

Annual
**WATER
QUALITY
REPORT**

Reporting Year 2012



Presented By _____
*Indian Wells Valley
Water District*

PWS ID#: 1510017

There When You Need Us

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2012. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

Community Participation

You are invited to participate at our Board of Directors meetings and voice your concerns about your drinking water. We meet the second Monday of each month, beginning at 7 p.m., in our Board Room, 500 W. Ridgecrest Blvd., Ridgecrest, CA.

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 <http://water.epa.gov/drink/hotline>.

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.

In order 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 (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.

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.

Lead in Home Plumbing

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 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.

Compliance with Arsenic MCL

Beginning in October 2008 and ending March 2012, the District was in violation of the new arsenic MCL for Wells 9A, 10, 11, and 13. The District sent quarterly notices to all customers advising them of the violations and the latest results from water quality testing. Construction of treatment facilities that reduce the amount of arsenic in these wells was completed August 1, 2011. It is important to note that no water above the MCL has been served from any District well since August 1, 2011. Since compliance with the MCL is based on the Running Annual Average (RAA), the District continued sending quarterly notices to customers until the RAA from all wells was below 10.5 ppb. The last quarterly notice was mailed to customers in April 2012.

Some people who drink water containing arsenic in excess of the MCL over many years may experience skin damage or circulatory system problems and may have an increased risk of getting certain cancers.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Renee Morquecho, Chief Engineer, at (760) 375-5086.

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

Where Does My Water Come From?

The Indian Wells Valley Water District serves approximately 30,000 people through approximately 12,000 connections in Ridgecrest and the surrounding areas. Our water supply comes from 10 wells that draw water from the Indian Wells Valley Aquifer. Water is pumped from these wells through transmission lines to eleven water storage reservoirs with a storage capacity of 17 million gallons. From there, water is delivered by gravity through the distribution lines to the customer.

Source Water Assessment

The California Department of Public Health (CDPH) conducted Source Water Assessments for all drinking water sources across the state. The purpose of the assessments was to determine the susceptibility of each drinking water source to potential contaminant sources and to establish a high, moderate, or low relative susceptibility rating for each source. A high rating indicates the lowest susceptibility to contamination.

The Source Water Assessment for the Indian Wells Valley Water District was conducted in 2002, except for Well 34, which was conducted in 2008. All District wells received a moderate susceptibility rating. This rating is not an implication of water quality, but it signifies a well's potential to become contaminated. The highest scores are given to those wells located in confined aquifers. A confined aquifer is relatively protected from surface contamination because of a confining layer above the aquifer, usually composed of clay or other impermeable material. The geology of the Indian Wells Valley does not make it possible to locate our wells in confined aquifers. Nevertheless, District wells conform to the highest standards and typically received the full amount of possible points given by the CDPH.

The complete Source Water Assessment report is available at the Indian Wells Valley Water District. If you have questions about the assessment or would like a copy, please contact Renee Morquecho, Chief Engineer, at (760) 375-5086.

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What is the typical per-day water usage?

While usage varies from community to community and person to person, on average, Americans use 183 gallons of water a day for cooking, washing, flushing, and watering purposes. The average family turns on the tap between 70 and 100 times daily. About 74% of indoor home water usage occurs in the bathroom, about 21% in the laundry room, and about 5% in the kitchen.

Why do water pipes tend to break in winter?

Liquids generally contract when frozen and become more dense; however, the unique qualities of water cause it to expand by up to 9% when it freezes. That is why water pipes burst when temperatures reach the freezing mark.

How much water is used to create the food we eat each year?

The average American consumes 1,500 pounds of food each year; 1,000 gallons of water are required to grow and process each pound of that food. Thus, 1.5 million gallons of water is invested in the food eaten annually by just one person! This 200,000-plus cubic feet of water per person is enough to cover a football field four feet deep.

Is it okay to use hot water from the tap for cooking and drinking?

No, ALWAYS use cold water. Hot water is more likely to contain rust, copper, and lead from household plumbing and water heaters. These harmful substances can dissolve into hot water faster than they do into cold water, especially when the faucet has not been used for an extended period of time.

What type of container is best for storing water?

Consumer Reports has consistently advised that glass or BPA-free plastics such as polyethylene are the safest choices. To be on the safe side, do not use any container with markings on the recycle symbol showing 7 PC (which is the code for BPA). You could also consider using stainless steel or aluminum containers that have BPA-free liners.

How much water is used in the shower?

A 10-minute shower can take 25 to 50 gallons of water. High-flow shower heads allow a flow of 6 to 10 gallons a minute. Low-flow shower heads can cut the rate in half without reducing pressure.

Sampling Results

As required by the State, we regularly sample our water to determine the presence of any biological, inorganic, volatile organic, synthetic organic, or radioactive substances. The table below shows only those substances that were detected. The State requires us to monitor for certain samples less often than once a year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the years in which samples were taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2010, 2012	10	0.004	2.3	ND–10	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Chlorine (ppm)	2012	[4.0 (as Cl ₂)]	[4 (as Cl ₂)]	0.61	0.30–1.0	No	Drinking water disinfectant added for treatment
Fluoride (ppm)	2011–2012	2.0	1	0.75	0.4–1.4	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2006–2011	15	(0)	2.2	ND–6.4	No	Erosion of natural deposits
Haloacetic Acids (ppb)	2012	60	NA	1.1	NA	No	By-product of drinking water disinfection
Nitrate [as nitrate] (ppm)	2012	45	45	5.8	ND–9.4	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrate + Nitrite [as N] (ppm)	2011–2012	10	10	1.3	ND–2.7	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2012	80	NA	7.5	NA	No	By-product of drinking water disinfection
Uranium (pCi/L)	2006	20	0.43	3.1	ND–6.1	No	Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2011–2012	500	NS	63	16–200	No	Runoff/leaching from natural deposits; seawater influence
Specific Conductance (μS/cm)	2011–2012	1,600	NS	503	300–920	No	Substances that form ions when in water; seawater influence
Total Dissolved Solids (ppm)	2011–2012	1,000	NS	308	190–510	No	Runoff/leaching from natural deposits

OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Bicarbonate (ppm)	2011–2012	121	88–160
Boron ¹ (ppb)	2011–2012	621	200–1,300
Calcium (ppm)	2011–2012	24	4.2–43
Hardness (ppm)	2011–2012	64	9.6–110
Magnesium (ppm)	2011–2012	2.3	ND–5.9
pH (Units)	2011–2012	8.2	7.6–8.8
Potassium (ppm)	2011–2012	1.5	ND–2.4
Sodium (ppm)	2011–2012	92	41–180
Sulfate (ppm)	2011–2012	38	24–51
Total Alkalinity (ppm)	2011–2012	110	92–140
Vanadium ² (ppb)	2011–2012	17	ND–71

¹The Notification Level for boron is 1,000 ppb. Analysis of samples from District wells 9A, 10, 11, and 13 detected boron concentrations of 1,300, 1,200, 1,200 and 1,000 ppb, respectively, in 2011.

²The Action Level for vanadium is 50 ppb. Analysis of sampling from District well 17 detected a vanadium concentration of 71 ppb in 2011.

Definitions

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

µS/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.

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).