

Presented By
Long Beach Water Department



Annual
WATER
QUALITY
REPORT
Reporting Year 2011

PWS ID#: 1910065

The Long Beach Water Department

Long Beach Water Department (LBWD) is responsible for delivering to your homes and businesses a reliable, affordable, and high-quality supply of drinking water. Our commitment to protect and provide a safe supply of water has not changed for the past 100 years. Currently, LBWD serves a total population of 462,257 through over 900 miles of pipelines. Drinking water is tested on a routine basis for microbiological as well as chemical quality.

During 2011, a staff of skilled water scientists, engineers, and technicians performed over 58,000 tests to analyze for more than 100 drinking water contaminants. This testing is done to ensure that the water quality meets or exceeds all Federal and state standards. We are pleased to inform you that no constituent was detected over the enforceable limit that the California Department of Public Health (CDPH) has set.

The LBWD remains vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of its water users. Thank you for allowing us to continue providing you and your family with high-quality drinking water.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions or concerns, we are always available to assist you.

Public Meetings

The Long Beach Water Department Board of Water Commissioners meets the first and third Thursdays of each month at 9:00 am at our Administration Building. The public is encouraged to participate in these meetings. For further information, please call (562) 570-2300.

Board of Water Commissioners:

Mr. John D.S. Allen

Mr. Paul C. Blanco

Mr. Frank Clarke

Dr. Suzanne Dallman

Mr. William B. Townsend



Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.

New Arsenic Regulation

Arsenic contamination of drinking water sources may result from either natural or human activities. Volcanic activity, erosion of rocks and minerals, and forest fires are natural sources that can release arsenic into the environment. Although about 90 percent of the arsenic used by industry is for wood preservative purposes, it is also used in paints, drugs, dyes, soaps, metals, and semiconductors. Agricultural applications, mining, and smelting also contribute to arsenic releases. Arsenic is usually found in the environment combined with other elements such as oxygen, chlorine, and sulfur (inorganic arsenic), or combined with carbon and hydrogen (organic arsenic). Organic forms are usually less harmful than inorganic forms.

Low levels of arsenic are naturally present in water: about 2 parts arsenic per billion parts of water (ppb). Thus, you normally take in small amounts of arsenic in the water you drink. Some areas of the country have unusually high natural levels of arsenic in rock, which can lead to unusually high levels of arsenic in water.

In January 2001, the U.S. EPA lowered the arsenic Maximum Contaminant Level (MCL) from 50 to 10 ppb in response to new and compelling research linking high arsenic levels in drinking water with certain forms of cancer. All water utilities were required to implement this new MCL in January 2006.

Removing arsenic from drinking water is a costly procedure but well worth the expenditure considering the health benefits. For a more complete discussion visit the U.S. EPA's arsenic Web site at <http://water.epa.gov/lawsregs/rulesregs/sdwa/arsenic/index.cfm>.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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. 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 or at www.epa.gov/safewater/lead.

Water Treatment Process

The treatment process consists of a series of steps. First, raw water is pumped from our source wells to the LBWD Treatment Plant. Special water treatment chemicals, known as coagulants, are added to the water in order to cause the particles in the water to adhere to one another (called "floc"), making them heavy enough to settle into a basin from which sediment is removed. Chlorine is then added for disinfection. At this point, the water is filtered through layers of fine coal and silicate sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges.

Chlorine and ammonia are added again as a precaution against any bacteria that may still be present. (We carefully monitor the amount of chloramine, adding the lowest quantity necessary to protect the safety of your water without compromising taste.) Finally, fluoride (used to prevent tooth decay) is added and the pH is adjusted (to protect distribution system pipes) before the water is pumped to drinking water reservoirs and into your neighborhood, home, or business.



Source Water Assessment

As required under the 1996 Safe Drinking Water Act amendments, a source water assessment must be completed for all active drinking water sources. The goal of the source water assessment is to inventory all potential activities that may degrade the source water quality. MWD completed its source water assessment of its Colorado River and State Water Project supplies in December 2002. It was found that Colorado River supplies are most vulnerable to recreation, urban/storm water runoff, increasing urbanization in the watershed, and wastewater. State Water Project supplies are considered to be most vulnerable to urban/storm water runoff, wildlife, agriculture, recreation, and wastewater. A copy of the assessment can be obtained by contacting MWD by phone at (213) 217-6850.

The LBWD completed the required source water assessments for its active wells in April 2003. New wells that are constructed after this date must also undergo a similar assessment. To summarize, the assessment concluded that all active wells are considered most vulnerable to the community sewer collection system. Depending on location, some wells are considered vulnerable to gas stations, dry cleaners, confirmed leaking underground fuel tanks, airport activities, and historic landfills. However, although the wells are considered vulnerable to the aforementioned activities, the LBWD performs water quality monitoring for each active well annually and have not detected any constituents that suggest contamination. Please contact the LBWD by phone at (562) 570-2300 for more details if you would like to review this document.

Source of Drinking Water

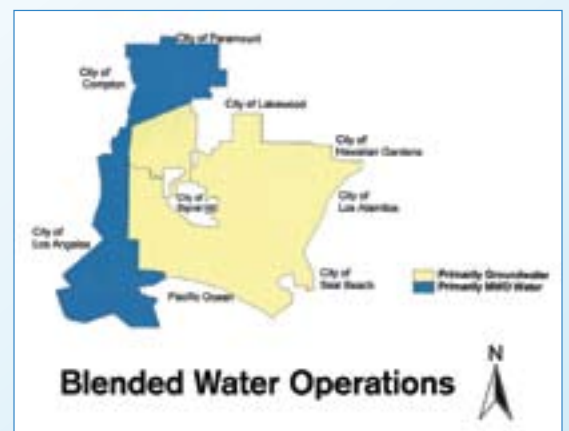
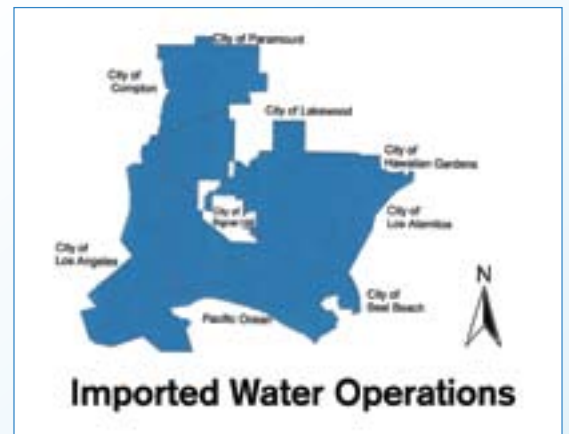
Approximately 30 percent of the potable water serving the City is supplied by groundwater, and the remaining 70 percent is through purchased imported surface water. The sources of drinking water (for both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As the water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive material and can pick up substances resulting from the presence of animals or from human activity.

LBWD purchases treated surface water from the Metropolitan Water District of Southern California (MWD), and treats groundwater pumped from 30 wells around the Long Beach area at our Groundwater Treatment Plant. Both the purchased surface water and the treated groundwater better the Federal and State water quality standards. The Federal regulations are set by the U.S. Environmental Protection Agency (USEPA), and the State standards are set by the California Department of Public Health (CDPH).

Two major aqueducts supply the surface waters feeding MWD's five regional treatment plants. Colorado River water, which has the higher mineral content of the two supplies, is brought into Southern California through the 242-mile long Colorado River Aqueduct. This aqueduct, constructed and operated by MWD, originates at Lake Havasu and terminates in Southern California at Lake Mathews. State Project water, which contains a lower mineral content but higher organic matter content, is conveyed through the California Aqueduct. This aqueduct, constructed and operated by the California Department of Water Resources, transfers water originating from Lake Oroville in Northern California through 441 miles before terminating in Southern California.

The groundwater treated at the LBWD Groundwater Treatment Plant originates from the San Gabriel watershed. The watershed is fed by the rain and snow melt, and flows through washes and creeks into the San Gabriel River and Whittier Narrows before percolating into the underground aquifer of the central basin area of Los Angeles. The City of Long Beach is a part of the Central Basin service area.

The Long Beach service area may be divided up into two main hydraulic regions: the MWD zone, which primarily receives purchased treated surface water, and the blended zone, which may receive a combination of treated groundwater and purchased treated surface water. LBWD sometimes make changes in blends of water in our system, and the residents may notice the associated changes to the water quality. Regardless of the area in Long Beach where you work or live, LBWD's goal is to provide water meeting or bettering all water quality regulations to our consumers at the most reasonable cost. The following graphs show the areas that may be affected by the change in the water blend.



Disinfection and Disinfection By-products (Trihalomethanes, Haloacetic Acids, and Bromate)

Trihalomethanes and Haloacetic Acids

Disinfection of drinking water was one of the major public health advances in the 20th century. It was a major factor in reducing waterborne diseases caused by pathogenic bacteria and viruses. Long Beach Water Department utilizes chloramine disinfection in its disinfectant process. We carefully monitor the amount of disinfectant, adding the lowest quantity of chloramine necessary to protect the safety of your water throughout the distribution system, without compromising taste. However, chloramine can react with naturally occurring materials in the water to form disinfection by-products (DBPs), which may pose a health risk. DBPs, including total trihalomethanes (TTHMs) and haloacetic acids (HAA5) are suspected to be carcinogenic in humans.

Some people consuming water containing TTHMs in excess of the MCL over many years may experience liver, kidney, or central nervous system problems, and may have an increased risk of getting cancer. To lower the risk from ingesting water containing DBPs, the Stage 1 Disinfectants/Disinfection By-products Rule, regulated by the U.S. EPA, lowered the acceptable TTHM level from 100 ppb to 80 ppb in 2002, and added to the list HAA5 at an acceptable MCL level of 60 ppb. To better protect health, the U.S. EPA in 2006 regulated utilities to meet the Stage 2 D/DBP Rule by 2012. This new Rule builds on the existing Stage 1 D/DBP regulations by requiring water systems to meet disinfection by-product maximum contaminant levels (MCLs) at each disinfection monitoring site in the distribution system.

The MCLs for TTHM and HAA5 have not changed from the Stage 1 D/DBP Rule. However, the method of calculating compliance has changed. Stage 2 D/DBP Rule compliance determination is based on locational running annual averages (LRAAs) of TTHM and HAA5 concentrations. Compliance must be met at each monitoring location, instead of using the system-wide running annual average (RAA) that was required under the Stage 1 D/DBP Rule. The LRAA is obtained by averaging the individual sampling sites over the period of a year. LBWD began Stage 2 monitoring in 2009. Both TTHM and HAA5 values from 2011 monitoring were in compliance with the Stage 2 Rule requirements. The TTHMs in the distribution system ranged from 33 – 74 ppb, and the highest LRAA was 56 ppb, or well below the MCL of 80 ppb. The distribution system HAA5 concentrations ranged from 12 – 45 ppb, and the highest LRAA was 27 ppb, also well below the MCL of 60 ppb.

Bromate

Systems using ozone to treat drinking water are required to monitor for bromate at the treatment plant's effluent. Bromate, also a disinfection by-product, is formed when ozone reacts with naturally occurring bromide found in the source water. LBWD does not ozonate our waters; however, the purchased treated MWD surface water may have detectable levels of bromate.

Exposure to high concentrations of bromate over a long period of time caused cancer in rats and kidney effects in laboratory animals, and it is suspected of potential reproductive effects in humans. The U.S. EPA developed an MCL of 10 ppb that it considers protective of noncancer health effects from long-term exposure in humans. In 2011, MWD's drinking water bromate levels were reported to be as high as 8.8 ppb leaving their treatment plant (on an running annual average basis). LBWD can usually decrease the bromate levels in most of our system by blending with our treated groundwater. During parts of August and September 2011, there was no groundwater available for blending due to a scheduled Treatment Plant shutdown. As a result, the MWD water entering LBWD's system contained bromate level as high as 5.8 ppb, which resulted in bromate levels as high as 4.8 ppb in our service area.

Boron

Boron is naturally present in the environment. Exposure to high concentrations of boron in excess of the notification levels by women who are pregnant may increase their risk of having babies with developmental effects, based on studies in laboratory animals. The highest level for boron, found in the LBWD service area, was 150 ppb, well below the State's notification level of 1,000 ppb.

Perchlorate

Perchlorate is an inorganic chemical used in the manufacturing of rocket fuels and explosives. At high concentrations in drinking water, it can interfere with the thyroid gland's ability to produce hormones necessary for normal growth and development. Perchlorate was first detected in drinking water wells in northern California in 1997 and was later detected in many water wells throughout the state as well as in the Colorado River. The source of contamination of the Colorado River has been determined to be an industrial site in Nevada. Colorado River water is an important source of drinking water for southern California, and much of the water that Long Beach purchases from MWD comes from this source.

MWD initiated voluntary monitoring for perchlorate in 1997. Levels found in the Colorado River supply have ranged between 4 and 9 ppb. Since 1997, the Nevada EPA has taken significant steps to mitigate the leaching of perchlorate into the river, and as a result there was no detectable perchlorate (DLR = 2 ppb) in MWD's water in 2011. On October 18, 2007, CDPH adopted an MCL for perchlorate at 6 ppb. No perchlorate has been detected in MWD's State Project water or in LBWD's wells.

Fluoridation

Fluoride is one of the most plentiful elements on earth. It occurs naturally in water supplies throughout California and elsewhere. When fluoride is present in drinking water at optimal levels, it has been shown to promote oral health by preventing tooth decay. Water systems are considered naturally fluoridated when the natural level of fluoride is greater than 0.7 ppm. Water fluoridation refers to the practice of adjusting the level of fluoride to 0.7 to 1.2 ppm. Blending fluoridated water from different sources does not increase total fluoride levels in drinking water. Currently, about 67 percent of the U.S. population on public water supplies has access to fluoridated water.

The CDPH and the U.S. Centers for Disease Control and Prevention strongly agree that fluoridated water helps promote dental hygiene and reduce the risk of caries (cavities) in children and adults. For these reasons and because it is a cost-effective public health measure, the Long Beach City Council in 1971 mandated that LBWD add fluoride at a dose to achieve a level of 1.0 mg/L in the drinking water, the level recommended by the American Dental Association. Please refer to www.cdph.ca.gov/CERTLIC/DRINKINGWATER/Pages/Fluoridation.aspx, if you have questions regarding fluoride and fluoridation.

Contaminants Prior to Treatment

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Long Beach Water Department takes these regulations very seriously, and, in all instances, we treat our water to comply with or be better than CDPH's regulations.

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 can 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, which are by-products of industrial processes and petroleum production and which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems; **Radioactive Contaminants**, that can be naturally occurring or can be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Sampling For Cryptosporidium

Cryptosporidium is a microscopic organism that, when ingested, can result in diarrhea, fever, and other gastrointestinal symptoms. The risk of the microorganisms being in LBWD's water supply is extremely low. Groundwater, which makes up 30 percent of LBWD's potable water supply in 2011, is free of these organisms because of natural filtration through the soil. With respect to imported surface water supplies, MWD did not detect Cryptosporidium in any of the treated water samples collected in 2011. Additionally, MWD has monitored for Cryptosporidium since 1994 and has initiated an extensive effort to prevent Cryptosporidium and other microorganisms from reaching its treated water.

There are other pathways for exposure to Cryptosporidium, including poor hygiene and eating contaminated foods. USEPA and Centers for Disease Control guidelines on the 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).

QUESTIONS?

If you have any questions about your water quality or this report, please call the LBWD at (562) 570-2491 (TDD 570-2499) Monday through Friday, between the hours of 8 a.m. and 4:30 p.m. You may also request this information in an alternate format by contacting Melissa Keyes, at (562) 570-2309, or by writing to:

Long Beach Water Department
1800 E. Wardlow Road, Long Beach, CA 90807
Attn: Melissa Keyes

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants.

The tables included in this report list all the drinking water contaminants that we detected during the 2011 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table are from the testing performed from January 1 to December 31, 2011. The State requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG)[MRDLG]	Blended Zone		MWD Zone		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Aluminum (ppb)	2011	1,000	600	87	52–145	73	<50–143	No	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (ppb)	2011	10	0.004	ND	ND–3.3	ND	ND–4.1	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Bromate ¹ (ppb)	2011	10	0.1	<2	ND–4.8	<2	ND–3.1	No	By-product of drinking water disinfection
Chloramines (ppm)	2011	[4.0 (as Cl ₂)]	[4 (as Cl ₂)]	City-wide: HRAA: 2.0 ppm; Range: 0.32–3.2 ppm				No	Drinking water disinfectant added for treatment
Fluoride (ppm)	2011	2.0	1	0.85	0.76–0.90	0.80	0.28–0.92	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Haloacetic Acids (ppb)	2011	60	NA	City-wide: Highest LRAA: 27 ppb; Range: 12–45 ppb				No	By-product of drinking water disinfection
Nitrate [as nitrate] (ppm)	2011	45	45	1.73	ND–2.75	2.48	1.24–2.92	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2011	80	NA	City-wide: LRAA: 56 ppb; Range: 33–74 ppb				No	By-product of drinking water disinfection
Total Coliform Bacteria [Total Coliform Rule] (% positive samples)	2011	More than 5.0% of monthly samples are positive	(0)	City-wide: Highest monthly: 0.87%; Range: 0–0.87%				No	Naturally present in the environment
Turbidity ² (NTU)	2011	TT	NA	0.11	0.06–0.11	0.12	0.06–0.12	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2011	TT	NA	100	NA	100	NA	No	Soil runoff
Uranium (pCi/L)	2011	20	0.43	NA	NA	2.1 ³	1.8–2.5 ³	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community⁴

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppb)	2010	1300	300	124	0/159	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2010	15	0.2	<5	0/159	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	Blended Zone		MWD Zone		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Chloride (ppm)	2011	500	NS	55	36–75	65	45–82	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2011	15	NS	1	ND–2	1	ND–3	No	Naturally occurring organic materials
Odor–Threshold⁴ (TON)	2011	3	NS	1	NA	1	NA	No	Naturally occurring organic materials
Specific Conductance (µS/cm)	2011	1,600	NS	557	392–808	606	368–802	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2011	500	NS	75	23–182	109	65–167	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2011	1,000	NS	332	264–476	368	264–484	No	Runoff/leaching from natural deposits

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	NL	Blended Zone		MWD Zone		TYPICAL SOURCE
			AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	
Boron⁵ (ppb)	2011	1000	120	NA	150	NA	Naturally present in the environment
Chlorate⁵ (ppb)	2011	800	NA	NA	25	NA	By-product of drinking water chlorination; industrial processes
N-Nitrosodimethylamine (NDMA) (ppt)	2011	10(PHG=3)	4.0	<2–7.5	4.6	3.2–7.7	Formed through natural, industrial, and disinfection processes

OTHER SUBSTANCES OF INTEREST

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Blended Zone		MWD Zone	
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH
Alkalinity (ppm)	2011	102	86–123	85	70–103
Calcium (ppm)	2011	33	22–55	40	27–56
Hardness (grains/gal)	2011	7.7	4.1–14	9.8	6.8–14
Hardness (ppm)	2011	132	70–234	168	117–237
Magnesium (ppm)	2011	12	3.9–24	17	12–24
pH (Units)	2011	8.01	7.81–8.32	8.02	7.79–8.38
Potassium (ppm)	2011	2.9	1.6–4.7	3.5	2.1–6.3
Silica (ppm)	2011	14	7.1–24	9.7	7.3–12
Sodium (ppm)	2011	65	56–76	63	43–77

¹MWD supplied purchased water to LBWD that had detectable levels of bromate in both the MWD Zone and the Blend Zone in 2011.

²Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

³Uranium monitored by MWD detected levels of 1 – 2 pCi/L at Weymouth and 2 pCi/L at Diemer (purchased water) plant effluents.

⁴Lead and copper are regulated as Treatment Technique under the Lead and Copper Rule, which requires water samples to be collected at the consumers' taps. If action levels are exceeded in more than 10% of consumers' taps, water systems must take steps to reduce these levels. Lead and copper study was conducted in 2010 at consumers' taps. The values reported are in compliance with the Lead and Copper Rule.

⁵Single value from annual monitoring.

Definitions

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

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

grains/gal (grains per gallon): Grains of compound per gallon of water.

HRAA: Highest running annual average.

LRAA: Locational running annual average

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 (SMCLs) are set to protect the 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. EPA.

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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NL (Notification Level): NLs are health-based advisory levels established by CDPH for chemicals in drinking water that lack MCLs. When chemicals are found at concentrations greater than their notification levels, certain requirements and recommendations apply.

NS: No standard

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

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

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

TON (Threshold Odor Number): A measure of odor in water.

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