta,  
General Manager

**If you want to learn more about Joshua Basin Water District, please attend any of our regularly scheduled meetings of the Board of Directors or our Citizens Advisory Council. Meeting Location: Joshua Basin Water District, 61750 Chollita Rd. Joshua Tree CA 92252 Call for meeting times: 760-366-8438.**

### TERMS USED IN THIS REPORT

**Maximum Contaminant Level (MCL):** 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 are set to protect the odor, taste, and appearance of drinking water.

**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 are set by the U.S. Environmental Protection Agency (USEPA).

**Public Health Goal (PHG):** 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 Environmental Protection Agency.

**Maximum Residual Disinfectant Level (MRDL):** 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.

**Maximum Residual Disinfectant Level Goal (MRDLG):** 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.

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

**Secondary Drinking Water Standards (SDWS):** MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

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

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

**Variations and Exemptions:** Department permission to exceed an MCL or not comply with a treatment technique under certain conditions.

**NA:** laboratory analysis was required

**ND:** not detectable at testing limit

**ppm:** parts per million or milligrams per liter (mg/L)

**ppb:** parts per billion or micrograms per liter (ug/L)

**ppt:** parts per trillion or nanograms per liter (ng/L)

**ppq:** parts per quadrillion or picogram per liter (pg/L)

**pCi/L:** picocuries per liter (a measure of radiation)

**TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA**

Microbiological Contaminants	Highest No. of Detections	No. of months in violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	0	0	More than 1 sample in a month with a detection	0	Naturally present in the environment

**TABLE 2 – SAMPLING RESULTS FOR SODIUM AND HARDNESS**

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	2011	44.0	34-56	N/A	N/A	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2011	74.33	57-100	N/A	N/A	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

**TABLE 3 – DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD**

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Chromium (total) (ppb)	2011	18.3	12-30	50	(100)	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Chlorine (ppm)	2011	0.54	0.01-1.29	4	4	Drinking water disinfectant added for treatment
Fluoride (ppm)	2011	0.74	0.57-0.96	2	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (measured as NO <sub>3</sub> ) (ppm)	2011	15.3	10-23	45	45	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Total Trihalomethanes (TTHMs) (ppb)	2011	2.76	ND-13.3	80	N/A	By-product of drinking water disinfection

Haloacetic Acids (ppb)	2011	0.55	0-1.1	60	N/A	By-product of drinking water disinfection
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TABLE 4 – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Aluminum (ppm)	2011	0.017	0-0.053	1	6	Erosion of natural deposits; residue from some surface water treatment processes
Chloride (ppm)	2011	14.66	13-16	250	N/A	Runoff/leaching from natural deposits; seawater influence
Total Dissolved Solids TDS (ppm)	2011	243.33	190-330	500	N/A	Runoff/leaching from natural deposits
Color (Units)	2011	0	0-0	15	N/A	Naturally-occurring organic materials
Odor Threshold (Units)	2011	0.98	0-1	3	N/A	Naturally-occurring organic materials

TABLE 4 (CONTINUED) – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Specific Conductance (E.C.)(umhos)	2011	370	300-490	900	N/A	Substances that form ions when in water; seawater influence
Sulfate (SO4) (ppm)	2011	51.66	13-120	250	N/A	Runoff/leaching from natural deposits; industrial wastes
Turbidity (Units)	2011	0.12	0-1.7	5	N/A	Soil runoff

TABLE 5 – DETECTION OF UNREGULATED CONTAMINANTS

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	Notification Level	Health Effects Language
Aggressive Index (Corrosivity)	2011	11.8	11.74-11.92	N/A	N/A
Bicarbonate (ppm)	2011	135	130-140	N/A	N/A
Calcium (ppm)	2011	26.0	19-37	N/A	N/A
Magnesium (ppm)	2011	3.96	3.7-4.5	N/A	N/A
Potassium(K) (ppm)	2011	1.76	1.7-1.9	N/A	N/A
pH (Units)	2011	8	8-8	N/A	N/A
Total Alkalinity (ppm)	2011	103.33	90-120	N/A	N/A
Chromium VI (ppb)	2011	17.1	12-30	N/A	N/A

**Este es un informe anual que contiene información muy importante sobre su agua potable. La calidad de esta agua conforma con todos los requerimientos legales del gobierno y del estado federal. Si desea mayor información, o tiene preguntas, por favor contáctenos a 760-366-8438.**