



“2018” Annual Drinking Water Quality Report “Town of Valdese”

Water System Number: **“01-12-010”**

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about your source(s) of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information because informed customers are our best allies. **If you have any questions about this report or concerning your water, please contact The Town of Valdese Water Treatment Plant at (828)879-2127. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled Town Council meetings. They are held at the Valdese Town Hall on the first Monday of each month at 6 pm.**

What EPA Wants You to Know

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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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. EPA/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).

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. The Town of Valdese is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. However we do feed a blended phosphate which protects our service lines from leaching and contaminating your drinking water. We also maintain a slightly basic pH around 7.5 to ensure that there is no unwanted corrosion in the system. 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 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. Water can also pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which 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, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; organic chemical contaminants, including synthetic and

volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and radioactive contaminants, which 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, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

When You Turn on Your Tap, Consider the Source

The water that is used by this system is taken right of Lake Rhodhiss which is part of The Catawba River System.

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environmental Quality (DEQ), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for the Town of Valdese was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area). The assessment findings are summarized in the table below:

SWAP Results Summary

Source Name	Inherent Vulnerability Rating	Contaminant Rating	Susceptibility Rating
LAKE RHODHISS	Higher	Higher	Higher

The complete SWAP Assessment report for Town of Valdese may be viewed on the Web @https://www.ncwater.org/files/swap/SWAP_Reports/0112010_9_1_2017_17_22.pdf. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name, number, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-707-9098.

It is important to understand that a susceptibility rating of “higher” does not imply poor water quality, only the system’s potential to become contaminated by PCSs in the assessment area.

Help Protect Your Source Water

Protection of drinking water is everyone’s responsibility. We have implemented the following source water protection actions:

You can help protect your community's drinking water source(s) in several ways: dispose of chemicals properly; take used motor oil to a recycling center, volunteer in your community to participate in group efforts to protect your source, etc. Also remember that you can conserve water by taking shorter showers, checking for leaks around the house, installing low-flow devices, washing only full loads of clothes or dishes, and by turning the water off while you're brushing your teeth. These simple reductions will go a long way in our conservation efforts. Please remember that water conservation always starts with you! For more water conservation tips, please check out <http://www.wateruseitwisely.com> and <http://www.h2ouse.org>. You can also call Jerry Conley at the office (828)879-2127 and ask for the latest news on water restrictions and tips on how you can be Water Smart!

Violations that Your Water System Received for the Report Year

In 2018 the Town of Valdese did not receive any drinking water violations from the State of North Carolina.

Area Wide Optimization Program Awards

This award is presented to all North Carolina water systems that meet a higher level of water standards than those imposed by the State of North Carolina. The Town of Valdese Water Plant has received this prestigious award now for three years in a row.

Water Quality Tables

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The tables below list all the drinking water contaminants that we detected in 2018 for each particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, (2018).** The EPA and the State allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Analytical Results for Tests Performed in 2018

Contaminant	Your Water	MCLG	MCL	Likely Source
Alkalinity	13.25 mg/l	N/A	N/A	Erosion of natural minerals
Antimony	ND	0.006 ppb	0.006 ppb	Fire retardants; solder; electronics
Arsenic	ND	0.010ppb	0.010 ppb	Natural sources; production waste
Barium	ND	2.0 ppm	2.0 ppm	Metal refineries; natural deposits
Beryllium	ND	0.004 ppb	.004 ppb	Discharge from coal burning facilities
Cadmium	ND	0.005 ppb	.005 ppm	Erosion of natural deposits; corrosion of galvanized pipe; discharges by refineries
Chlorine	.99 ppm	2.0 ppm	4.0 ppm	Added to water for disinfection purposes;
Chromium	ND	.1 ppb	.1 ppb	Discharge from steel or pulp mills; natural minerals
Copper	0.118 ppm	1.3 ppm	A.L.=1.3ppm	Corrosion of household plumbing
Cyanide	ND	.2 ppb	.2 ppb	Discharge from steel, plastic, or fertilizer factories
Fecal Coliforms	0	0	0	Human or animal fecal waste
Fluoride	.7 ppm	4.0 ppm	4.0 ppm	Additive to support strong teeth; erosion of natural deposits
Iron	ND	0.3 ppb	0.3 ppb	Corrosion of household plumbing
Lead	<.003 mg/l	0	A.L.=.015mg/l	Corrosion of household plumbing; erosion of natural deposits
Manganese	.01 mg/l	0.05 mg/l	0.05 mg/l	Erosion of natural deposits
Mercury	ND	.002 ppb	.002 ppb	Erosion of natural deposits; runoff from landfills; discharges from factories
Nitrate	ND	10 ppm	10 ppm	Runoff from fertilizer use; erosion of natural deposits
Nitrite	ND	1 ppm	1 ppm	Runoff from fertilizer use; erosion of natural deposits
pH	7.53	N/A	N/A	Erosion of natural deposits
Selenium	ND	0.05 ppb	0.05 ppb	Discharge from petroleum refineries; erosion from natural deposits
Sulfate	ND	250 mg/l	250/mg/l	Soil runoff
Temperature(Celsius)	19	N/A	N/A	N/A
Thallium	ND	.0005 ppb	.002 ppb	Leaching from ore-producing sites; discharge from electronics, drugs, or glass factories
Total Coliforms	0	0	<5% month	Naturally present in the environment
Total Haloacetic Acids	0.03 ppm	N/A	0.060 ppm	By- product of disinfection
Total Organic Carbons	.7 mg/l	N/A	N/A	Natural occurring element
Total Trihalomethanes	.04 ppm	0	0.080 ppm	By-products of disinfection

Sodium was 1 mg/l. Highest Turbidity reading for 2018 of .10 NTU was recorded on 7/22/18. However, the average turbidity for 2018 was .034 NTUs. The MCLG and the MCL for turbidity are .3 NTUs. Turbidity is caused by soil runoff.

Disinfection By-Products TTHM- Average: .040 ppm; Range: .019 ppm-.074 ppm;
MCL .08ppm TOC- Average: .7 mg/l; Range: 0.0-1.5 mg/l HAA5- Average: .032ppm; Range:
.026 ppm – .039 ppm; **MCL .06 ppm**

Tables of Detected Contaminants

Microbiological Contaminants in the Distribution System - For systems that collect *less than 40* samples per month

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	0	0	1 positive sample / month*	Naturally present in the environment
Fecal Coliform or <i>E. coli</i> (presence or absence)	N	0	0	Note: If either an original routine sample and/or its repeat samples(s) are fecal coliform or <i>E. coli</i> positive, a Tier 1 violation exists.	Human and animal fecal waste

* If a system collecting fewer than 40 samples per month has two or more positive samples in one month, the system has a MCL violation.

Radiological Contaminants are tested every nine years and were tested in December of 2015.

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Alpha emitters (pCi/L)	11/04/15	N	.07	N/A		0	15	Erosion of natural deposits
Beta/photon emitters (pCi/L)	11/04/15	N	N/D	N/A		0	50 *	Decay of natural and man-made deposits
Combined radium (pCi/L)	11/04/15	N	N/D	N/A		0	5	Erosion of natural deposits
Uranium (pCi/L)	11/04/15	N	.04	N/A		0	20.1	Erosion of natural deposits

* Note: The MCL for beta/photon emitters is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

Synthetic Organic Chemical (SOC) Contaminants Including Pesticides and Herbicides were tested on 2/8/17 and on 5/04/17 and none were detected in your drinking water. We test these first two quarters every third year.

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
2,4-D (ppb)	5/4/17	N	N/D	N/A		70	70	Runoff from herbicide used on row crops
2,4,5-TP (Silvex) (ppb)	5/4/17	N	N/D	N/A		50	50	Residue of banned herbicide
Alachlor (ppb)	5/4/17	N	N/D	N/A		0	2	Runoff from herbicide used on row crops
Atrazine (ppb)	5/4/17	N	N/D	N/A		3	3	Runoff from herbicide used on row crops
Benzo(a)pyrene (PAH) (ppt)	5/4/17	N	N/D	N/A		0	200	Leaching from linings of water storage tanks and distribution lines
Carbofuran (ppb)	5/4/17	N	N/D	N/A		40	40	Leaching of soil fumigant used on rice and alfalfa
Chlordane (ppb)	5/4/17	N	N/D	N/A		0	2	Residue of banned termiticide
Dalapon (ppb)	5/4/17	N	N/D	N/A		200	200	Runoff from herbicide used on rights of way
Di(2-ethylhexyl) adipate (ppb)	5/4/17	N	N/D	N/A		400	400	Discharge from chemical factories
Di(2-ethylhexyl) phthalate (ppb)	5/4/17	N	N/D	N/A		0	6	Discharge from rubber and chemical factories
DBCP [Dibromochloropropane] (ppt)	5/4/17	N	N/D	N/A		0	200	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb (ppb)	5/4/17	N	N/D	N/A		7	7	Runoff from herbicide used on soybeans and vegetables
Endrin (ppb)	5/4/17	N	N/D	N/A		2	2	Residue of banned insecticide
EDB [Ethylene dibromide] (ppt)	5/4/17	N	N/D	N/A		0	50	Discharge from petroleum refineries
Heptachlor (ppt)	5/4/17	N	N/D	N/A		0	400	Residue of banned pesticide
Heptachlor epoxide (ppt)	5/4/17	N	N/D	N/A		0	200	Breakdown of heptachlor
Hexachlorobenzene (ppb)	5/4/17	N	N/D	N/A		0	1	Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclopentadiene (ppb)	5/4/17	N	N/D	N/A		50	50	Discharge from chemical factories
Lindane (ppt)	5/4/17	N	N/D	N/A		200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor (ppb)	5/4/17	N	N/D	N/A		40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl [Vydate] (ppb)	5/4/17	N	N/D	N/A		200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
PCBs [Polychlorinated biphenyls] (ppt)	5/4/17	N	N/D	N/A		0	500	Runoff from landfills; discharge of waste chemicals
Pentachlorophenol (ppb)	5/4/17	N	N/D	N/A		0	1	Discharge from wood preserving factories
Picloram (ppb)	5/4/17	N	N/D	N/A		500	500	Herbicide runoff
Simazine (ppb)	5/4/17	N	N/D	N/A		4	4	Herbicide runoff
Toxaphene (ppb)	5/4/17	N	N/D	N/A		0	3	Runoff/leaching from insecticide used on cotton and cattle

Volatile Organic Chemical (VOC) Contaminants were tested on 1/16/18 and none were detected in your drinking water.

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Benzene (ppb)	1/16/18	N	N/D	N/A		0	5	Discharge from factories; leaching from gas storage tanks and landfills
Carbon tetrachloride (ppb)	1/16/18	N	N/D	N/A		0	5	Discharge from chemical plants and other industrial activities
Chlorobenzene (ppb)	1/16/18	N	N/D	N/A		100	100	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene (ppb)	1/16/18	N	N/D	N/A		600	600	Discharge from industrial chemical factories
p-Dichlorobenzene (ppb)	1/16/18	N	N/D	N/A		75	75	Discharge from industrial chemical factories
1,2 – Dichloroethane (ppb)	1/16/18	N	N/D	N/A		0	5	Discharge from industrial chemical factories
1,1 – Dichloroethylene (ppb)	1/16/18	N	N/D	N/A		7	7	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene (ppb)	1/16/18	N	N/D	N/A		70	70	Discharge from industrial chemical factories
trans-1,2-Dichloroethylene (ppb)	1/16/18	N	N/D	N/A		100	100	Discharge from industrial chemical factories
Dichloromethane (ppb)	1/16/18	N	N/D	N/A		0	5	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane (ppb)	1/16/18	N	N/D	N/A		0	5	Discharge from industrial chemical factories
Ethylbenzene (ppb)	1/16/18	N	N/D	N/A		700	700	Discharge from petroleum refineries
Styrene (ppb)	1/16/18	N	N/D	N/A		100	100	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene (ppb)	1/16/18	N	N/D	N/A		0	5	Discharge from factories and dry cleaners
1,2,4 –Trichlorobenzene (ppb)	1/16/18	N	N/D	N/A		70	70	Discharge from textile-finishing factories
1,1,1 – Trichloroethane (ppb)	1/16/18	N	N/D	N/A		200	200	Discharge from metal degreasing sites and other factories
1,1,2 –Trichloroethane (ppb)	1/16/18	N	N/D	N/A		3	5	Discharge from industrial chemical factories
Trichloroethylene (ppb)	1/16/18	N	N/D	N/A		0	5	Discharge from metal degreasing sites and other factories
Toluene (ppm)	1/16/18	N	N/D	N/A		1	1	Discharge from petroleum factories
Vinyl Chloride (ppb)	1/16/18	N	N/D	N/A		0	2	Leaching from PVC piping; discharge from plastics factories
Xylenes (Total) (ppm)	1/16/18	N	N/D	N/A		10	10	Discharge from petroleum factories; discharge from chemical factories

Important Drinking Water Definitions:

Not-Applicable (N/A) – Information not applicable/not required for that particular water system or for that particular rule.

Non-Detects (ND) - Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.

Parts per million (ppm) or Milligrams per liter (mg/L) - One part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter (ug/L) - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Million Fibers per Liter (MFL) - Million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

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

Maximum Residual Disinfection 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 Disinfection 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.

Locational Running Annual Average (LRAA) – The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.

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

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 allow for a margin of safety.