EAST BAY MUNICIPAL UTILITY DISTRICT 2010

ANNUAL WATER QUALITY REPORT

In 2010, EBMUD water met or surpassed every public health requirement set by the California Department of Public Health and the U.S. Environmental Protection Agency.

ENSURING WATER QUALITY

EBMUD samples and tests your water extensively to make sure it is safe to drink. We look for more than 100 substances in the water including bacteria, pesticides, herbicides, asbestos, lead, copper, petroleum products and by-products of industrial and water treatment processes.

Before water reaches your tap, EBMUD takes many steps to ensure its quality. This includes managing watershed lands and reservoirs, treating the water, operating a complex distribution system of pipes, pumping plants and reservoirs, testing water samples in our laboratories and in the field, maintaining facilities and addressing customer concerns.

EXCELLENT WATER SOURCE

One of the most important factors in water quality is its source: the more pristine the source, the purer the water.

Ninety percent 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 that flows into Pardee Reservoir near the town of Valley Springs.

Three large aqueducts carry the water more than 90 miles to the East Bay. As it travels, the water is protected from pesticides, agricultural and urban runoff, municipal sewage and industrial discharges.

When water demand is high, EBMUD supplements the Sierra supply with water from protected local watersheds. All raw water, regardless of source, is first treated and filtered at one of EBMUD's water treatment plants before entering the distribution system and reaching your tap.

EBMUD

WATER QUALITY REGULATIONS

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The CDPH regulations also establish limits for contaminants in bottled 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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling USEPA's Safe Drinking Water Hotline at 800-426-4791 or visiting www.epa.gov/safewater.

Contaminants in drinking water

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 storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Synthetic organic contaminants, such as pesticides and herbicides that may come from a variety of sources, including agriculture, urban storm water and residential uses.

Volatile organic chemical contaminants from industrial processes and petroleum production, and from gas stations, urban storm water 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.

Cryptosporidium

Cryptosporidium is a microbial contaminant found in surface water throughout the United States. Although filtration is highly effective in removing Cryptosporidium, the most commonly used 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 physician regarding appropriate precautions to take to avoid infection.

Low resistance

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, and 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 USEPA Safe Drinking Water Hotline: 800-426-4791 or www.epa.gov/safewater.

Lead

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 lead service lines and home plumbing. EBMUD is responsible for providing high-quality drinking water and has replaced all known lead service lines in the District, but cannot control the variety of materials used in existing home plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by running your faucet for 30 seconds to two 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.

In the past five years, EBMUD has led successful efforts to strengthen state and federal environmental laws that protect consumers from lead exposure. In January 2011, President Obama signed the *Reduction of Lead in Drinking Water Act* requiring manufacturers to reduce lead in plumbing products used for drinking water to 0.25 percent by 2014. California's lead regulations require all such products currently sold in the state to meet those requirements.

Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the USEPA Safe Drinking Water Hotline 800-426-4791 or online at www.epa.gov/safewater/lead.

EBMUD 2010 ANNUAL WATER QUALITY REPORT

SURPASSING STATE REGULATIONS

In 2010, EBMUD water met or surpassed every public health requirement set by the California Department of Public Health and the U.S. Environmental Protection Agency.

The five tables show the measured levels of constituents detected in 2010 or in the most recent required year at EBMUD source waters, water treatment plants or in the distribution system.

Table 1 – Health-Related Standards
Constituents with primary maximum contaminant levels (MCLs) are regulated to protect your health.

Table 2 – Aesthetic Standards
Constituents with secondary maximum contaminant levels (MCLs) are regulated to maintain aesthetic standards for drinking water, such as odor, taste and appearance.

Table 3 – Unregulated constituents
Water agencies are required to report these substances if detected, but no maximum contaminant levels have been established.

Table 4 – Lead and copper
Lead and copper are regulated at the customer's tap and were most recently sampled as required, in 2008.

Table 5 – Other water quality parameters
These water measurements, such as pH, hardness and alkalinity, may be of interest to some consumers.

1 Constituents with primary MCLs

	Constituents with primary MCLs	Unit	Year sampled	MCL or [MRDL]	PHG, (MCLG) or [MRDLG]	Average	Water treatment plants: Walnut Creek	Lafayette	Orinda	Sobrante	Upper San Leandro	Typical sources
Microbiological	Cryptosporidium in source water	#/liter	2008	TT	(0)	NA	0	0	0	0.3	0	Naturally present in the environment
	Total Coliform	—	2010	5%	(0)	NA	0.6% (highest percentage found in any month)					Naturally present in the environment
	Turbidity	NTU	2010	1	NS	0.03	0.02 – 0.09	0.02 – 0.13	0.02 – 0.10	0.03 – 0.11	0.04 – 0.11	Soil runoff
		—		95% ≤0.3	NS	100%	100%	100%	100%	100%	100%	
Radioactive	Gross alpha in source water [a]	pCi/L	2006, 2007	15	(0)	<3	<3	<3	<3	<3 – 11	<3	Erosion of natural deposits
	Gross beta in source water	pCi/L	2006, 2007	50 [b]	(0)	<4	<4	<4	<4	<4 – 9.1	<4	Decay of natural and man-made deposits
	Uranium in source water [a]	pCi/L	2006, 2007	20	0.43	NA	<1	<1	<1	<1	<1	Erosion of natural deposits
Inorganic	Aluminum	ppb	2010	1000	600	<50	<50	<50	<50	<50	53 – 76	Erosion of natural deposits; residue from some surface water treatment processes
	Chloramine as Cl_2	ppm	2010	[4]	[4]	1.9 [c]	<0.05 – 3.3 [d]					Drinking water disinfectant added for treatment
	Fluoride in source water [e]	ppm	2010	2	1	<0.1	<0.1	<0.1	<0.1	<0.1	0.16	Erosion of natural deposits; discharge from fertilizer and aluminum factories [e]
Organic	Acrylamide	—	2010	TT	(0)	NA	met req.	NA	NA	NA	NA	Added to water during water treatment
	Control of DBP precursors/TOC	—	2010	TT	NS	NA	NA	NA	NA	met req.	met req.	Various natural and man-made sources
	Haloacetic acids, 5 species	ppb	2010	60	NS	18 [c]	16 – 27	12 – 25	12 – 19	15 – 38	8 – 33	By-product of drinking water disinfection
	Trihalomethanes	ppb	2010	80	NS	36 [c]	36 – 46	34 – 39	30 – 40	32 – 48	15 – 43	By-product of drinking water disinfection

2 Constituents with secondary MCLs

Constituents with secondary MCLs	Unit	Year sampled	MCL	PHG	Average	Water treatment plants: Walnut Creek	Lafayette	Orinda	Sobrante	Upper San Leandro	Typical sources
Aluminum	ppb	2010	200	NS	<50	<50	<50	<50	<50	53 – 76	Erosion of natural deposits; residue from some surface water treatment processes
Chloride	ppm	2010	250	NS	9	4	5	5 – 6	17	17	Runoff/leaching from natural deposits; seawater influence
Color	color units	2010	15	NS	2	3	3	2	<1	2	Naturally-occuring organic materials
Odor	TON	2010	3	NS	2	3	1	1 – 3	1	2	Naturally-occuring organic materials
Specific conductance	µmhos/cm	2010	900	NS	162	61	62	76 – 122	270	383	Substances that form ions when in water; seawater influences
Sulfate	ppm	2010	250	NS	15	1.2	1.2	5.3 – 12	32	41	Runoff/leaching from natural deposits; industrial wastes
Total dissolved solids	ppm	2010	500	NS	102	45	45	54 – 76	160	230	Runoff/leaching from natural deposits
Turbidity	NTU	2010	5	NS	0.03	0.02 – 0.09	0.02 – 0.13	0.02 – 0.10	0.03 – 0.11	0.04 – 0.11	Soil runoff

3 Unregulated constituents

Unregulated constituents	Unit	Year sampled	Notification level	PHG	Average	Water treatment plants: Walnut Creek	Lafayette	Orinda	Sobrante	Upper San Leandro	Typical sources
Boron	ppb	2010	1000	NS	<100	<100	<100	<100	<100	118 – 122	Runoff/leaching from natural deposits
Chlorate	ppb	2010	800	NS	247	130	160	140 – 160	170 – 410	230 – 410	By-product of sodium hypochlorite decomposition
N-Nitrosodimethylamine [f] (NDMA)	ppt	2010	10	3	4	1.4 – 2.9	0.9 – 3.5	2.5 – 3.2	1.7 – 3.3	2.6 – 21	By-product of drinking water chlorination

4 Lead and copper

Lead and copper	Unit	Year sampled	Regulatory action level	PHG	90th percentile	Sites above regulatory action level	Typical sources
Copper	ppb	2008	1300	300	65	0 out of 53	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead [g]	ppb	2008	15	0.2	4	2 out of 53	Internal corrosion of household plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

KEY TERMS

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

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 are set to protect 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 U.S. Environmental Protection Agency.

MRDL – maximum residual disinfectant level. 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.

MRDLG – maximum residual disinfectant level goal. 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.

Notification level – A health-based advisory level established by the California Department of Public Health for chemicals in drinking water that lack MCLs.

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

PHG – 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 Environmental Protection Agency.

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

TOC – total organic carbon. A measure of organic compounds that could form by-products after disinfection.

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

TT – 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.

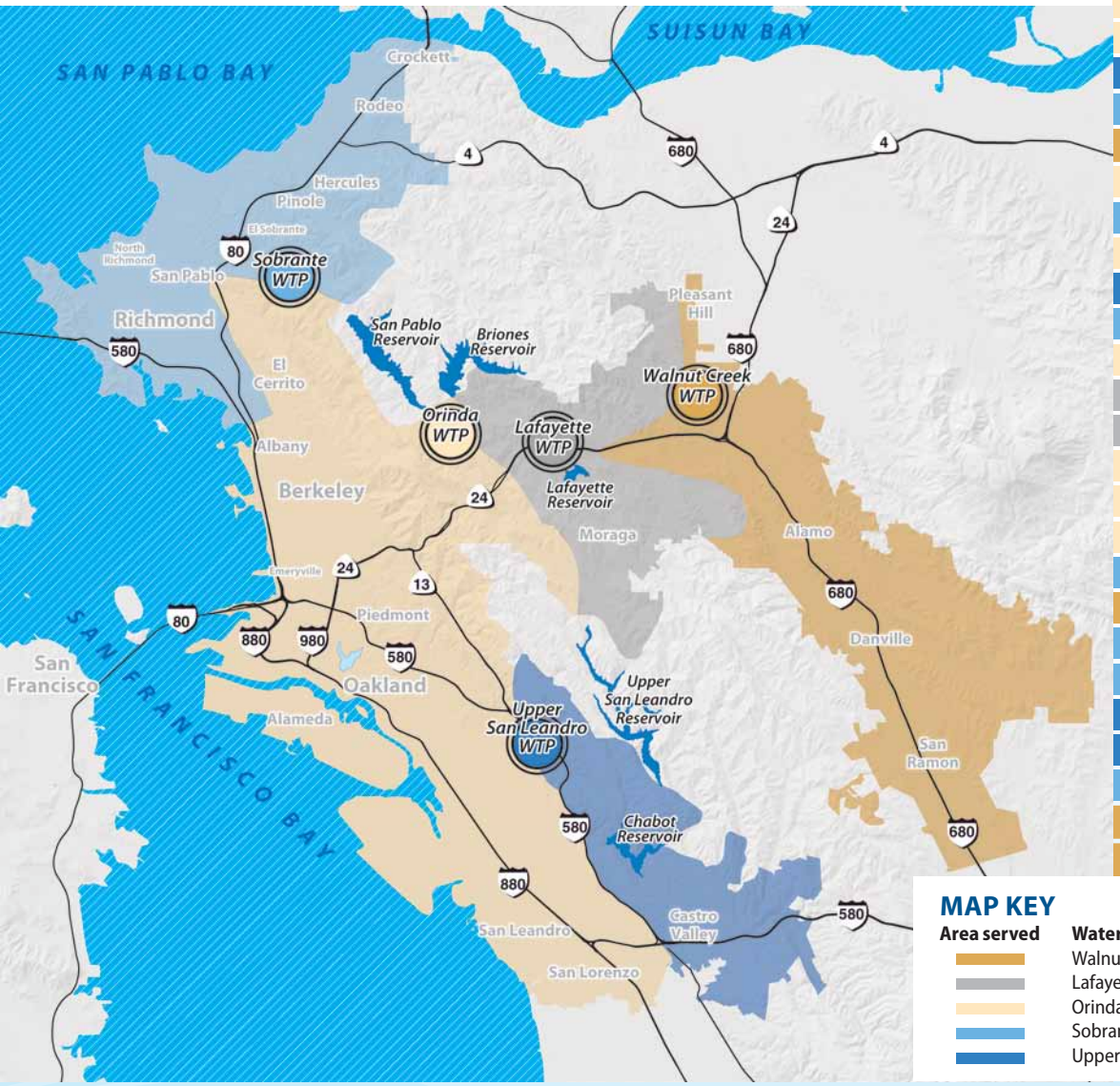
FOOTNOTES

a) Uranium was detected at 1.1 pCi/L and gross alpha was detected at 4.6 pCi/L in Chabot Reservoir. This is an emergency standby reservoir that has not been used for water supply in more than 30 years. **b)** CDPH considers 50 pCi/L to be the level of concern for gross beta particles. **c)** Highest running annual average. **d)** Chloramine residuals in the distribution system are measured as an equivalent quantity of chlorine. When the chloramine residual is less than 0.05 ppm, the sample is further analyzed to ensure that microbiological water quality is in compliance with the regulations. **e)** Fluoride is also added to help prevent dental decay in consumers. Regulations require that fluoride levels in the treated water be maintained between 0.7 to 1.4 ppm with an optimum dose of 0.8 ppm. Information about fluoridation, oral health and current issues is available from www.cdph.ca.gov/certlic/drinkingwater/pages/fluoridation.aspx. **f)** Sampling locations are chosen to represent worst-case scenarios. **g)** See *Water Quality Regulations* page for additional information about lead in drinking water. **h)** Grains per gallon (gpg) is a measure of water hardness. Knowing the amount can help improve the function of dishwashers, cooling equipment and other process applications.

MEETING DAILY WATER DEMAND

EBMUD provides high-quality drinking water to 1.3 million customers in Alameda and Contra Costa counties. EBMUD's water treatment plants are capable of filtering and processing a combined total of more than 375 million gallons of water daily.

This map of the EBMUD service area shows which water treatment plants serve your neighborhood. Lafayette, Sobrante and Upper San Leandro water treatment plants operate during periods of high demand or operational needs.



WHICH WATER TREATMENT PLANTS SERVE YOUR CITY?

City	Treatment plants
Alameda	Orinda/Upper San Leandro
Alamo	Walnut Creek
Albany	Orinda
Berkeley	Orinda
Castro Valley	Upper San Leandro/Orinda
Crockett	Sobrante/Orinda
Danville	Walnut Creek
El Cerrito	Orinda
El Sobrante	Sobrante/Orinda
Emeryville	Orinda
Hayward	Upper San Leandro/Orinda
Hercules	Sobrante/Orinda
Kensington	Orinda
Lafayette	Lafayette/Walnut Creek
Moraga	Lafayette/Orinda
Oakland	Orinda/Upper San Leandro
Orinda	Orinda/Lafayette
Piedmont	Orinda/Upper San Leandro
Pinole	Sobrante/Orinda
Pleasant Hill	Walnut Creek
Richmond	Sobrante/Orinda
Rodeo	Sobrante/Orinda
San Leandro	Upper San Leandro/Orinda
San Lorenzo	Upper San Leandro/Orinda
San Pablo	Sobrante/Orinda
San Ramon	Walnut Creek
Walnut Creek	Walnut Creek/Lafayette

MAP KEY

Area served	Water treatment plant	Source reservoir(s)
	Walnut Creek WTP	Pardee (in Sierra foothills)
	Lafayette WTP	Pardee
	Orinda WTP	Pardee, Briones
	Sobrante WTP	San Pablo
	Upper San Leandro WTP	Upper San Leandro

ABBREVIATIONS

gpg – grains per gallon
NA – not applicable
NS – no standard established
NTU – nephelometric turbidity unit, a measure of the cloudiness of water.
pCi/L – pico curies per liter, a measure of radioactivity.
ppm – parts per million, a proportion equivalent to about 30 seconds in one year. (mg/L)
ppb – parts per billion, a proportion equivalent to about 30 seconds in 1,000 years. (µg/L)
ppt – parts per trillion, a proportion equivalent to about 30 seconds in 1,000,000 years. (ng/L)
TON – threshold odor number, a measure of odor in water.
µmhos/cm – micromhos per centimeter, a measure of electrical conductance.

5 Other water quality parameters	Unit	Water treatment plants				
		Walnut Creek	Lafayette	Orinda	Sobrante	Upper San Leandro
Alkalinity, bicarbonate as $CaCO_3$	ppm	20	18	22 – 29	80	120
Alkalinity, carbonate as $CaCO_3$	ppm	1.2	1.4	3.3 – 4.1	3.8	6.6
Calcium	ppm	3.9 – 5.8	4.3 – 5.7	3.9 – 9.6	20 – 22	33 – 35
Hardness as $CaCO_3$	gpg [h]	0.7 – 1.1	0.8 – 1.1	0.8 – 1.8	4.3 – 5.0	7.6 – 8.2
	ppm	12 – 18	14 – 18	14 – 30	73 – 85	130 – 140
Magnesium	ppm	0.6 – 1.1	0.7 – 1.1	0.7 – 2.3	6.7 – 7.4	13
pH	pH	8.8 – 9.1	8.5 – 9.1	8.8 – 9.2	8.6 – 8.8	8.6 – 8.8
Potassium	ppm	0.5 – 0.6	0.5 – 0.6	0.5 – 0.9	1.3 – 1.9	1.5 – 2.1
Silica	ppm	8.6 – 11.6	8.7 – 11.7	8.7 – 10.8	6.6 – 8.8	6.6 – 7.3
Sodium	ppm	4.9 – 5.9	5.1 – 6.4	5.1 – 10	26 – 27	30 – 32

CONTACT US

For more information about water quality or to report a water quality concern, call 866-40-EBMUD (866-403-2683) or visit www.ebmud.com.

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 p.m., 375 Eleventh Street, 2nd Floor, Oakland.

ADDITIONAL CONTACTS

California Department of Public Health
Drinking Water Branch • 510-620-3463

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

Alameda County
Public Health Department • 510-267-8000

Contra Costa
Public Health Division • 925-313-6712

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ENGLISH
This report contains important information about your drinking water. Translate it, or speak with someone who understands it. To request a copy of this report in Spanish or Chinese, please call (510) 287-0138.

SPANISH
Este informe contiene importante información sobre el agua potable que usted consume. Tradúzcalo, o hable con alguien que lo comprenda, o solicite un ejemplar de este informe en español llamando al (510) 287-0138.

CHINESE
這份報告包含有您飲用水的重要資訊。請翻譯該內容，或與了解內容的人討論，或者請致電(510) 287-0138索取中文報告。

JAPANESE
この報告書には、あなたの飲料水に関する重要な情報が含まれています。和訳するか、理解できる人に相談してください。

KOREAN
본 보고서에는 귀하의 음료수에 관한 중요한 정보가 나와 있습니다. 번역을 부탁하거나 그 내용을 이해하시는 분으로부터 설명을 들으십시오.

CAMBODIAN (KHMER)
របាយការណ៍នេះមានពត៌មានសំខាន់អំពីទឹកផឹក។ សូមរកគេផ្សេងប្រែជូនឬពិគ្រោះជាមួយអ្នកណាដែលយល់របាយការណ៍នេះ ។

THAI
รายงานฉบับนี้มีข้อมูลสำคัญเกี่ยวกับน้ำดื่มของท่าน ขอให้แปลรายงานฉบับนี้หรือพูดคุยกับผู้ที่เข้าใจเนื้อหาในรายงานนี้

LAO
ລາຍງານສະບັບນີ້ມີຂໍ້ມູນສຳຄັນກ່ຽວກັບນ້ຳດື່ມຂອງທ່ານ. ໃຫ້ທ່ານແປເອກະສານນີ້ເປັນພາສາລາວ, ຫລືໃຫ້ທ່ານເວົ້າປຶກສາກັບຜູ້ທີ່ເຂົ້າໃຈເລື່ອງ.

PUNJABI
ਇਸ ਰਿਪੋਰਟ ਵਿੱਚ ਤੁਹਾਡੇ ਪੀਣ ਵਾਲੇ ਪਾਣੀ ਬਾਰੇ ਜ਼ਰੂਰੀ ਜਾਣਕਾਰੀ ਦਿੱਤੀ ਗਈ ਹੈ। ਇਸਦਾ ਅਨੁਵਾਦ ਕਰੋ ਜਾਂ ਕਿਸੇ ਨਾਲ ਗਲ ਕਰੋ ਜੋ ਇਸਨੂੰ ਸਮਝਦਾ ਹੋਵੇ।

GUJARATI
આ રિપોર્ટમાં તમારા પીવાના પાણી વિષે મહત્વની માહિતી છે. એનો અનુવાદ કરો, અથવા જેને એની સમજણ પડતી હોય તેની સાથે વાત કરો.

HINDI
इस रिपोर्ट में आपके पीने के पानी के बारे में महत्वपूर्ण जानकारी दी हुई है। इसका अनुवाद करें, या किसी ऐसे व्यक्ति से बात करें जो इसे समझता हो।

RUSSIAN
Здесь содержится информация о вашей питьевой воде. Переведите ее, или обратитесь к тому, кто это понимает.

BOSNIAN
U ovom izvještaju nalaze se važne informacije o vašoj vodi za piće. Prevedite ga ili razgovarajte sa nekim ko razumije ovaj izvještaj.

VIETNAMESE
Bản báo cáo này có các thông tin quan trọng về nước uống của quý vị. Hãy chuyển ngữ tài liệu này, hoặc nói chuyện với người có thể hiểu được bản báo cáo này.

FRENCH
Ce rapport contient des informations importantes concernant votre eau potable. Faites-le traduire ou adressez-vous à quelqu'un qui est en mesure de le comprendre.

TAGALOG
Ang ulat na ito ay naglalaman ng importanteng impormasyon tungkol sa inyong iniinom na tubig. Isalin ito, o makipag-usap sa isang taong nakakaintindi nito.

POLISH
Ten raport zawiera ważne informacje dotyczące wody pitnej. Przetłumacz go, lub porozmawiaj z kimś, kto go rozumie.

GREEK
Η έκθεση αυτή περιέχει σημαντικές πληροφορίες σχετικά με το πόσιμο νερό σας. Μεταφράστε την έκθεση ή μιλήστε με κάποιο άτομο που την κατανοεί.

HMONG
Daim ntawv qhia no muaj cov lus qhia tseem ceeb txog koj cov dej haus. Muab txhais, los sis nrog ib tug neeg uas nkag siab txog qhov no tham.

HEBREW
דו"ח זה מכיל מידע חשוב על מי שתייה. תרגמו אותו או שאלו מישהו שמבין את תוכנו.

ARABIC
يحتوي هذا التقرير على معلومات هامة حول مياه الشرب التي تتناولها. ترجم التقرير أو تحدث إلى شخص يستطيع فهمه.

FARSI
این گزارش حاوی اطلاعات مهمی درمورد آب آشامیدنی است. آن را ترجمه کنید. یا از کسی که مطالب آن را می فهمد سئوال کنید.

URDU
اس رپورٹ میں آپ کے پینے کے پانی سے متعلق اہم معلومات ہیں. اس کا ترجمہ کریں، یا کسی ایسے شخص سے بات کریں جو اسے سمجھتا ہو.