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2012 ANNUAL WATER QUALITY REPORT



500 Riverside Road
Mesquite, Nevada 89027

(702) 346-5731

<http://www.vvh2o.com>



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Postal Customer

We are pleased to present the 2012 Water Quality Report. This report is designed to inform you about the quality of the water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water at the lowest cost possible. We want you to understand our efforts to continually improve the water treatment process and to protect our water resources. We are committed to ensuring the quality of your water.

NEVADA SOURCE WATER ASSESSMENT SUMMARY SHEET	
State of Nevada Division of Environmental Protection Bureau of Safe Drinking Water	Assessor: State Summary Date: 7/07/2012
The Federal Safe Drinking Water Act (SDWA) was amended in 1996 to require states to develop and implement Source Water Assessment Programs (SWAP) to analyze existing and potential threats to the quality of public drinking water throughout the state. The 1996 amendments also require a summary of the assessment to be included in the water system's annual Consumer Confidence Report (CCR). The 1996 amendments specifically require states to delineate areas that are sources of public drinking water, identify potential contamination sources within the delineated area, assess the water system's susceptibility to contamination, and inform the public of the results. These results are summarized below.	
WATER SYSTEM CONTACT INFORMATION	
WATER SYSTEM NAME: VIRGIN VALLEY WATER DISTRICT	COUNTY: CLARK
BHPS SYSTEM ID NUMBER: NV0000167	NUMBER OF RESIDENTIAL CONNECTIONS: 7,725 POPULATION SERVED: 17,994
INTERIM GENERAL MANAGER: AARON BUNKER	ADDRESS: 500 RIVERSIDE RD. MESQUITE, NV 89027
TELEPHONE: (702) 346-5731	FAX: (702) 346-2596 E-MAIL: abunker@vvh2o.com
CONTACT PERSON: AARON BUNKER	ADDRESS: 500 RIVERSIDE RD. MESQUITE, NV 89027
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FEDERAL AND STATE WATER QUALITY STANDARDS COMPLIANCE	
<input checked="" type="checkbox"/> If checked, the above referenced water system is in compliance with all State of Nevada and Federal water quality standards. If not, then explain:	
WATER SYSTEM CONTAMINATION VULNERABILITY	
<input type="checkbox"/> If checked, the above referenced water system is considered to have low vulnerability potential for contamination. The above referenced water system is considered potentially vulnerable to the following contaminant groups: Volatile Organic Compounds (VOC) <input checked="" type="checkbox"/> Inorganic Compounds (IOC) <input checked="" type="checkbox"/> Microbiological <input type="checkbox"/> Synthetic Organic Compounds (SOC) <input checked="" type="checkbox"/> Radionuclides <input checked="" type="checkbox"/>	
The District is mandated to provide the above contaminant list, even if the District water meets the MCL. If trace amount of contaminant do or have existed in the District water, then the contaminant must be checked. Even though VOC, SOC, IOC, and Radionuclides are checked, levels of each contaminant in the District's water are well below the MCL, or even non-detect.	
Volatile Organic Compounds (VOC) are typically associated with gas stations and dry cleaners; Synthetic Organic Compounds (SOC) are typically associated with herbicides and insecticides; Inorganic Compounds (IOC) are typically associated with natural deposits, fertilizers, septic systems, and asbestos components in the distribution system; Microbiological contaminates are typically associated with lakes, streams, and animal holding facilities; and Radionuclides are typically associated with erosion of natural deposits and industrial activities.	
The water system is considered vulnerable to the activities/sources associated with the contaminant groups checked in the boxes above for the following reasons:	
Wells located in and north of Mesquite are moderately vulnerable to VOC and SOC contaminants. Several wells are also considered to be moderately to highly vulnerable to IOC and Radionuclide contamination due to prior detections of Arsenic, Chloride, Iron, Manganese, Sulfate, and Gross Alpha above 50% of the Maximum Contaminant Levels.	
A copy of the complete source water assessment is available for viewing at the Bureau of Safe Drinking Water (BSDW) Carson City office between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday. It is suggested that an appointment be made if you are interested in viewing a report. The BSDW office is located at 901 So. Stewart Street, Suite 4001, Carson City, Nevada 89701. Telephone 1-775-687-9520.	

DETECTED CONTAMINANTS

The following table summarizes results of detected contaminants during the 2012 monitoring period. It is important to remember that the presence of these contaminants does not necessarily pose a health risk. The table analyzes the concentration of contaminants in your water in relation to the Maximum Contaminant Level (MCL). All contaminants were well below the MCL.

A copy of all test results is available upon request at the Water District office.

REGULATED CONTAMINATES	MONITORING PERIOD	UNIT	*YOUR WATER	RANGE	MCL	MCLG	TYPICAL SOURCE
Arsenic	2012	ppb	3.8	0.0-7.0	10	0	Erosion of natural deposits.
Barium	2012	ppm	0.040	0.023-0.058	2	2	Discharge of drilling wastes; Erosion of natural deposits
Fluoride	2012	ppm	1.0	0.78-1.4	2	4	Erosion of natural deposits; Discharge from fertilizer.
Nitrate	2012	ppm	0.79	0-1.5	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium	2012	ppb	2.7	2.0-4.0	50	50	Erosion form natural deposits: Discharge from mines.
chromium	2012	ppb	4.0	0-15	100	100	Erosion of natural deposits.
DISINFECTION BY-PRODUCTS	MONITORING PERIOD	UNIT	*YOUR WATER	RANGE	MCL	MCLG	TYPICAL SOURCE
TTHM	2012	ppb	5.1	1.6-8.6	80	n/a	By-product of drinking water chlorination.
HAA5	2012	ppb	4.0	3.6-4.4	60	n/a	By-product of drinking water chlorination.
LEAD & COPPER	MONITORING PERIOD	UNIT	90 th PERCENTILE	95 th PERCENTILE	RANGE	AL	TYPICAL SOURCE
Lead	2012	ppb	2.8		0-7.4	15	Corrosion of household plumbing systems. Erosion of natural deposits.
Copper	2012	ppm	0.12	0.088	0.010-0.20	1.3	Corrosion of household plumbing systems. Erosion of natural deposits.

*YOUR WATER: The annual average of contaminant during the monitoring period.

ARSENIC:

While your drinking water meets EPA's standard for arsenic, it does contain very low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA 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.

LEAD:

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 plumbing fittings and pipelines associated with home plumbing. The Water District 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 drinking 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 (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

WHERE DOES MY WATER COME FROM?

Our water supply currently comes from the hydrologic basin known as basin 222, the lower Virgin River basin. The Water District draws the water from eight deep wells located throughout the valley. Depths of wells range from 650' to 2,250'.

WHY ARE THERE CONTAMINANTS IN MY DRINKING WATER?

All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. 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 before it's treated include:

Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic contaminants, such as salts and metals, can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and herbicides may come from a variety of sources such as storm water run-off, agriculture, and residential users.

Radioactive contaminants, can be naturally occurring or the result of mining activity

Organic contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, may also come from gas stations, urban storm water run-off, and septic systems.

The Water District routinely monitors for contaminants in our drinking water in accordance with State and Federal laws.

More information about contaminants and potential health effects can be obtained by calling the EPA hotline at 1-800-426-4791.

ARSENIC TREATMENT PLANTS

The District has 5 arsenic treatment plants that have been in operation for approximately 4 years. The treatment plants are state of the art facilities that can remove the natural occurring arsenic in our ground water to very low levels, and in some instances non-detect levels. The District and its staff are dedicated to providing the highest quality and dependable drinking water.

IMPORTANT DRINKING WATER DEFINITIONS

MCLG (Maximum Contaminant Level Goal)—The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

MCL (Maximum Contaminant Level)—The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLG's as feasible using the best available treatment technology.

AL (Action Level)—The concentration of a contaminant, which if exceeded, triggers treatment or other corrective action to mitigate the contaminant.

ND (Non-Detect) —The concentration of a specific contaminant is below the detection limits of the EPA's accepted monitoring method.

ppm (parts per million) / mg/L (milligrams per Liter)—one ppm compares to one minute in two years or a single penny in \$10,000.

ppb (parts per billion) / µg/L (micrograms per Liter)—one ppb compares to one minute in 2,000 years, or a single penny in \$10,000,000.

pC/L (picocuries per Liter)—A picocurie is one-trillionth of a curie, which is a unit of measure used to express the results of radioactivity.

WHAT OTHER INFORMATION CAN YOU GIVE ME ABOUT MY WATER?

pH — 7.81	Water Temperature — 76°F
Fluoride — 1.0 mg/L	Hardness — 10 - 17 grains/gallon
Sodium — 45 - 170 mg/L	Hardness — 160 - 280 mg/L
Sulfate — 177 mg/L	Specific Conductance — 775 µS/cm
Iron — 0.0 mg/L	Total Dissolved Solids — 508 mg/L

Each water source is tested quarterly, annually, or once every three years depending on the constituent for 133 different contaminants as required by State and Federal agencies. Results of those tests can be obtained at the Water District's website at vvh2o.com or contacting the Water District at 702-346-5731.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

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 for infections. These people should seek advice about drinking water from their health care provider. EPA/Center 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 (800) 426-4791.

HOW CAN I LEARN MORE ABOUT MY WATER?

If you have any questions regarding water quality or Water District operations, please visit the Water District's office at 500 Riverside Road or call (702) 346-5731. The Water District Board of Directors meets every 1st and 3rd Tuesday at 5:00 p.m at the District's office.