

# BIGHORN-DESERT VIEW WATER AGENCY

622 S. JEMEZ TRAIL, YUCCA VALLEY, CA 92284 (760) 364-2315 FAX (760) 364-3412

## Consumer Confidence Report Year-Ending 2012

*Last year, as in years past, your tap water met all EPA and State primary drinking water standards. While the Department of Health Services had mandated sampling for Gross Alpha and Uranium compliance in two active wells in the Desert View service area, following a third year of quarterly sampling, we report no violations of primary maximum contaminant levels in 2012. The Agency has demonstrated compliance and the sampling frequency has been reduced.*

*In 2011, the Agency's Well 10 (Johnson Valley Bulk Station) did violate the secondary drinking water standard for Iron. In 2012, the Department of Health Services continued to mandate quarterly sampling for Iron at Well No. 10. The results indicate that Iron remains below the secondary drinking water standard (see Exhibit B herein) and the sampling frequency has been reduced. However, in 2012, Well 10 sampling revealed elevated turbidity and color which triggered quarterly testing. To date no secondary drinking water standards have been exceeded.*

### EDUCATION INFORMATION

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants and native trace elements. 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 EPA's Safe Drinking Water Hotline at 1-800-426-4791 or visiting their website at <http://www.epa.gov/ow/>

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons include 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 at 1-800-426-4791.

### POSSIBLE CONTAMINANTS

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, groundwater aquifers, 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 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 storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Organic chemical contaminants, including synthetic and volatile organic chemicals that are byproducts of industrial processes and petroleum production, can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants that can be naturally occurring or the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, U.S. Environmental Protection Agency (USEPA) 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.

*No habla ingles? Este informe contiene informacion muy importante sobre su agua potable.  
Traduscalo o hable con alguien que lo entienda bien. Llame 760-364-2315*

## WATER QUALITY ANALYSIS RESULTS

Bighorn-Desert View Water Agency operates six groundwater wells in the Ames-Means Valley Groundwater Basin and one well in the Johnson Valley Groundwater Basin. The Agency is serving a 45-square mile area encompassing the communities of Flamingo Heights, Landers, and Johnson Valley. The Exhibits on the following pages show the actual test results of your drinking water and compares them with constituents level limits and goals set by the Environmental Protection Agency to ensure your tap water is safe. Some of the constituents in this list reflect those which have exceeded the Detection Level for Reporting Purposes but have not exceeded the Maximum Contaminant Level. Others such as Sodium and Hardness are listed for informational purposes only. Lastly, the State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, could be more than one year old as indicated by the "sample year".

### AN EXPLANATION OF UNITS OF MEASURE USED IN THIS REPORT

**Parts per million (ppm)** - A measurement of the concentration of a substance roughly equivalent to one second in 11.5 days.

**Parts per billion (ppb)** - A measurement of the concentration of a substance roughly equivalent to one drop in 14,000 gallons.

**Picocuries per liter (pCi/L)** - A measure of radioactivity.

**ND** - Not detectable at testing limit.

### IMPORTANT DEFINITIONS

**No Standard (NS)** - No set standard.

**N/A** - Not Applicable

**Maximum Contaminant Level (MCL)** - The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the Public Health Goals (or MCLGs) as is economically and technologically feasible. The U.S. Environmental Protection Agency sets secondary MCLGs.

**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.

**Public Health Goals 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 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.

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

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

**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.

### HEALTH EFFECTS

**Arsenic** - While your drinking water meets the federal and state standard for arsenic, it does contain low levels of 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.

**Fluoride** - Some people who drink water containing fluoride in excess of the federal MCL of 4 mg/L over many years may get bone disease, including pain and tenderness of the bones. Children who drink water containing fluoride in excess of the state MCL of 2 mg/L, may get mottled teeth.

**Nitrate** - Infants below the age of six months who drink water containing nitrate in excess of the MCL may quickly become seriously ill and, if untreated, may die because high nitrate levels can interfere with the capacity of the infant's blood to carry oxygen. Symptoms include shortness of breath and blueness of the skin. High nitrate levels may also affect the oxygen-carrying ability of the blood in pregnant women.

**Gross Alpha** - Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

**Uranium** - Some people who drink water containing uranium in excess of the MCL over many years may have kidney problems or an increased risk of getting cancer.

**Unregulated Contaminant Monitoring** - Helps the EPA and the California Department of Public Health to determine where certain contaminants occur and whether the contaminants require regulation.

Bighorn-Desert View Water Agency operates two separate water systems. Exhibit "A" summarizes test results from Wells 2, 3, 6, 7, 8, and 9 (Well 4 is "inactive") from the Flamingo Heights-Landers area. Exhibit "B" summarizes test results from the Agency's stand-alone system, Well No. 10, in the Johnson Valley area available for bulk hauling only. From January 1, 2011 to December 31, 2011, the Bighorn-Desert View Water Agency conducted over 1,500 water quality tests from samples taken at various locations throughout your water system in accordance with state and federal laws. The following tables list only those contaminants that were detected during the most recent sampling for the constituent as well as those required to be reported annually. It is important to note that the presence of these constituents, as detected in water, does not necessarily indicate that the water poses a health risk.

## Exhibit "A" – Bighorn-Desert View Water Agency Service Area

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

Microbiological Contaminants (complete if bacteria detected)	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
Fecal Coliform or <i>E. coli</i>	0	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or <i>E. coli</i>	0	Human and animal fecal waste

**TABLE 2 – SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER**

Lead and Copper (complete if lead or copper detected in the last sample set)	No. of samples collected (year)	90 <sup>th</sup> percentile level detected	No. sites exceeding AL	AL	PHG	Typical Source of Contaminant
Lead (ppb) -	23 (2010)	2.6	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	23 (2010)	0.175	0	1.3	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

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. Bighorn-Desert View Water Agency is 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 <http://www.epa.gov/safewater/lead>.

**\*\*\*\* The next round of voluntary residential testing for Lead and Copper will take place between the months of June – September 2013. If you would like to be a participant in this free voluntary program please contact our office to determine if your residential plumbing materials make you vulnerable to lead and copper contamination \*\*\*\***

**TABLE 3 – SAMPLING RESULTS FOR SODIUM AND HARDNESS**

Chemical or Constituent (and reporting units)	Sample Year	Average Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	2012	54	47 – 72	none	none	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2012	128	68 - 190	none	none	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

**TABLE 4 – DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD**

Chemical or Constituent (and reporting units)	Sample Year	Average Level Detected	Range of Detections	MCL [MR DL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Arsenic (ppb)	2012	3.35	0.97 – 6.7	10	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes

*Regarding Arsenic: While your drinking water meets the federal and state standard for arsenic, it does contain low levels of 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.*

Fluoride (ppm)	2012	0.85	0.60 – 1.1	2.0	1.0	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha (pCi/L)	2011/12	15	ND - 21	15	(0.0)	Erosion of natural deposits
Nitrate (ppm)	2012	7.49	6.2 – 10.0	45	45	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Uranium (pCi/L)	2011/12	16	1.9 - 21	20	0.43	Erosion of natural deposits

**TABLE 5 – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD**

Chemical or Constituent (and reporting units)	Sample Year	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Chloride (ppm)	2012	27.3	18 - 35	500	NS	Runoff/leaching from natural deposits; seawater influence
Odor (Total Odor Number – TON)	2012	1	1	3	NS	Naturally-occurring organic materials
Sulfate (ppm)	2012	41	32 - 48	500	NS	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2012	292	270 - 360	1000	NS	Runoff/leaching from natural deposits
Turbidity (Units)	2012	0.4	0.1 – 1.2	5.0	NS	Soil runoff

**TABLE 6 – DETECTION OF UNREGULATED CONTAMINANTS**

Chemical or Constituent (and reporting units)	Sample Year	Level Detected	Range of Detections	Notification Level	Health Effects Language
Boron (ppb)	2012	125	0 - 160	1000	The babies of some pregnant women who drink water containing boron in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.
Vanadium (ppb)	2012	10.1	4.8 - 20	50	The babies of some pregnant women who drink water containing vanadium in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.

<b>Disinfection Byproducts and Disinfectant Residuals</b>	Sample Year	MCL [MDRL]	PHG (MCLG) [MRDLG]	BDVWA AVERAGE RESULTS	BDVWA RANGE OF RESULTS
Chlorine	2012	[4.0 (as Cl <sub>2</sub> )] ppm	[4.0 (as Cl <sub>2</sub> )] ppm	0.35 ppm	0.33 – 0.38 ppm
Total Trihalomethanes (TTHM) (4Quarters '08 & '09) <i>Major sources- By-product of drinking water disinfection</i>	2008/09	80 ppb	NS	5.2 ppb	1.3 – 15.5 ppb
Total Haloacetic Acid (HAA5) (4Quarters '08 & '09) <i>Major sources- By-product of drinking water disinfection</i>	2008/09	60 ppb	NS	0.5 ppb	0 – 2.3 ppb

## Exhibit "B" – Johnson Valley Well No. 10 Hauling Station

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA					
Microbiological Contaminants (complete if bacteria detected)	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
Fecal Coliform or <i>E. coli</i>	0	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or <i>E. coli</i>	0	Human and animal fecal waste

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	94	94	none	none	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2011	80	80	none	none	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 [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Arsenic (ppb)	2011	ND	ND	10	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride (ppm)	2011	1	0.79	2	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (ppm)	2012	4.5	4.5	45	45	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits

TABLE 4 – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD						
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	2 <sup>nd</sup> ary MCL	PHG (MCLG)	Typical Source of Contaminant
Chloride (ppm)	2011	44	44	500	NS	Runoff/leaching from natural deposits; seawater influence
Color (color units)	2012/13	8.75	0 - 30	15	NS	Naturally-occurring organic materials
Iron (ppb) **	2012 (qtrly)	170	100 - 260	300	NS	Leaching from natural deposits; industrial wastes
Odor (Total Odor Number – TON)	2012	1	1	3	NS	Naturally-occurring organic materials
Sulfate (ppm)	2011	98	98	500	NS	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2011	385	360 - 410	1000	NS	Runoff/leaching from natural deposits
Turbidity (Units)	2012/13	4.1	0.3 - 13	5	NS	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
Boron (ppb)	2011	170	170	1000	The babies of some pregnant women who drink water containing boron in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.
Vanadium (ppb)	2011	16	16	50	The babies of some pregnant women who drink water containing boron in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.

<u>Disinfection Byproducts and Disinfectant Residuals</u>	Year	MCL [MDRL]	PHG (MCLG) [MRDLG]	BDVWA AVERAGE RESULTS	BDVWA RANGE OF RESULTS
Chlorine	2011	[4.0 (as Cl <sub>2</sub> )] ppm	[4.0 (as Cl <sub>2</sub> )] ppm	0.60 ppm	0.50 – 0.68 ppm
Total Trihalomethanes (TTHM) (4Quarters '08 & '09) <i>Major sources- By-product of drinking water disinfection</i>	2011	80 ppb	NS	2.2 ppb	1.3 – 3.0 ppb
Total Haloacetic Acid (HAA5) (4Quarters '08 & '09) <i>Major sources- By-product of drinking water disinfection</i>	2011	60 ppb	NS	ND	ND

**\*\* Well No. 10:** Quarterly testing for iron indicates levels are below the Secondary Drinking Water Standard (SDWS), the monitoring frequency has been reduced and no further action is warranted at this time. Elevated iron appears to be related to an insufficient purge time prior to sampling.

For more information, please contact Marina West, General Manager, at 760-364-2315 or 622 S. Jemez Trail, Yucca Valley, CA, 92284.

**SOURCE WATER ASSESSMENT**

A drinking water source assessment was completed for all wells in the Bighorn-Desert View Water Agency water system in December 2002. The report indicates that Wells 2, 3, 4 (currently inactive), 6, 7, 9, and 10 are considered susceptible to septic leachate and erosion of natural deposits. You may request a summary of the assessment be sent to you by contacting a Sanitary Engineer at the California Department of Public Health at 909-383-4328.

If you have questions about this report or want to learn more about the Agency, you may contact the Agency's General Manager, Marina D. West, PG at 760-364-2315. To learn more information about contaminants and potential health effects, call the EPA's Safe Drinking Water Hotline at 1-800-426-4791 or visit their website at <http://www.epa.gov/ow/>.