



# 2016 ANNUAL WATER QUALITY REPORT



500 Riverside Road  
Mesquite, Nevada 89027

(702) 346-5731

<http://www.vvh2o.com>



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We are pleased to present the 2016 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

We treat your water to remove several contaminants and we add disinfectant to protect you against microbial contaminants. The Safe Drinking Water Act (SDWA) requires states to develop a Source Water Assessment (SWA) for each public water supply that treats and distributes raw source water in order to identify potential contamination sources. The state has completed an assessment of our source water. For results of the source water assessment, please contact us.

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.

### WATER SYSTEM CONTACT INFORMATION

<b>WATER SYSTEM NAME:</b> VIRGIN VALLEY WATER DISTRICT		<b>COUNTY:</b> CLARK	
<b>BHPS SYSTEM ID NUMBER:</b> NV0000167		<b>NUMBER OF RESIDENTIAL CONNECTIONS:</b> 8,341	<b>POPULATION SERVED:</b> 21,439
<b>GENERAL MANAGER:</b> KEVIN BROWN		<b>ADDRESS:</b> 500 RIVERSIDE RD. MESQUITE, NV 89027	
<b>TELEPHONE:</b> (702) 346-5731	<b>FAX:</b> (702) 346-2596	<b>E-MAIL:</b> kbrown@vvh2o.com	
<b>CONTACT PERSON:</b> AARON BUNKER		<b>ADDRESS:</b> 500 RIVERSIDE RD. MESQUITE, NV 89027	
<b>TELEPHONE:</b> (702) 346-5731	<b>FAX:</b> (702) 346-2596	<b>E-MAIL:</b> abunker@vvh2o.com	

### FEDERAL AND STATE WATER QUALITY STANDARDS COMPLIANCE

If checked, the above referenced water system is in compliance with all State of Nevada and Federal water quality standards.

### 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'. The water temperature coming out of the ground is naturally warm at approximately 80 degrees Fahrenheit.

### 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.

## DETECTED CONTAMINANTS

The following table summarizes results of detected contaminants during the 2016 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	2016	ppb	4.2	0- <sup>1</sup> 14	10	0	Erosion of natural deposits.
Barium	2016	ppm	0.034	0.019-0.055	2	2	Discharge of drilling wastes; Erosion of natural deposits
Fluoride	2016	ppm	0.37	0.63-1.4	2	4	Erosion of natural deposits; Discharge from fertilizer.
Nitrate	2016	ppm	0.6	0-1.4	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium	2016	ppb	0.3	0-2	50	50	Erosion form natural deposits: Discharge from mines.
Chromium	2016	ppb	3	0-10	100	100	Erosion of natural deposits.
DISINFECTION BY-PRODUCTS	MONITORING PERIOD	UNIT	*YOUR WATER	RANGE	MCL	MCLG	TYPICAL SOURCE
HAA5	2016	ppb	0.9	0-1.8	60	0	By-product of drinking water chlorination.
TTHM	2016	ppb	7.2	3.2-11.2	80	n/a	By-product of drinking water chlorination.
LEAD & COPPER	MONITORING PERIOD	UNIT	90 <sup>th</sup> PERCENTILE		RANGE	AL	TYPICAL SOURCE
Lead	2015	ppb	3.3		0-7.8	15	Corrosion of household plumbing systems. Erosion of natural deposits.
Copper	2015	ppm	0.11		0.0-0.22	1.3	Corrosion of household plumbing systems. Erosion of natural deposits.
Radionuclides	Collection Date	UNIT	HIGHEST VALUE	RANGE	MCL	MCLG	TYPICAL SOURCE
Gross Alpha	7/15/2015	pCi/L	8.9	3.5-8.9	15	0	Erosion of natural deposits.
Combined Uranium	7/21/2016	µg/L	5.23	2.3-8.7	30	0	Erosion of natural deposits.
Radium 226	7/21/2016	pCi/L	0.6	0.6	5	0	Erosion of natural deposits.
Radium 228	7/21/2016	pCi/L	0.7	0.7	5	0	Decay of natural and man-made deposits

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

<sup>1</sup>For a brief period of time, 1 of the 5 arsenic treatment plants that the District operates produced water above the arsenic MCL and is not indicative of regular treatment plant operation. The issue was quickly addressed and corrected. The running annual average for the treated water was below the MCL for the year.

## 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 1<sup>st</sup> and 3<sup>rd</sup> Tuesday of the month at 5:00 p.m. at the District's office.

## 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.

## LEAD:

Although our water meets all standards, lead if present at elevated levels 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>.

## FLUORIDE:

The State of Nevada has set forth a more stringent MCL of 2.0 mg/L for Fluoride than the federal limit of 4.0 mg/L assigned nationally. Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of the teeth of children, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums

## WHAT OTHER INFORMATION CAN YOU GIVE ME ABOUT MY WATER?

pH — 7.54-7.85	Iron — 0.0 mg/L
Fluoride — 0.63-1.4 mg/L	Hardness — 10 - 18 grains/gallon
Sodium — 48 - 140 mg/L	Hardness — 170 - 310 mg/L
Calcium — 32-65 mg/L	Specific Conductance — 610-1,100 µS/cm
Magnesium — 21-36 mg/L	Total Dissolved Solids — 300-640 mg/L
Silica — 19-36 mg/L	Temp. of well water — Approx. 80°F

Each water source is tested quarterly, annually, or once every three years depending on the constituent for over a 130 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](http://vvh2o.com) or contacting the Water District at 702-346-5731.

## 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.

## ARSENIC TREATMENT PLANTS:

The District has 5 arsenic treatment plants that have been in operation since 2009. 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 of dependable drinking water.

## 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.