EBMUD is pleased to report that in 2016, your drinking water met or surpassed every state and federal public health requirement.

**PROTECTED SOURCE**

In the East Bay, 1.4 million customers rely on high-quality EBMUD water. Almost all of EBMUD’s water comes from the 577-square mile watershed of the Mokelumne River on the western slope of the Sierra Nevada. This area is mostly national forest, EBMUD-owned lands and other undeveloped lands little affected by human activity.

The Mokelumne watershed collects snowmelt from Alpine, Amador and Calaveras counties, which flows into Pardee Reservoir near the town of Valley Springs. Three large aqueducts carry water 90 miles from Pardee Reservoir to the East Bay. During times of drought, high water demand, system maintenance or for operational needs, EBMUD may draw water from other watersheds (like the Sacramento River) or from local watersheds here in the East Bay.

EBMUD’s network of reservoirs, pipelines, pumps and water treatment plants are put to work to provide reliable drinking water every day, as reflected in this report.

**END OF DROUGHT EMERGENCY**

With our reservoirs refilling and water supply projections sufficient to meet demand, EBMUD declared an end to our drought emergency on May 10, 2016. Because of investments in conservation, recycling and supplemental supplies, EBMUD and our customers rose to the challenge to meet the East Bay’s water needs during a historic four-year drought. In fact, water demand in 2016 was at its lowest since 1978. Our customers made lasting conservation changes, boosting our reservoir levels and preparing us for the next drought — whenever it occurs.

**HOW WE MANAGE WATER QUALITY**

Regardless of the source, all water is treated at one of six EBMUD water treatment plants before it reaches your tap. EBMUD takes many steps to ensure high water quality including managing watershed lands and reservoirs, treating the water, operating a complex distribution system, maintaining facilities and addressing customer concerns.

In laboratories and in the field, EBMUD samples and tests your water extensively to ensure it is safe to drink. We look for more than 100 substances including micro-organisms, pesticides, herbicides, asbestos, lead, copper, petroleum products and by-products of industrial and water treatment processes. More than 20,000 laboratory tests each year ensure the safety of your drinking water.
EBMUD's water system is built to be redundant so customers can count on us to deliver clean drinking water when you need it. Our water typically comes from the Mokelumne River watershed in the Sierra Nevada foothills.

Before reaching your tap, EBMUD water is treated at one of six water treatment plants in the East Bay. Some customers receive water from different treatment plants at different times of the year. The taste and smell of your tap water may fluctuate throughout the year because of operational changes (such as when a treatment plant is down for maintenance) or due to drought-related changes at the source.

**WHERE YOUR WATER IS TREATED**

EBMUD'S water system is built to be redundant so customers can count on us to deliver clean drinking water when you need it. Our water typically comes from the Mokelumne River watershed in the Sierra Nevada foothills.

Before reaching your tap, EBMUD water is treated at one of six water treatment plants in the East Bay. Some customers receive water from different treatment plants at different times of the year. The taste and smell of your tap water may fluctuate throughout the year because of operational changes (such as when a treatment plant is down for maintenance) or due to drought-related changes at the source.

**WHAT WAS DETECTED AND REPORTED**

In 2016, EBMUD treated raw water from multiple sources, including the Sacramento River, and consistently provided high-quality drinking water, meeting or surpassing every public health requirement set by the State Water Resources Control Board (State Board) and the U.S. Environmental Protection Agency (USEPA).

The tables on the following pages show the measured amounts of contaminants detected in 2016 or in the most recent year sampling was required. Samples were collected in EBMUD’s source waters, at water treatment plants, in the distribution system or at customers’ taps.

Although EBMUD tests for more than 100 substances, this report only lists those detected at or above the state or federal level required for reporting. In this case, no news is good news!

### Table 1 – Regulated for public health

These contaminants are regulated to protect your health. They have maximum contaminant levels, known as primary MCLs, set by the State Board or the USEPA. These levels are set as close to the established public health goals as is economically and technologically feasible. Secondary MCLs address odor, taste and appearance of drinking water. They have maximum contaminant levels, also known as secondary MCLs, set by the State Board.

### Table 3 – Unregulated contaminants

The first five listed contaminants must be reported, if detected, under the federal Unregulated Contaminant Monitoring Rule 3 (UCMR3). The last three listed contaminants have state notification levels and water systems are encouraged, but not required, to report results to consumers.

### Table 4 – Other parameters of interest to customers

These water measurements, such as pH, hardness and alkalinity, may be of interest to customers.
EBMUD 2016 ANNUAL WATER QUALITY REPORT

In 2016, your drinking water was consistently the highest quality, surpassing every public health requirement set by the State Water Resources Control Board (State Board) Division of Drinking Water and the U.S. Environmental Protection Agency (USEPA).

**KEY TERMS**

AL Regulatory action level. The concentration which, if exceeded, triggers treatment or other requirements that a water system must follow.

DBP Disinfection-by-products. These are formed when chlorine and/or ozone react with natural constituents in water, Trihalomethanes (THMs), haloacetic acids (HAA4), chlorate, and bromate are disinfection by-products.

DBPs Disinfection-by-products, disinfection residuals and disinfection by-product precursors.

level 1 assessment 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.

MCL Maximum contaminant level. 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 address odor, taste and appearance of drinking water.

MCLG Maximum contaminant level goal. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA.

MRDGL Maximum residual disinfectant level goal. The level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

NA Not applicable.

nephelometric turbidity unit, a measure of the cloudiness of water.

NTU notification level A health-based advisory level established by the State Board for contaminants in drinking water that lack MCLs.

primary drinking water standard These standards regulate contaminants that affect health by setting MCLs and MCLGs along with their monitoring, reporting and water treatment requirements.

Primary MCLs are set as close to the PHGs or MCLGs as is economically and technologically feasible. Secondary MCLs address odor, taste and appearance of drinking water.

Public health goal. 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 EPA.

TOC Total organic carbon. A measure of organic content in the water.

turbidity A measure of the cloudiness of water. Turbidity is monitored because it is a good indication of the effectiveness of our filtration systems.

FT Treatment technique. A required process intended to reduce the level of a contaminant in drinking water.

90th percentile A measure that indicates 90 percent of the samples had a lower result.

**UNITS**

ppb parts per billion. One ppb is like 3 seconds in 100,000 years.

ppm parts per million. One ppm is like 3 seconds in 100,000 years.

NTU nephelometric turbidity unit, a measure of the cloudiness of water parts per million. One ppt is like 3 seconds in one year.

TN total nitrogen.

TOC total organic carbon.

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**NOTES**

a) See Page 7 for additional information about fluoride in drinking water.

b) See Page 7 for additional information about fluoridation in drinking water.

c) Drinking water disinfectant added for treatment.

d) Drinking water disinfectant added for treatment.

Typical sources

Erosion of natural deposits; release of industrial chemicals

Soil runoff

Erosion of natural deposits; water addition

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WATER QUALITY REGULATIONS

This report reflects changes in drinking water regulatory requirements during 2016. In order to ensure that tap water is safe to drink, the USEPA and the State Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. California Department of Public Health (CDPH) and United States Food and Drug Administration regulations establish limits for contaminants in bottled water that provide the protection for public health. Additional information on bottled water is available on the CDPH website at www.cdph.ca.gov/PROGRAMS/Pages/fdbBVW.aspx.

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, bacteria and protozoa, such as Cryptosporidium, 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.

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 is available from the USEPA’s Safe Drinking Water Hotline at 800-426-4791 or online at www.epa.gov/safewater. Contact your healthcare provider or visit the Centers for Disease Control and Prevention (CDC) website for guidelines on using tap water for health or medical purposes.

**Coliforms**
Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system.

All water systems are required to comply with the state Total Coliform Rule. Beginning April 1, 2016, all water systems are also required to comply with the federal Revised Total Coliform Rule. The USEPA Coliforms Rule is designed to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and E. coli bacteria). Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system.

EBMUD found coliforms in 2016, indicating the need to look for potential problems in water treatment or distribution. When this occurred, we were required to conduct assessments to identify problems and to correct any problems that were found during these assessments. During the past year, we were required to conduct one Level 1 assessment and required to take one corrective action, which we completed.

USEPA anticipates greater public health protection as the new rule requires water systems that are vulnerable to microbial contamination to identify and fix problems.

**Cryptosporidium**
Cryptosporidium is a microbial contaminant found in surface water throughout the United States. Although filtration is highly effective in removing Cryptosporidium, the most cost-effective use of filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in one of our source waters. Current test methods cannot determine if the organisms are dead or are capable of causing disease. Ingestion of Cryptosporidium may cause abdominal infection with symptoms including nausea, diarrhea and abdominal cramps.

Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness.

We encourage these individuals to consult their physicians regarding appropriate precautions to take to avoid infection.

**Fluoridation**
EBMUD is required by state law to add fluoride to drinking water to help prevent dental decay in consumers. Current regulations require fluoride levels in the treated water be maintained between 0.6 to 1.2 ppm with an optimum dose of 0.7 ppm. According to the American Dental Association and CDC, it is safe to use optimally fluoridated water for preparing infant formula. If an infant is primarily fed infant formula prepared with fluoridated water, there may be an increased chance for mild enamel fluorosis, but enamel fluorosis does not affect the health of the infant or the health of the infant’s teeth. To lessen this chance, decolorized, purified, distilled or demineralized bottled water can be used. If you have additional questions about fluorids, contact your health provider. Additional information can be found at the State Board www.waterboards.ca.gov/drinking_water/certl/drinkingwater_Fluoridation.shtml or the CDC www.cdc.gov/fluoridation websites.

EBMUD samples and tests your water in accordance with all state and federal drinking water requirements, and will provide a list of results upon request. If you are concerned about elevated lead levels in your home’s water, you may wish to have your water tested. In 2017, EBMUD started a new program to provide our customers with lead testing for their water; call 866-403-2683 for more information.

If you have additional questions about fluoride, contact your health provider. Additional information can be found at the State Board www.waterboards.ca.gov/drinking_water/certl/drinkingwater_Fluoridation.shtml or the CDC www.cdc.gov/fluoridation websites.

**REPORT A WATER QUALITY CONCERN**
Do you have a question or concern about your water quality? Call 866-403-2683. EBMUD inspectors respond to calls within one business day regarding water which appears discolored, or has foreign particles or unusual taste or odor. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available at www.epa.gov/lead and from the USEPA Safe Drinking Water Hotline at 800-426-4791 or online at www.epa.gov/safewater/lead.
HOW TO CONTACT EBMUD

For more information about water quality or to report a water quality concern, call 866-403-2683 or visit www.ebmud.com/waterquality.

If you would like this report mailed to you, email customerservice@ebmud.com or call 510-986-7555. View this report online at www.ebmud.com/wqr.

EBMUD encourages public participation in decisions affecting drinking water quality and other matters at its Board of Directors meeting held the second and fourth Tuesdays of each month at 1:15 pm, 375 Eleventh Street, 2nd Floor, Oakland.

Board of Directors
John A. Coleman • Andy Katz • Doug Linney
Lesa R. McIntosh • Frank Mellon
William B. Patterson • Marguerite Young

General Manager
Alexander R. Coate

ADDITIONAL CONTACTS

State Water Resources Control Board
Division of Drinking Water • 510-620-3463

U.S. Environmental Protection Agency
Safe Drinking Water Hotline • 800-426-4791

Alameda Public Health Department • 510-567-8000

Contra Costa Public Health Division • 925-313-6712

This is important information about your drinking water. Translate it, or speak with someone who understands it.

Este documento contiene información importante sobre el agua potable que usted consume. Tradúzcalo o hable con alguien que lo entienda.

這是有關您飲用水的重要資訊。請翻譯或，或與瞭解其內容的人討論。

Ito ay isang mahalagang impormasyon tungkol sa iyong inimong tubig. Isalin-it o hable con alguien que lo entienda.

 Đây là thông tin quan trọng về nước uống của quý vị. Hãy chuyển ngữ tài liệu này, hoặc nói chuyện với người có thể hiểu về thông tin này.

여러분의 식수에 대한 중요한 정보입니다. 본 안내문은 번역하거나 내용을 이해하는 사람과 이야기하십시오.

Ce sont des renseignements importants concernant votre eau potable. Traduisez-les ou parlez-en avec quelqu’un en mesure de les comprendre.

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Ovo je važna informacija o pijačoj vodi. Prevedite je, ili razgovarajte s nekim ko je razume.

Oste paraqesësë është informacion i shikuarë për jetën e këtij vodë për t'u përitë. Mëtështë t'i pësho me qënojët që janë katalojae.

If you have any questions or concerns about water quality, please contact Susan at susan.cisneros@ebmud.com or 510-986-7555.

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