



ST. HELENA WATER ENTERPRISE Consumer Confidence Report

2014

WATER QUALITY REPORT

INTRODUCTION

The City of St. Helena is committed to reliably serving water that meets the highest drinking water quality standards. The City produces water from two water treatment plants. One plant treats surface water from Bell Canyon Reservoir and the other treats groundwater from two deep wells. The water treatment plants are staffed by highly trained and certified personnel. These plants enable St. Helena's Water Enterprise to produce water that surpasses applicable quality standards and regulations established by both the State Water Resources Control Board (SWRCB) Division of Drinking Water and the United States Environmental Protection Agency (USEPA). St. Helena routinely tests the quality of the water supply and the water produced. A variety of constituents are tested for as required by state regulations. On a monthly basis, St. Helena reports to SWRCB the results of hundreds of laboratory tests performed to assure the quality and safety of our water. The testing (including microbiological, inorganic, heavy metals, and minerals) is performed by independent laboratories certified to perform the required laboratory analyses.

This Water Quality Report represents the chemical water quality data for each water source serving the City of St. Helena for the period between January 1, 2014 to December 31, 2014. After reading this report if you have any questions regarding the water quality or the Water Enterprise in general, please contact Dan Brunetti, Chief Water Treatment Plant Operator at (707) 967-2875 or, para hablar en Español the City Clerk's office at (707) 968-2745. In an emergency, during weekends, holidays and after office hours, call (707) 967-2850.

SOURCE WATER INFORMATION

The City of St. Helena Water Enterprise draws from three water sources for the potable water served to customers: 1) Bell Canyon reservoir, a surface water source and 2) the two Stonebridge Wells (deep groundwater sources fed by the Sonoma Volcanic aquifer), and 3) City of Napa (refer to <http://cityofnapa.org> for City of Napa's most recent CCR report).

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material. It can also pick up substances resulting from the presence of animals or human activity. All drinking water, including bottled water, may be expected to contain at least small amounts of some contami-

nants. The presence of contaminants does not necessarily indicate that the 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 (800) 426-4791 or EPA's web site at www.epa.gov/safewater/hfacts.htm.

Possible contaminants in untreated source water include the following: Microbial contaminants, (viruses, cysts and bacteria) from sewage treatment plants, septic systems, agricultural livestock operations, wildlife, human activity or farming.

Inorganic contaminants, (salts and metals) which can occur naturally or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, from farming, urban storm runoff, or residential uses.

Radioactive contaminants, from naturally-occurring, oil and gas production or mining sources.

Organic chemical contaminants, from industrial processes, petroleum production, gas stations, urban stormwater runoff, and septic systems.

SPECIAL INFORMATION

Some people are more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons 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 contaminants. These people should seek advice about drinking water from their health care providers. EPA 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.

In order to ensure that tap water is safe to drink, the USEPA and the SWRCB 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.

Public Participation: The St. Helena City Council meets on the 2nd and 4th Tuesdays of the month. Meetings begin at 6:00 PM at Vintage Hall 465 Main Street, St. Helena.

BOTTOM LINE

The City of St. Helena's drinking water meets all Federal and State drinking water standards.

We test the drinking water quality for many constituents as required by State and Federal Regulations. This report shows the results of our monitoring for the periods of January 1 – December 31, 2014.

IMPORTANT PHONE NUMBERS

Emergency:
*Weekends, Holidays
& After Hours*
(707) 967-2850

Information:
*Chief Treatment
Plant Operator*
(707) 967-2875

EPA:
*Safe Drinking
Water Hotline*
(800) 426-4791

The following tables summarize the drinking water contaminants that were detected in the period between January 1, 2014 to December 31, 2014.

Your tap water met all USEPA and State Drinking water standards for the 2014 calendar year.

Distribution System (Finished Water) Information	
MICROBIOLOGICAL CONTAMINANTS	
Monitoring for bacteriological constituents in the distribution system is required to determine the presence of micro biological contaminants such as Coliform, Fecal Coliform, E. Coli and Turbidity. St. Helena has detected and treated the following bacteriological contaminants.	
COLIFORM BACTERIA	
Monitoring for bacteriological constituents in the distribution system is required to determine the presence of micro biological contaminants such as Coliform, Fecal Coliform, E. Coli and Turbidity. St. Helena has detected and treated the following bacteriological contaminants.	
Minimum number of monthly samples required:	8
Maximum number of monthly positive samples allowed (MCL):	1
Average monthly number of samples taken in 2014:	8.7
Total number of samples taken in 2014:	104
Maximum number of positives in one month:	1
Total number of E. Coli sample positives:	0
No of months in violation	0

LEAD AND COPPER TAP SAMPLING							
LEAD & COPPER	UNITS	# OF SAMPLES COLLECTED	90% LEVEL DETECTED	# OF SITES EXCEEDING AL	AL	PHG	TYPICAL SOURCE OF CONTAMINANT
Lead	ppb	24	1.8	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits.
Copper	ppm	24	0.7	0	1.3	0.3	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives.

SAMPLING RESULTS FOR HARDNESS AND SODIUM								
	UNITS	MCL	LOUIS STRALLA WTP SOURCE		STONEBRIDGE WELL #1		STONEBRIDGE WELL #2	
			DATE	LEVEL DETECTED	DATE	LEVEL DETECTED	DATE	LEVEL DETECTED
*Total Hardness	ppm	NS	9-Apr-14	21.00	28-Oct-14	102	28-Oct-14	111
Sodium	ppm	None	9-Apr-14	5.70	28-Oct-14	45	28-Oct-14	40

Hardness and Sodium are generally found in ground water & surface water. *The water coming from Bell Canyon Reservoir is soft, from SBW #1 and SBW #2 moderately hard to hard. Therefore, Total Hardness varies in the distribution system depending on which treatment plants are on-line & proximity of consumer to water source.

Source Water Analysis							
BELL CANYON SOURCE WATER MCLs							
CHEMICAL OR CONSTITUENT	UNITS	SAMPLE DATE	LEVEL DETECTED	RANGE OF DETECTIONS	MCL	PHG	TYPICAL SOURCE OF CONTAMINANTS
Gross Alpha	pCi/L	Quarterly 2007	0.191	.060 - .483	15	0	Erosion of natural deposits
Combined Radium 226 & 228	pCi/L	Quarterly 2007	0.215	.175 - .243	5	0	Erosion of natural deposits

STONEBRIDGE WELL #1 SOURCE WATER MCLs PRIMARY CONTAMINANTS							
CHEMICAL OR CONSTITUENT	UNITS	SAMPLE DATE	LEVEL DETECTED	RANGE OF DETECTIONS	MCL (AL)	PHG (MCLG)	TYPICAL SOURCE OF CONTAMINANTS
Lead	ppb	08-Apr-08	6.5		(15)	0.2	Internal corrosion of household plumbing systems; discharges from industry manufacturers; erosion of natural deposits.
Fluoride	ppm	10-Apr-14	0.34		2	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Gross Alpha	pCi/L	Quarterly 2007	0.944	0 - 2.39	15	0	Erosion of natural deposits
Combined Radium 226 & 228	pCi/L	Quarterly 2007	0.179	0 - 0.218	5	0	Erosion of natural deposits

STONEBRIDGE WELL #2 SOURCE WATER MCLs PRIMARY CONTAMINANTS							
CHEMICAL OR CONSTITUENT	UNITS	SAMPLE DATE	LEVEL DETECTED	RANGE OF DETECTIONS	MCL (AL)	PHG (MCLG)	TYPICAL SOURCE OF CONTAMINANTS
Fluoride	ppm	28-Oct-14	0.29		2	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Barium	ppm	28-Oct-14	0.12		1	2	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits.
Gross Alpha	pCi/L	Quarterly 2007	0.300	0 - 0.327	15	(0)	Erosion of natural deposits
Combined Radium 226 & 228	pCi/L	Quarterly 2007	0.248	0 - 0.268	5	(0)	Erosion of natural deposits

BELL CANYON SOURCE WATER MCLs SECONDARY CONTAMINANTS

* indicates over MCL

CHEMICAL OR CONSTITUENT	UNITS	SAMPLE DATE	AVERAGE LEVEL DETECTED	RANGE OF DETECTIONS	MCL	TYPICAL SOURCE OF CONTAMINANTS
Color	color	5 days/week	34*	20 - 60*	15	Naturally-occurring organic materials
Manganese	ppb	Weekly	40	10 - 92*	50	Leaching of natural deposits
Iron	ppb	Weekly	144	30 - 420*	300	Leaching of natural deposits
Total Dissolved Solids	ppm	9-Apr-14	54		1000	Runoff/leaching from natural deposits
Specific Conductance	µS/cm	Daily	84	59 - 99	1600	Substances that form ions when in water
Sulfate	ppm	9-Apr-14	2.6		500	Runoff/leaching from natural deposits industrial wastes
Chloride	ppm	9-Apr-14	4.0		500	Runoff/leaching from natural deposits; seawater influence
Copper	ppm	Weekly	0.15	0.1 - 0.15	1	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

STONEBRIDGE WELL #1 SOURCE WATER MCLs SECONDARY CONTAMINANTS

* indicates over MCL

CHEMICAL OR CONSTITUENT	UNITS	SAMPLE DATE	AVERAGE LEVEL DETECTED	RANGE OF DETECTIONS	MCL	TYPICAL SOURCE OF CONTAMINANTS
Total Dissolved Solids	ppm	28-Oct-14	310		1000	Runoff/leaching from natural deposits
Chloride	ppm	28-Oct-14	17		500	Runoff/leaching from natural deposits; seawater influence
Sulfate	ppm	28-Oct-14	11		500	Runoff/leaching from natural deposits; industrial wastes
Manganese	ppb	69 times / Yr 14	54*	18 - 116*	50	Leaching of natural deposits
Iron	ppb	50 times / Yr 14	47	9 - 190	300	Leaching from natural deposits; industrial wastes
Specific Conductance	µS/cm	23 times / Yr 14	436	410 - 458	1600	Substances that form ions when in water

STONEBRIDGE WELL #2 SOURCE WATER MCLs SECONDARY CONTAMINANTS

* indicates over MCL

CHEMICAL OR CONSTITUENT	UNITS	SAMPLE DATE	AVERAGE LEVEL DETECTED	RANGE OF DETECTIONS	MCL	TYPICAL SOURCE OF CONTAMINANTS
Total Dissolved Solids	ppm	28-Oct-14	300	300	1000	Runoff/leaching from natural deposits
Chloride	ppm	28-Oct-14	12	12	500	Runoff/leaching from natural deposits; seawater influence
Sulfate	ppm	28-Oct-14	4.1	4.1	500	Runoff/leaching from natural deposits; industrial wastes
Iron	ppb	2 times / Yr 14	260	240 - 280	300	Leaching from natural deposits; industrial wastes
Manganese	ppb	2 times / Yr 14	56*	54-59*	50	Leaching of natural deposits
Specific Conductance	µS/cm	28-Oct-14	432	None	1600	Substances that form ions when in the water

STONEBRIDGE WELL #1& #2 (COMBINED) SOURCE WATER MCLs SECONDARY CONTAMINANTS

* indicates over MCL

CHEMICAL OR CONSTITUENT	UNITS	SAMPLE DATE	AVG LEVEL DETECTED	RANGE OF DETECTIONS	MCL	TYPICAL SOURCE OF CONTAMINANTS
Iron	ppb	17 times /Yr 14	238	63-340*	300	Leaching from natural deposits; industrial wastes
Manganese	ppb	44 times /Yr 14	56*	37-76*	50	Leaching of natural deposits

SBW 1 & 2 operated together 37.9% of the time for the year 2014

BELL CANYON RESERVOIR SOURCE WATER - DETECTION OF UNREGULATED CONTAMINANTS

CHEMICAL OR CONSTITUENT	UNITS	SAMPLE DATE	LEVEL DETECTED	NOTIFICATION LEVEL	PHG (MCLG mrdlg)	TYPICAL SOURCE OF CONTAMINANTS
1,2,3-Trichloropropane	ppt	11-May-05	< 500	5	None	Some people who use water containing 1,2,3-trichloropropane in excess of the notification level over many years may have an increased risk of getting cancer, based on studies in laboratory animals.

BELL CANYON RESERVOIR - TREATMENT PLANT - FILTER PERFORMANCE MONITORING

(Type of approved filtration technology used)	Conventional Filtration
Turbidity Performance Standards **(that must be met through the water treatment process)	<u>Turbidity of the filtered water must</u> 1 - Be less than or equal to .3 NTU in 95% of measurements in a month 2 - Not exceed 1.0 for more than eight consecutive hours 3 - Not exceed 5.0 NTU at any time
Lowest monthly % of samples that met Turbidity Performance Standard No. 1	97%
Highest single turbidity measurement during the year	0.28
The number of violations of any surface water treatment requirements	0
* A required process intended to reduce the level of contaminants in drinking water. ** Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.	

DISINFECTION BYPRODUCTS

* indicates over MCL

CHEMICAL OR CONSTITUENT & LOCATION	UNITS	QUARTERLY SAMPLE DATES	HIGHEST LRAA	RANGE OF DETECTIONS	MCL	HEALTH EFFECTS LANGUAGE
TTHM Site 011	ppb	Feb 19, Jun 12, Aug 20, and Nov 19, 2014	61	33 - 100*	80	By products of drinking water chlorination
TTHM Site 016	ppb		63	17 - 96*	80	
HAA5 Site 011	ppb		45	3 - 65*	60	
HAA5 Site 016	ppb		55	8 - 91*	60	

Don't forget to visit the City's website at www.cityofsthelena.org.

Bell Canyon Reservoir

Samples of untreated water supplying Louis Stralla Water Plant exceeded MCL's for color, manganese, and iron. Elevated color occurs during rainfall/runoff events in the winter. Manganese and iron leaches from naturally occurring minerals in the watershed and reservoir. In the city lab manganese exceeded the MCL on 15 occasions and varied from 10 – 92 ppb. Iron exceeded the MCL on 8 occasions and varied from 30 – 420 ppb.

The LSWP treats the source water reducing color, manganese and iron to levels below the secondary MCLs. This protects against unpleasant aesthetic effects such as color, taste, odor, and staining of plumbing fixtures or laundered clothing.

Stonebridge Wells

Manganese levels over the MCL were found in 59 % of all SBW source water samples taken. The levels detected ranged from 18 - 116 ppb (MCL - 50 ppb). SBW #1 doesn't have iron levels above the MCL whereas SBW #2 generally has elevated levels of iron, occasionally exceeding the MCL.

Louis Stralla Water Treatment Plant

Finished water color levels in samples tested during the reporting period were all below the detection limit of 5 units. The quantity of colored water quality complaints for the year doubled due to high velocity from running our two booster pumps together. Water age in TK1A due to construction problems contributed to some taste and odor complaints and higher disinfection by product levels. The City had to perform an Operational Evaluation of their complete system but still remained in compliance with the stage 2 DBP LRAA requirements.

Finished water Manganese levels in the year 2014 averaged 5 ppb with a max of 21 ppb detected once. The MCL for Mn is 50. Finished water iron levels in the year averaged 8 ppb with a maximum of 18 ppb. The Secondary MCL for iron 300 ppb was not exceeded during the reporting period .

Stonebridge Wells

The finished water produced by the City of St. Helena's Stonebridge Wells did not exceed any MCL, AL, or violated any treatment, monitoring, or reporting requirement during the year 2014. Finished water Manganese levels averaged 10 ppb which was less than the DLR (Detection Limit for Reporting) of 20 ppb. Finished Iron levels were all less the DLR of 100 ppb averaging an Iron level of 11 ppb. State Water Board requires that the City of St. Helena monitor the effluent manganese and iron levels twice a week in their own lab and quarterly from a certified lab to ensure that iron and manganese contaminants are being removed.

Bell Canyon Reservoir

TERMS used in this report

Maximum Contaminant Level (MCL): 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 are set to protect the odor, taste, and appearance of drinking water.

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 (USEPA).

Public Health Goal (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 Residual Disinfectant Level (MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the

consumer's tap.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

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

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.

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

Description of Vulnerability

The source is considered most vulnerable to the following activities associated with chemicals detected in the water supply are wildfires (sediment) and vineyards (sediment, nutrients, organic carbon).

The Bell Canyon watershed is geographically small and contains few potential contaminant sources. The land immediately surrounding the reservoir is owned by the City and is thoroughly protected. The most significant potential sources of contaminants in the watershed are wildfires and development of vineyards. Enlightened vineyard development and erosion control practices continue to have a positive influence on reducing the potential for adverse water quality impacts.

A copy of the City's current assessment may be viewed at the City of St. Helena Department of Public Works, 1480 Main St., St. Helena, CA 94574. You may request a summary of the assessment by contacting: Dan Brunetti, Chief Plant Operator, (707) 967-2875.

Stonebridge Wells

Description of Vulnerability

The source is considered most vulnerable to the following activities not associated with any detected contaminants is wastewater collection systems.

There have been no contaminants detected in the water supply, however the source is still considered vulnerable to activities located near the drinking water source. A City sewer line passes through the Water Treatment Plant well field. However, due to its depth, it does not effect the well.

A copy of the assessment may be viewed at: Dept. of Health Services, 50 D St., Suite 200, Santa Rosa, CA 95404. You may request a summary of the assessment by contacting: Michelle Fredericks, District Engineer (707) 576-2731.

Other Monitoring

St. Helena tests its source water for hundreds of volatile and synthetic chemicals. The City also tests for other substances and microorganisms in finished water. Substances tested for include Aluminum, Copper, Iron, Manganese, Color, Threshold Odor, Calcium, Alkalinity, Magnesium, Sodium, Specific Conductance, Sulfate, Total Dissolved Solids and Total Hardness. Monitoring these constituents helps the City maintain high standards for taste, odor and appearance in our water.

Distribution System

The City also tests for Disinfection By-Products (total trihalomethanes (TTHMs) and haloacetic acids (HAA5)) in samples from the distribution system. While some samples tested in 2014 contained disinfection by-products at concentrations exceeding their respective MCLs, the State requires compliance on a system-wide, annual average basis. The results for the average of all samples tested throughout the year for both contaminants were below MCLs.

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

Variations and Exemptions: Department permission to exceed an MCL or not comply with a treatment technique under certain conditions.

ND: not detectable at testing limit

ppm: parts per million or milligrams per liter (mg/L)

ppb: parts per billion or micrograms per liter (ug/L)

ppt: parts per trillion or nanograms per liter (ng/L)

pCi/L: picocuries per liter (a measure of radiation)

µS/cm micro siemens/centimeter is a unit of measurement used to measure the ability of a solution to conduct electrical current