



2017 Consumer Confidence Report

Water System Name: Buckingham Park Water District Report Date: June 27, 2018

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 period of January 1 - December 31, 2017 and may include earlier monitoring data.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.

Type of water source(s) in use: Lake / Surface Water

Name & general location of source(s): Clearlake – Lake County, CA

Drinking Water Source Assessment information: Clearlake is a vulnerable water supply susceptible to lake recreational activities, septic system failures, agricultural drainage, geological erosion, historical mining, algal blooms, and various wild fire related impairments. If you are interested in the most recent Watershed Sanitary Survey it can be viewed at the District's business office located at: 2870 Eastlake Drive in Kelseyville, CA 95451.

Time and place of regularly scheduled board meetings for public participation: 4th Monday of the Month at 5:00 p.m.
Location: 2874 Eastlake Drive Kelseyville, CA 95451

For more information, contact: Nakia D. Foskett, General Manager Phone: (707) 279-8568

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 (U.S. EPA).

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 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.

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.

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: State Board permission to exceed an MCL or not comply with a treatment technique under certain conditions.

Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

ND: not detectable at testing limit

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

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

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

ppt: parts per trillion or nanograms per liter (ng/L)
ppq: parts per quadrillion or picogram per liter (pg/L)
pCi/L: picocuries per liter (a measure of radiation)

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 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 stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and herbicides*, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- *Radioactive contaminants*, that 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, the U.S. EPA and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Tables 1, 2, 3, 4, 5, and 6 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State Board allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old. Any violation of an AL, MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

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 (state Total Coliform Rule)	(In a mo.)	0	1 positive monthly sample	0	Naturally present in the environment
Fecal Coliform or <i>E. coli</i> (state Total Coliform Rule)	(In the year)	0	A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or <i>E. coli</i> positive		Human and animal fecal waste
<i>E. coli</i> (federal Revised Total Coliform Rule)	(In the year)	0	(a)	0	Human and animal fecal waste
(a) Routine and repeat samples are total coliform-positive and either is <i>E. coli</i> -positive or system fails to take repeat samples following <i>E. coli</i> -positive routine sample or system fails to analyze total coliform-positive repeat sample for <i>E. coli</i> .					

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)	Sample Date	No. of Samples Collected	90 th Percentile Level Detected	No. Sites Exceeding AL	AL	PHG	No. of Schools Requesting Lead Sampling	Typical Source of Contaminant
Lead (ppb)	8/15/16 – 8/23/16	10	7.8 ppb	0	15 ppb	0.2 ppb	0	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	8/15/16 – 8/23/16	10	.210 ppm	0	1.3 ppm	0.3 ppm	Not applicable	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

TABLE 3 – 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)	10/02/17	17 mg/l	-	none	none	Salt present in the water and is generally naturally occurring
Hardness (ppm)	10/02/17	124 mg/l	-	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 Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Asbestos	7/14/09	.4 MFL	-	7 MFL	7 MFL	Internal corrosion of asbestos cement water mains; erosion of natural deposits
Fluoride	10/2/17	.12 ppm	-	2 ppm	1 ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha	3/8/16	0.41 pCi/L	-	15 pCi/L	0	Erosion of natural deposits
<i>Heptachlor</i>	7/5/16	10 ppt *	-	10 ppt	8 ppt	<i>Residue of banned insecticide</i>
<i>Heptachlor Epoxide</i>	7/5/16	10 ppt *	-	10 ppt	6 ppt	<i>Breakdown of heptachlor</i>
Lindane	7/5/16	5 ppt	-	200 ppt	32 ppt	Runoff / leaching from insecticides used on cattle, lumber and gardens
Methoxychlor	7/5/16	0.10 ppb	-	30 ppb	0.09 ppb	Runoff / leaching from insecticides used on cattle, lumber, and gardens
Toxaphene	7/5/16	0.5 ppb	-	3 ppb	0.03 ppb	Runoff / leaching from insecticide used on cotton and cattle

Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors						
TTHMs (Total Trihalomethanes)	1/2/17 – 10/2/17	37.78 ppb	Range: 22.30 ppb – 50.72 ppb	80 ppb	N/A	By-product of drinking water disinfection
Haloacetic Acids (HAA5)	1/2/17 – 10/2/17	21.53 ppb	Range: 9.9 ppb – 35 ppb	60 ppb	N/A	Byproduct of drinking water disinfection
Chlorine	1/1/17 – 12/31/17	2.75 ppm	Range: 2.75 ppm – .32 ppm	MRDL: 4 ppm as Cl ₂	MRDL: 4 ppm as Cl ₂	Drinking water disinfectant added for treatment
Total Organic Carbon (TOC)	10/2/17	2.23 ppm	-	TT	N/A	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and Haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of cancer.

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

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Chloride	10/2/17	23 ppm	-	500 ppm	-	Runoff / leaching from natural deposits; seawater influence
<i>Color</i>	<i>6/26/17 – 12/18/17</i>	<i>15 units * LRAA</i>	<i>0 units – 45 units</i>	<i>15 units</i>		<i>Naturally occurring organic materials</i>
Manganese	10/02/17	17 ppb	-	50 ppb	50 ppb	Leaching from natural deposits
<i>Odor – Threshold</i>	<i>6/26/17 – 12/18/17</i>	<i>10.3 units * LRAA</i>	<i>0 units – 27 units</i>	<i>3 units</i>	-	<i>Naturally-occurring organic materials</i>
Specific Conductance	10/2/17	310 us/cm	-	1600 us/cm	-	Substances that form ions when in water; seawater influence
Sulfate	10/2/17	3.5 ppm	-	500 ppm	-	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	10/2/17	180 ppm	-	1000 ppm	-	Runoff/leaching from natural deposits
Turbidity	2/13/17	0.258 units		5 units		Soil Runoff

TABLE 6 – DETECTION OF UNREGULATED CONTAMINANTS					
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	PHG	Health Effects Language
none					

Additional General Information on Drinking Water

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA’s Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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. U.S. EPA/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 (1-800-426-4791).

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. Buckingham Park Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing component. 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 do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants. 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 (1-800-426-4701) or at <http://www.epa.gov/lead>.

Summary Information for Violation of a MCL, MRDL, AL, TT, or Monitoring and Reporting Requirement

VIOLATION OF A MCL, MRDL, AL, TT, OR MONITORING AND REPORTING REQUIREMENT				
Violation	Explanation	Duration	Actions Taken to Correct the Violation	Health Effects Language
Heptachlor *	Heptachlor is a Synthetic Organic contaminant with a primary drinking water standard MCL of 10 ppt and a PHG of 8. It is a residue of a banned insecticide. According to the USEPA most uses of heptachlor has been to kill termites in homes and insects on farm crops and was canceled in 1978. Currently, the only permitted use of heptachlor products is for fire ant control in buried pad-mounted electric power transformers, and in underground cable television and telephone cable boxes.	Heptachlor is tested in the raw water every 9 years. This sample was taken from the <u>untreated</u> raw water sample site on 7/5/16. The next sampling is scheduled for 2025.	Heptachlor samples are taken from the raw water sample site <u>prior</u> to treatment. In 2015 the Buckingham Park Water District added Granular Activated Carbon (GAC) filtration to its treatment process which effectively removes Heptachlor from drinking water during the treatment process.	Some people who use water containing Heptachlor in excess of the MCL over many years may experience liver damage, and may have an increased risk of getting cancer.

VIOLATION OF A MCL, MRDL, AL, TT, OR MONITORING AND REPORTING REQUIREMENT (Contd.)				
Violation	Explanation	Duration	Actions Taken to Correct the Violation	Health Effects Language
Heptachlor Epoxide *	Heptachlor Epoxide is a Synthetic Organic contaminant with a primary drinking water standard MCL of 10 ppt and a PHG of 6. It is formed when heptachlor breaks down in the environment.	Heptachlor Epoxide is tested in the raw water every 9 years. This sample was taken from the <u>untreated</u> raw water sample site on 7/5/16. The next sampling is scheduled for 2025.	Heptachlor Epoxide samples are taken from the raw water sample site <u>prior</u> to treatment. In 2015 the Buckingham Park Water District added Granular Activated Carbon (GAC) filtration to its treatment process which effectively removes Heptachlor from drinking water during the treatment process.	Some people who use water containing Heptachlor Epoxide in excess of the MCL over many years may experience liver damage, and may have an increased risk of getting cancer
Color *	Color is a secondary standard with an MCL of 15 Units.	These Color samples were taken from the <u>untreated</u> raw water sample site quarterly: 6/26/17 – 12/18/17	Samples are taken at the source entry point. Color is removed later in the treatment process.	There is no mandatory health effect language for Color. Secondary MCL's are set on the basis of aesthetics.
Odor *	Odor is a secondary standard with an MCL of 3 Units.	These Odor samples were taken from the <u>untreated</u> raw water sample site quarterly: 6/26/17 – 12/18/17	Samples are taken at the source entry point. Color is removed later in the treatment process.	There is no mandatory health effect language for Odor. Secondary MCL's are set on the basis of aesthetics.

For Systems Providing Surface Water as a Source of Drinking Water

TABLE 7 - SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES	
Treatment Technique ^(a) (Type of approved filtration technology used)	Conventional Treatment, including; coagulation, flocculation, sedimentation, filtration using two parallel dual media pressure filters (conventional filtration) and then two granular activated carbon pressure filters. Disinfection is achieved with 12.5% Sodium Hypochlorite.
Turbidity Performance Standards ^(b) (that must be met through the water treatment process)	Turbidity of the filtered water must: 1 – Be less than or equal to 0.3 NTU in 95% of measurements in a month. 2 – Not exceed 1.0 NTU for more than eight consecutive hours. 3 – Not exceed 5.0 NTU at any time.
Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1.	100%
Highest single turbidity measurement during the year	0.258 NTU
Number of violations of any surface water treatment requirements	None.

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

(b) 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.

Source Water Protection Tips for Consumers

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides – they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public water system.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use U.S. EPA's Adopt Your Watershed to locate groups in your community, or visit the Watershed Information Network's How to Start a Watershed Team.
- Organize a storm drain stenciling project with your local government or water supplier. Stencil a message next to the street drain reminding people "Dump No Waste – Drains to River" or "Protect Your Water".