



2016 Consumer Confidence Report

Water System Name: **Buckingham Park Water District**

Report Date: **June 12, 2017**

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, 2016 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: The drinking water supply is vulnerable to lake recreational activities, septic systems, agricultural drainage, geological erosion & historical mining. The most recent Clearlake Watershed Report can be obtained at the Buckingham Park Water District's Business Office: **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 in Kelseyville, CA 95451

For more information, contact: Buckingham Park Water District's Business Office 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 (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 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.

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

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)

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

ppq: parts per quadrillion or picogram per liter (pg/L)

requirements, and water treatment requirements.

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 by-products 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 USEPA 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, 7, and 8 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.

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)	(from 4/1/16-12/31/16)	0	(a)	0	Human and animal fecal waste

(a) Routine and repeat samples are total coliform-positive and either is *E. coli*-positive or system fails to take repeat samples following *E. coli*-positive routine sample or system fails to analyze total coliform-positive repeat sample for *E. coli*.

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	Typical Source of Contaminant
Lead (ppb)	8/15/16 – 8/23/16	10	7.8 ppb	0	15 ppb	0.2 ppb	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	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)	10/10/16	23	-	none	none	Salt present in the water and is generally naturally occurring
Hardness (ppm)	10/10/16	163	-	none	none	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

*Any violation of an MCL or AL is asterisked. Additional information regarding the violation is provided later in this report.

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
Aluminum	10/10/16	ND	-	1 ppm	0.6	Erosion of natural deposits; residue from some surface water treatment processes
Antimony	10/10/16	ND	-	6 ppb	20	Discharge from petroleum refineries, fire retardants, ceramics, electronics, solder
Arsenic	10/10/16	ND	-	10 ppb	0.004	Erosion of natural deposits, runoff from orchards, glass and electronics production wastes
Asbestos	10/4/16	.4	-	7 MFL	7	Internal corrosion of asbestos cement water mains, erosion of natural deposits
Barium	10/10/16	ND	-	1 ppm	2	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits
Beryllium	10/10/16	ND	-	4 ppb	1	Discharge from metal refineries, coal-burning factories, and electrical, aerospace, and defense industries
Cadmium	10/10/16	ND	-	5 ppb	0.04	Internal corrosion of galvanized pipes; erosion of natural deposits; discharge from electroplating and industrial chemical factories, and metal refineries; runoff from waste batteries and paint
Chlorine (Sodium Hypochlorite)	1/1/16 - 12/31/16	1.4 ppm	Range: 3.04 ppm - 0.47 ppm	MRDL=4 (as Cl ₂)	MRDL=4 (as Cl ₂)	Drinking water disinfectant added for treatment
Chromium	10/10/16	ND	-	50 ppb	(100)	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Chromium, Hexavalent	7/21/14	ND	-	10 ppb	0.02	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits

TABLE 4 – DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD (CONTINUED)

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Fluoride	10/10/16	0.16 ppm	-	2 ppm	0	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.
Haloacetic Acids (HAA5)	1/4/16 - 10/4/16	7.67 ppb	Range: 21.30 ppb - 0 ppb	60 ppb	N/A	Byproduct of drinking water disinfection
Mercury (inorganic)	10/10/16	ND	-	2 ppb	1.2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and cropland
Methoxychlor	7/5/16	0.10 ppb	-	30 ppb	0.09	Runoff / leaching from insecticides used on cattle, lumber, and gardens
Nickel	10/10/16	ND	-	100 ppb	12	Erosion of natural deposits; discharge from metal factories
Nitrate (as nitrate, NO ₃)	10/10/16	ND	-	45 ppm	45	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrite (as nitrogen, N)	10/5/15	ND	-	1 ppm	1	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.
Perchlorate	12/5/16	ND	-	6 ppb	6	Perchlorate is an inorganic chemical used in solid rocket propellant, fireworks, explosives, flares, matches, and a variety of industries. It usually gets into drinking water as a result of environmental contamination from historic aerospace or other industrial operations that used or use, store, or dispose of perchlorate and its salts.
Selenium	10/10/16	ND	-	50 ppb	30	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
Thallium	10/10/16	ND	-	2 ppb	0.1	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

TABLE 4 – DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD (CONTINUED)

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Total Organic Carbon (TOC)	10/4/16	1.89 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.
TTHMs (Total Trihalomethanes)	1/4/16 - 10/4/16	16.07 ppb	35.7 ppb - 1.4 ppb	80 ppb	N/A	By-product of drinking water disinfection
Toluene	6/2/14	0.81 ppb	-	150 ppb	150 ppb	Discharge from petroleum and chemical factories; underground gas tank leaks
Turbidity	10/10/16	ND	-	TT	N/A	Soil runoff

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
Aluminum (Secondary)	10/10/16	ND	-	200 ppb	-	Erosion of natural deposits; residual from some surface water treatment processes
Chloride	10/10/16	27 ppm	-	500 ppm	-	Runoff/leaching from natural deposits; seawater influence
Color	10/10/16	ND	-	15 Units	-	Naturally-occurring organic materials
Copper	10/10/16	ND	-	1000 ppb	-	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Foaming Agents (MBAS)	10/10/16	ND	-	500 ppb	-	Municipal and industrial waste discharges
Iron	10/10/16	ND	-	300 ppb	-	Leaching from natural deposits; industrial wastes
Methyl-tert-butyl (MTBE) (Secondary)	6/2/14	0.5 ppb	-	5 ppb	-	Leaking underground storage tanks; discharge from petroleum and chemical factories
Manganese	10/10/16	ND	-	50 ppb	-	Leaching from natural deposits
Odor	10/10/16	*4.5 Units	-	3 Units	-	Naturally-occurring organic materials
Silver	10/10/16	ND	-	100 ppb	-	Industrial discharges

Specific Conductance	10/10/16	400 uMho	-	1600 uMho	-	Substances that form ions when in water; seawater influence
Sulfate	10/10/16	3.3 ppm	-	500 ppm	-	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	10/10/16	260 ppm	-	1000 ppm	-	Runoff/leaching from natural deposits
Turbidity	10/10/16	ND	-	5 NTU	-	Soil Runoff
Zinc	10/10/16	ND	-	5 ppm	-	Runoff/leaching from natural deposits; industrial wastes

TABLE 6 – DETECTION OF UNREGULATED CONTAMINANTS

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	Notification Level	Health Effects Language
Alachlor	7/5/16	0.2 ppb	-	-	-
Bromochloromethane	6/2/14	0.5 ppb	-	-	-

*Any violation of an MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

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 USEPA's Safe Drinking Water Hotline (1-800-426-4791).

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. USEPA/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).

Lead-Specific Language for Community Water Systems: 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 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. [Optional: 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
None	N/A	N/A	N/A.	N/A

For Systems Providing Surface Water as a Source of Drinking Water

TABLE 8 - 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	0.210 NTU
Number of violations of any surface water treatment requirements	0

(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.

* Any violation of a TT is marked with an asterisk. Additional information regarding the violation is provided below.

Summary Information for Violation of a Surface Water TT

VIOLATION OF A SURFACE WATER TT				
TT Violation	Explanation	Duration	Actions Taken to Correct the Violation	Health Effects Language
None	-	-	-	-

Summary Information for Operating Under a Variance or Exemption

Not applicable.

**Summary Information for Federal Revised Total Coliform Rule
Level 1 and Level 2 Assessment Requirements**

Level 1 or Level 2 Assessment Requirement not Due to an *E. coli* MCL Violation

Not applicable.

Buckingham Park Water District

2880 Eastlake Drive Kelseyville CA 95451 • Phone (707) 279-8568 / Fax (707) 279-2947