Water Quality Report 2016

Testing performed in 2015

Long Beach Water

Local artist Jeff McMillan was commissioned by the Long Beach Board of Water Commissioners in 2016 to create an original piece of art for the Water Department's "MissionH_2OLB" campaign. In his piece he demonstrates how beautiful drought tolerant landscapes coexist with the plant and wildlife habitat around us.

JOIN THE MISSION

Sustainability is the Long Beach way of life. Water use efficiency is integral to the exceptional quality of life we have in our communities. There are many diverse ways to save water. Go to LBwater.org/mission to find your way to save.

PLEDGE CALCULATE LISTEN LAWN TO GARDEN REBATES

LBwater.org/mission

MissionH$_2$OLB

Proudly Presented By:
Long Beach Water Department
Award Winning Members of Partnership
for Safe Water (AWWA)

1800 E Wardlow Road
Long Beach, CA 90807

PWS ID: 1910065

របាយការណ៍នេះមានពត៌មានសំខាន់អំពីទឹកបរិភោគ ។ សូមបកប្រែឬពិគ្រោះជាមួយអ្នកដែលមើលយល់របាយការណ៍នេះ ។

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

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

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Summary of Water Quality Report

If you have any questions about your water quality or this report, please call LBWD at (562) 570-2482 (TDD 570-2499) Monday through Friday, between the hours of 8:00 A.M. and 4:00 P.M. You may also request this information in an alternate format by contacting Kaylee Weatherly, at (562) 570-2314, or by writing to:

Attn: Kaylee Weatherly

Long Beach Water Department

1800 E. Wardlow Road, Long Beach, CA 90807

Board of Water Commissioners

Frank Martinez
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Arthur M. Levine
Vice President

Robert Shannon
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Gloria Cordero
Member

Harry M. Saltzgaver
Member

The Long Beach Water Department Board of Water Commissioners meets the first and third Thursday 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.

Message from the General Manager

Dear Customer:

The Long Beach Water Department (LBWD) is proud to provide the residents of Long Beach with exceptional quality drinking water and customer service. We take seriously our responsibility to protect our customers from exposure to dangerous substances in drinking water, substances such as lead and copper. Enclosed for your information is LBWD's annual Water Quality Report that informs you as to how well our drinking water meets and exceeds water quality regulatory requirements.

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 the State Water Resources Control Board's regulations. As evidence of our commitment to water quality, LBWD received the Presidents Award for Distribution System Operation from the Partnership for Safe Water in 2015. This is a national drinking water program sponsored by the American Water Works Association, the U.S. Environmental Protection Agency (USEPA) and other water organizations. This prestigious award recognized Long Beach as a water supplier that continuously provides drinking water quality that surpasses regulatory requirements through distribution system optimization.

Water use efficiency is also one of our top priorities. I personally thank our residents and businesses for their tremendous work to conserve water over the past year. Sustainability is integral to the exceptional quality of life here in Long Beach, and we want to keep up the water saving habits we have all adopted. Water use efficiency is our new normal.

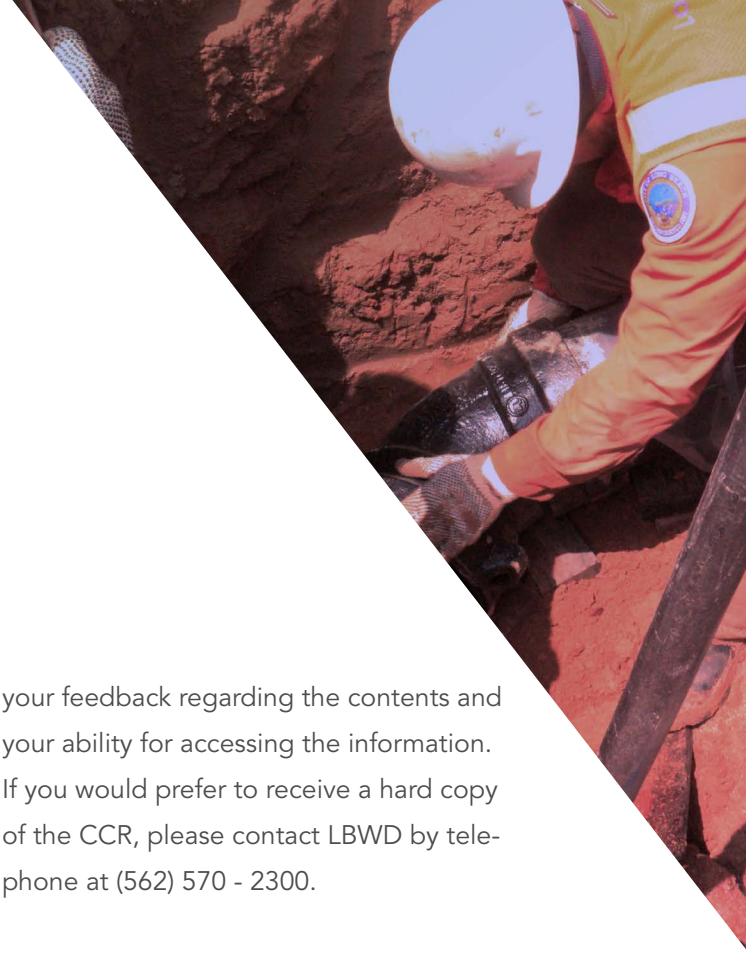
We appreciate you investing the time to read this informative report and to learn more about what our organization is doing to safeguard your drinking water. If you have additional questions about this report or any other water quality issues, please feel free to call our Water Quality Laboratory at (562) 570-2482.

Sincerely,

Christopher J. Garner,
General Manager

CCR

Delivery Updates



The Consumer Confidence Report, or CCR, is an annual water quality report that the Safe Drinking Water Act (SDWA) requires LBWD to provide each customer.

The Consumer Confidence Report, or CCR, is an annual water quality report that the Federal Safe Drinking Water Act (SDWA) requires LBWD to provide each customer. The purpose of the CCR is to raise customers' awareness of the quality of their drinking water, where their drinking water comes from, what it takes to deliver water to businesses and homes and the importance of protecting drinking water sources.

In order to reduce cost, U.S. Environmental Protection Agency (USEPA), and State Water Resources Control Board (SWRCB) have adopted and approved optional electronic delivery of the CCR. This year, LBWD will deliver the 2016 CCR electronically to add to our sustainability initiatives, unless otherwise requested. As always, we would appreciate your feedback regarding the contents and your ability for accessing the information. If you would prefer to receive a hard copy of the CCR, please contact LBWD by telephone at (562) 570 - 2300.

El Reporte de Confianza del Consumidor, o CCR, es un informe anual de la calidad del agua potable que la Ley Federal de Seguridad del Agua Potable (SDWA) require que LBWD ofrezca para cada cliente. El propósito del CCR es para aumentar la conciencia de los consumidores acerca de la calidad del agua potable, de donde proviene, lo que se necesita para suministrar agua a las empresas y los hogares, y la importancia de proteger fuentes de agua potable.

Con el fin de reducir los costos, la EPA y SWRCB han adoptado y aprobado la entrega electrónica del CCR. Este año, LBWD entregará el CCR del 2016 electrónicamente, a menos que se indique lo contrario. Como siempre, agradecemos sus comentarios sobre el contenido y su capacidad para acceder a la información. Si prefiere recibir una copia impresa del reporte CCR, póngase en contacto con LBWD por teléfono al (562) 570- 2300.

Long Beach

Water Department

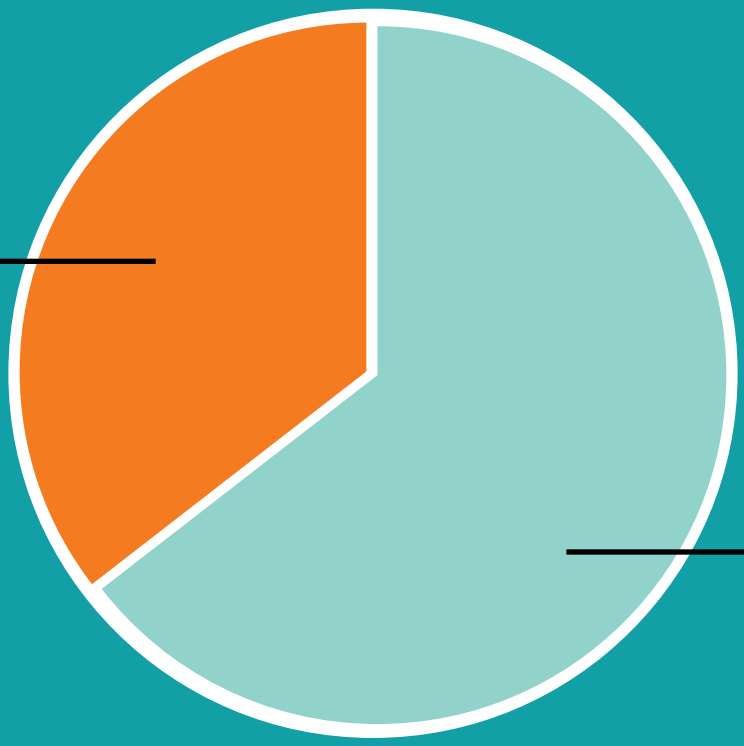
The Long Beach Water Department (LBWD) has been diligent in delivering a reliable, affordable and high-quality supply of drinking water to your homes and businesses, since 1911. LBWD serves a total population of 472,779 through over 900 miles of pipelines. In our on-going efforts to ensure good water quality, a staff of skilled water scientists, engineers, and technicians have partnered to ensure that the treatment and distribution of water received by our customers, meets or exceeds all Federal and State water quality standards. The water quality staff has performed over 57,000 tests in 2015, to analyze for more than 100 drinking water contaminants. 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. Your drinking water is tested routinely for bacteriological as well as chemical quality. Last year's testing shows that your tap water met all EPA and State primary and secondary drinking water health standards. Thank you for allowing us to continue providing you and your family with quality drinking water.

" In our on-going efforts to ensure good water quality, a staff of skilled water scientists, engineers, and technicians have partnered to ensure that the treatment and distribution of water received by our customers, meets or exceeds all Federal and State water quality standards."

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

Source of

Drinking Water



During 2015, approximately 65 percent of the potable water serving the City was supplied by groundwater, and the remaining 35 percent was supplied through purchased imported surface water. In general, 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, sometimes including radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

"Both the imported surface water quality and the treated groundwater quality surpass the Federal and State drinking water standards."

Imported Waters

LBWD is a Metropolitan Water District of Southern California (MWD) agency and one of the 13 original members. LBWD purchases treated surface water from MWD and treats the groundwater pumped from active wells around the Long Beach and Lakewood area, at our Groundwater Treatment Plant. Both the imported surface water quality and the treated groundwater quality surpass the Federal and State drinking water standards. The Federal regulations are set by the USEPA, and the State standards are set by SWRCB.

Major Aqueducts

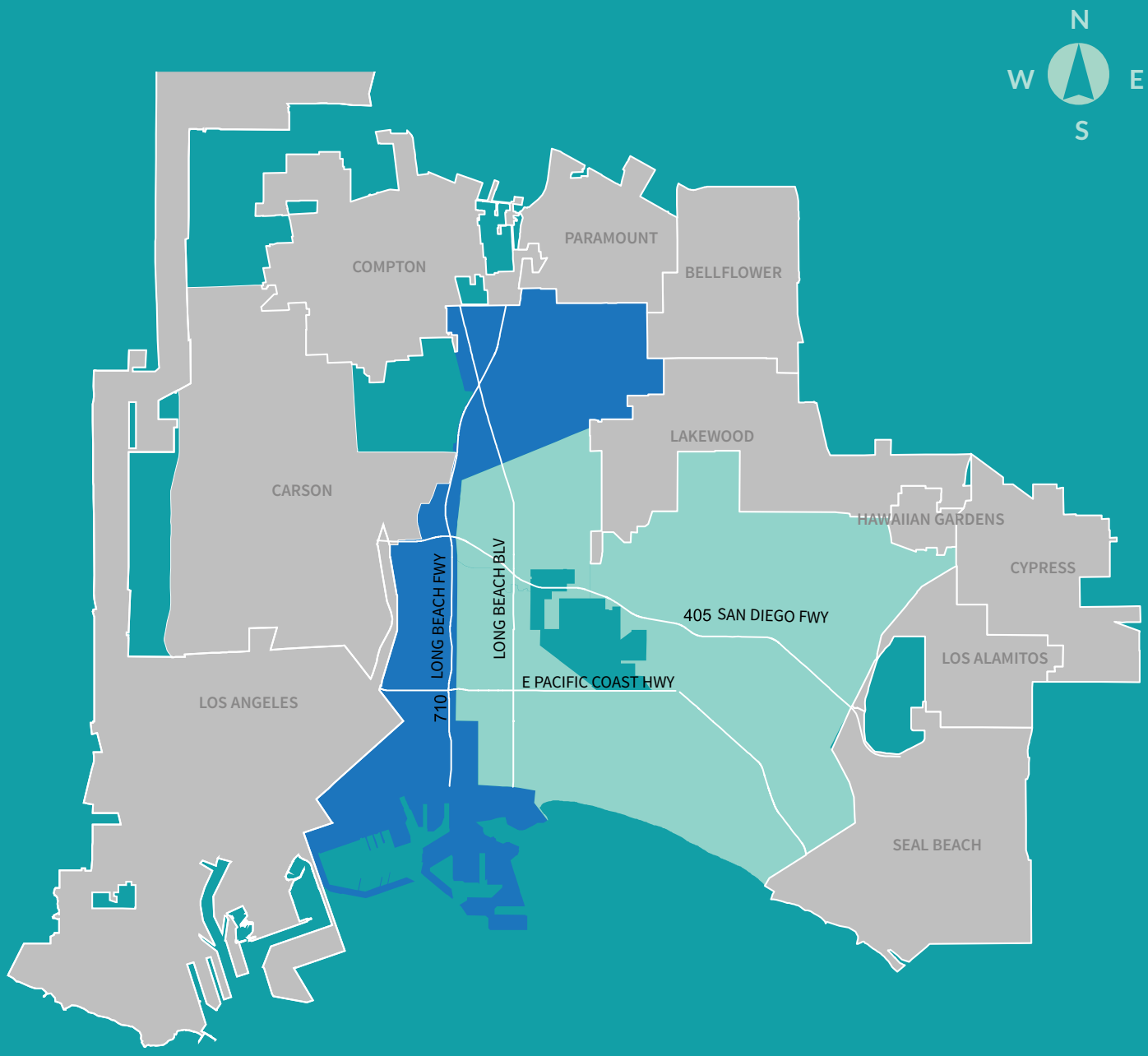
Two major aqueducts supply the surface waters feeding MWD's five regional treatment plants. Colorado River water, which has the higher mineral content of the two supplies, is brought into southern California through the 242-mile long Colorado River Aqueduct. This aqueduct, constructed and operated by 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, costructed in the 1960s 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.

Groundwater

The groundwater treated at the LBWD Groundwater Treatment Plant originates from the San Gabriel Watershed. The watershed is fed by 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.

Two Main Regions

For hydraulic reasons, the Long Beach service area may be divided into two main 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 changes the blends of water in our system, and the residents may notice the associated mineral content (hardness) changes to the water quality. Regardless of the area in Long Beach that you work, play or live in, LBWD's goal is to provide water meeting or surpassing all water quality regulations at the most reasonable cost to our customers. The graph on the next page shows the areas that may be affected by a change in the water blend.



Primarily MWD Water

Primarily Groundwater

The groundwater area in the map above may be affected by a change in the water blend.

Water Treatment Process

The treatment process consists of a series of steps.

1

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.

2

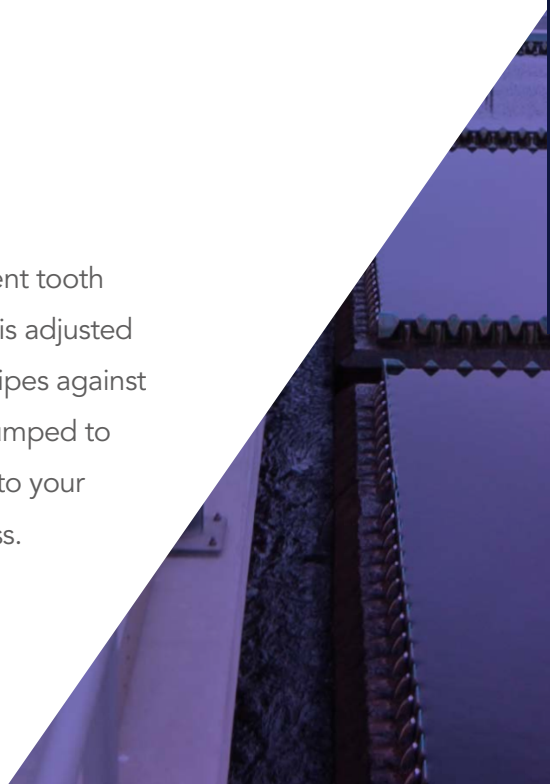
Chlorine is then added for disinfection. At this point, the water is filtered through layers of fine coal and silicate sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges.

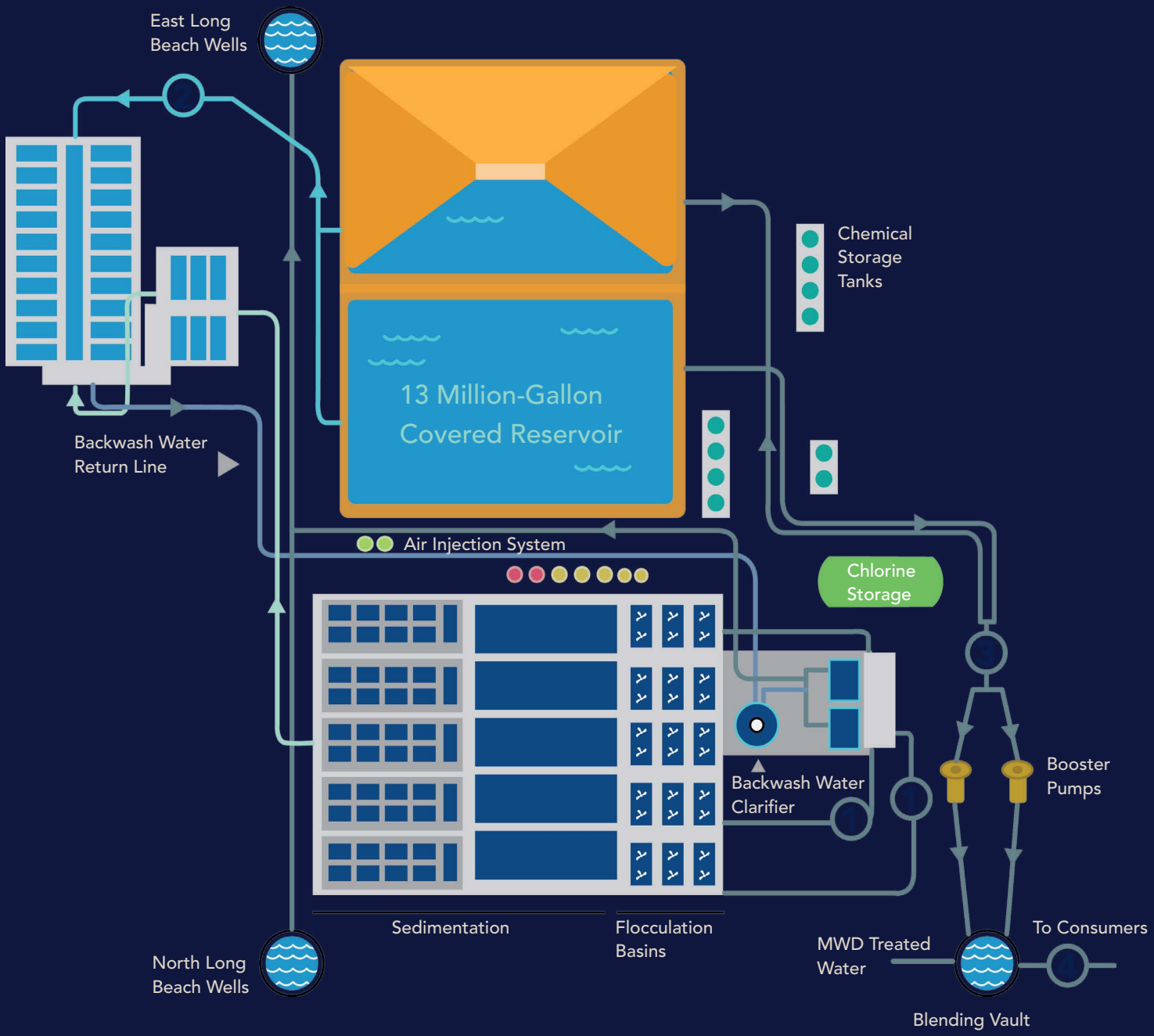
3

Chloramine (chlorine and ammonia) is added as a disinfectant against any bacteria that may still be present and to reduce the potential for their regrowth in the distribution system (we carefully monitor the amount of chloramine, adding the lowest quantity necessary to protect the safety of your water without compromising taste).

4

Finally, fluoride (used to prevent tooth decay) is added and the pH is adjusted (to protect distribution system pipes against corrosion) before the water is pumped to drinking water reservoirs, and into your neighborhood, home or business.





1. Ferric Chloride ($FeCl_3$)
   Polymer (Poly)
   Aluminum Chlohydrate (ACH)

2. Chlorine (Cl_2)

3. Chlorine (CL_2)
   Ammonia (NH_3)
   Sodium Hydroxide (NaOH)
   Fluoride (F)

4. Sodium Hydroxide (NaOH)
   Fluoride (F)

Source

Water Assessment

"Water quality monitoring for each active well has not detected any constituents that suggests contamination"

As required under the 1996 Safe Drinking Water Act amendments, a source water assessment must be completed for all active drinking water sources. LBWD purchased water in 2015 from MWD and City of Lakewood. The goal of the source water assessment is to inventory all potential activities that may degrade the source water quality.

Metropolitan Water District

The Metropolitan Water District of Southern California (MWD) completed its source water assessment of its Colorado River and State Project water supplies in December 2002. It was established that Colorado River supplies are most vulnerable to recreation, urban/storm water runoff, and increasing urbanization in the watershed and wastewater. State Project water 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.

City of Lakewood

The Lakewood Department of Water Resources completed an assessment of all drinking water wells that serve the city's drinking water system in 2003. These studies examined the potential

vulnerability of each well to contaminants that could enter the water supply. It was established that the groundwater is most vulnerable to current and historic gas stations, repair shops, storage tanks and dry cleaners. A copy of the complete assessment is available at the Lakewood City Clerk's Office at 5050 Clark Avenue or by contacting the Lakewood Department of Water Resources, at 562-866-9771, extension 2700.

Long Beach Water Department

The LBWD completed a new source water assessment on its active wells in July 2012. New wells that are constructed after this date must also undergo a similar assessment. 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, leaking underground fuel tanks, airport activities, metal plating/finishing/fabrication, plastic/synthetics producers and historic landfills. However, although the wells are considered vulnerable to the aforementioned activities, the LBWD performs water quality monitoring for each active well and has not detected any constituents that suggests contamination. It is noteworthy to point out that the physical barrier (well containment) has a high effectiveness against these contaminations. Please contact the LBWD by phone at (562) 570-2300 for more details or if you would like to review the assessment document.

Natural Contaminants Present in Source Water Prior to Treatment May Include:

Microbial Contaminants

Microbial Contaminants such as viruses and bacteria may come from sewage treatment plants, septic systems, agricultural, livestock operations, and wildlife.

Pesticides and Herbicides

Pesticides and Herbicides may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Radioactive Contaminants

Radioactive Contaminants can be naturally occurring or can be the result of oil and gas production and mining activities.

Inorganic Contaminants

Inorganic contaminants such as salts and metals can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Organic Chemical Contaminants

Organic Chemical Contaminants including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems.

In order to ensure that tap water is safe to drink, SWRCB prescribes regulations that limit the amount of specific contaminants in water provided by public water systems. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791) or visit http://water.epa.gov/drink/index.cfm.

Important Public Health Information

Disinfectants and Disinfection By-products:

(Trihalomethanes, Haloacetic Acids and Bromate)

Trihalomethanes and Haloacetic Acids

Disinfection of drinking water in the 20th century was a major factor in reducing waterborne diseases caused by pathogenic bacteria and viruses. Long Beach Water Department achieves primary disinfection with free chlorine and utilizes chloramine as a secondary disinfectant in the distribution system. 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. However, chlorine and chloramine can react with naturally-occurring materials in the water to form disinfection by-products (DBPs). Total trihalomethanes (TTHMs) and haloacetic acids (HAA5) are the most common DBPs and are suspected to be carcinogenic in humans.

Some people consuming water containing TTHM 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. In 2015, the levels for TTHMs in the distribution system ranged from 29 - 57 ppb, and the highest locational running average (LRAA) was 43 ppb, which is well below the MCL of 80 ppb. The distribution system HAA5 concentrations ranged from 9 - 16 ppb, and the highest LRAA was 13 ppb; also well below the MCL of 60 ppb.

Bromate

Bromate, which is also a disinfection by-product, is formed when ozone reacts with naturally occurring bromide found in the source water. Systems using ozone to treat drinking water are required to monitor for bromate at the treatment plant's effluent. LBWD does not ozonate our waters; however, the purchased treated surface water from MWD 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. EPA established a MCL of 10 ppb that it considers protective of non-cancer health effects from long-term exposure in humans. The 2015, MWD's drinking water bromate levels were reported to be as high as 8.0 ppb (on a running annual average basis) leaving their treatment plant. LBWD can usually decrease the bromate levels in most of our system by blending with our treated groundwater. In 2015, LBWD did not detect any bromate in our distribution system.

Other Educational Information

Boron

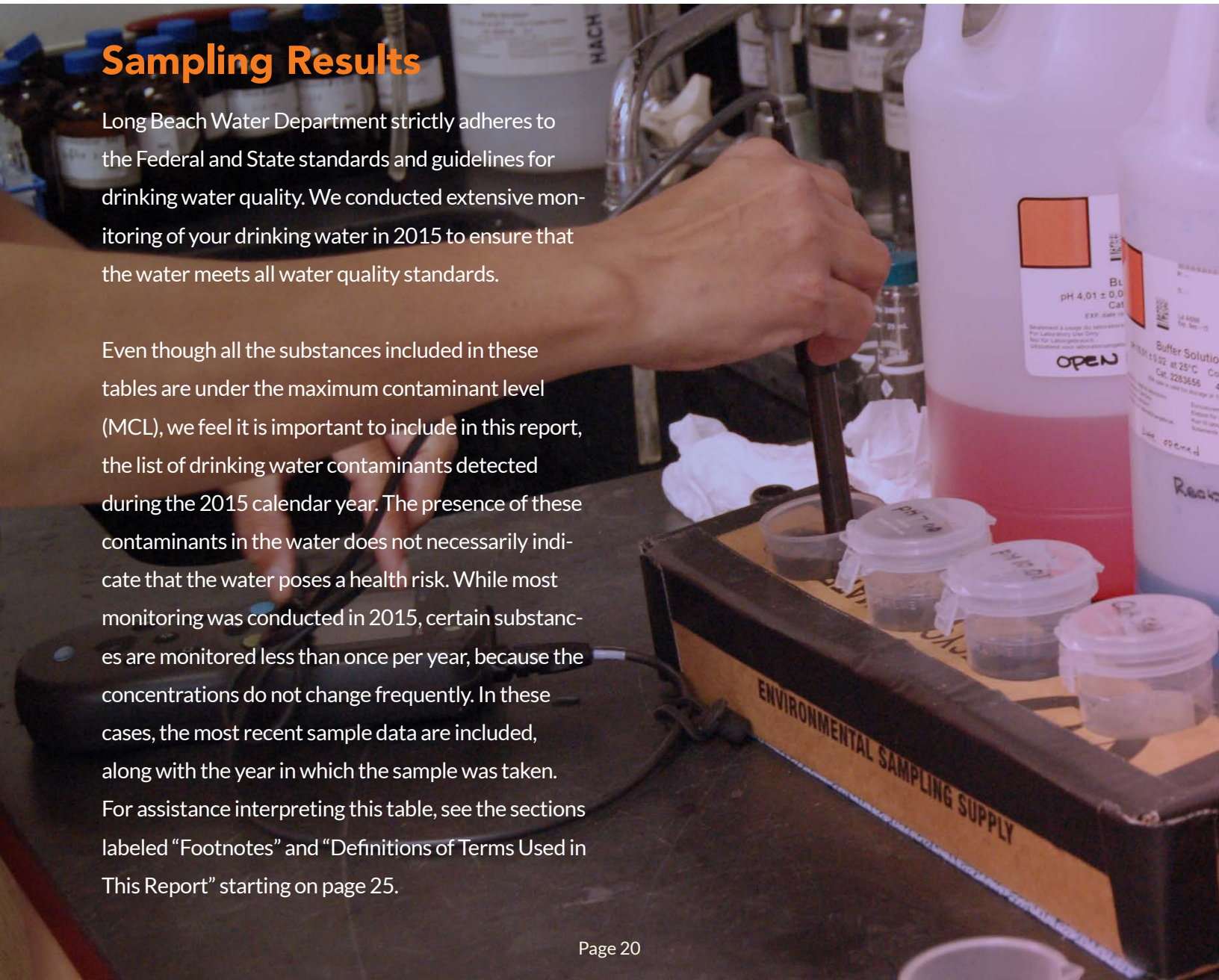
Boron is naturally present in the environment. Based on studies in laboratory animals, exposure to high concentrations of boron in excess of the notification levels (NL) by women who are pregnant may increase their risk of having babies with developmental effects. The levels found in LBWD's water for boron was less than 150 ppb; well below the State's NL of 1000 ppb.

Fluoridation

Fluoride occurs naturally in water supplies throughout California. Since 1971, LBWD has been mandated by the Long Beach City Council to add fluoride to its water. Blending fluoridated water from different sources does not increase total fluoride levels in drinking water. Fluoridated water does not change the taste, color or odor of your water. Parents should consult with their child's doctor or dentist for guidance in supplementing fluoride. In 2015, the U.S. Public Health Services (PHS) revised the recommended fluoride concentration for drinking water to 0.7 mg/L (parts per million [ppm]), to maintain cavity prevention benefits and reduce the risk of dental fluorosis. Consumers may obtain more information about fluoridation, oral health, and current issues at: http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml.

Lead and Drinking Water

If present in your water, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. It is possible that lead levels in your home may be higher than levels found at your neighbors as a result of the materials used in your home plumbing. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. LBWD is 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 (this water can be captured for non-potable use). 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: http://www.epa.gov/safewater/lead.



Sampling Results

Long Beach Water Department strictly adheres to the Federal and State standards and guidelines for drinking water quality. We conducted extensive monitoring of your drinking water in 2015 to ensure that the water meets all water quality standards.

Even though all the substances included in these tables are under the maximum contaminant level (MCL), we feel it is important to include in this report, the list of drinking water contaminants detected during the 2015 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. While most monitoring was conducted in 2015, certain substances are monitored less than once per year, because the concentrations do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken. For assistance interpreting this table, see the sections labeled “Footnotes” and “Definitions of Terms Used in This Report” starting on page 25.

Summary of

Water Quality Report - 2015

REGULATED SUBSTANCES											
PARAMETER 2015	GOALS	REGULATORY LEVELS			MWD ZONE (114)			BLENDED ZONE (325)			Typical Sources of Contamination
	PHG (MCLG)	MCL	2ND MCL	NL (AL)	AVE.	MAX	RANGE	AVE.	MAX	RANGE	
CLARITY											
TURBIDITY[2] (NTU)	NA	TT	5	NS	ND	0.12	ND - 0.12	ND	0.10	ND - 0.10	Soil Runoff
TURBIDITY2 (LOWEST MONTHLY PERCENT OF SAMPLES MEETING LIMIT) = 100%											
MICROBIOLOGY (% POSITIVE)											
COLIFORM BACTERIA	(0)	5%	NS	NS	CITY-WIDE: 0.44%, HIGHEST MONTHLY, RANGE ND – 0.44%						Naturally present in the environment
INORGANIC CHEMICALS											
ALUMINUM (PPB)	600	1000	200	NS	135	184	53 - 184	83	190	29 - 190	Erosion of natural deposits, added during water treatment
ARSENIC (PPB)	0.004	10	NS	NS	2.1	2.7	ND - 2.7	ND	2.4	ND – 2.4	Erosion of natural deposits, runoff from orchards and industrial process
BARIUM[3] (PPB)	2000	1000	NS	NS	120	NA	NA	ND	NA	NA	
COPPER[1] (PPB)	300	NS	1000	(1300)	CITY-WIDE: 174 = 90TH PERCENTILE, 0% GREATER THAN FEDERAL AL (1300)						Corrosion of plumbing, erosion of natural deposits
FLUORIDE (PPM)	1	2	NS	NS	0.79	0.87	0.72 - 0.87	0.79	0.90	0.70 - 0.90	Erosion of natural deposits, supplemental additive
LEAD[1] (PPB)	0.2	NS	NS	(15)	CITY-WIDE: <5 = 90TH PERCENTILE, 0% GREATER THAN FEDERAL AL (15)						Corrosion of plumbing, erosion of natural deposits
NITRATE (N) (PPM)	10	10	NS	NS	ND	0.42	ND - 0.42	ND	0.40	ND - 0.40	Erosion of natural deposits; runoff from fertilizer use and septic systems

DISINFECTION BYPRODUCTS AND MAXIMUM RESIDUAL DISINFECTANTS

PARAMETER 2015	GOALS	REGULATORY LEVELS			MWD ZONE (114)	BLENDED ZONE (325)	TYPICAL SOURCES OF CONTAMINATION
	PHG (MCLG)	MCL	2ND MCL	NL (AL)			
BROMATE (PPB)	0.1	10	NS	NS	MWD Jensen plant effluent: 8.0 ppb highest running annual average (RAA), Bromate not detected in LBWD distribution in 2015		Byproduct of drinking water ozonation
HALOACETIC ACIDS (HAA5) (PPB)	NS	60	NS	NS	City-wide: 13 ppb highest LRAA, range: 9 - 16 ppb		Byproduct of drinking water chlorination
TRIHALOMETHANES (TTHM) (PPB)	NS	80	NS	NS	City-wide: 43 ppb highest LRAA, range: 29 - 57 ppb		Byproduct of drinking water chlorination
CHLORAMINES (PPM)	MRDL=4.0 (as Cl_2)	MRDLG =4.0(as Cl_2)	NS	NS	City-wide: 1.97 ppm highest running annual average, HRAA; range: 0.20 – 2.60 ppm		Drinking water disinfectant added during treatment

CONTAMINANTS WITH NO MCLS, "UNREGULATED CONTAMINANTS"

PARAMETER 2015	GOALS	REGULATORY LEVELS			MWD ZONE (114)			BLENDED ZONE (325)			TYPICAL SOURCES OF CONTAMINATION
	PHG (MCLG)	MCL	2ND MCL	NL (AL)	AVE.	MAX	RANGE	AVE.	MAX	RANGE	
BORON[3] (PPB)	NS	NS	NS	1000	140	NA	NA	110	NA	NA	Naturally present in the environment
CHLORATE[3] (PPB)	NS	NS	NS	800	110	MWD SYSTEM-WIDE[5]: 91 - 147		ND	NA	NA	Byproduct of drinking water chlorination; industrial processes
NITROSODIME-THYLAMINE (NDMA)[3] (PPT)	3	NS	NS	10	5.0	MWD SYSTEM WIDE[5]:ND – 6.0		3.8	NA	NA	Formed through natural, industrial and disinfection processes

RADIOLOGICAL

PARAMETER 2015	GOALS	REGULATORY LEVELS			MWD ZONE (114)			BLENDED ZONE (325)			TYPICAL SOURCES OF CONTAMINATION
	PHG (MCLG)	MCL	2ND MCL	NL (AL)	AVE.	MAX	RANGE	AVE.	MAX	RANGE	
GROSS ALPHA (GA)[3] PARTICLE ACTIVITY (pCi/L)	(0)	15	NS	NS	MWD plant effluents Gross Alpha detected in the range of ND - 4 pCi/L.[4] Gross Alpha detected at 4.8 pCi\L in the MWD Zone of LBWD distribution in 2015.						Erosion of natural deposits
GROSS BETA (GB)[3] PARTICLE ACTIVITY (pCi/L)	(0)	50	NS	NS	MWD plant effluents Gross Beta detected in the range of ND - 5 pCi/L.[4] Gross Beta detected at 8.2 pCi\L in the MWD Zone of LBWD distribution in 2015.						Erosion of natural deposits
URANIUM (PCi/L)[3]	0.43	20	NS	NS	MWD plant effluents Uranium detected in the range of ND - 5 pCi/L.[4] Uranium detected at 4.8 pCi\L in the MWD Zone of LBWD distribution in 2015.						Erosion of natural deposits

State Regulated

ADDITIONAL SECONDARY DRINKING WATER STANDARDS – AESTHETIC STANDARDS

PARAMETER 2015	MWD ZONE (114) AVE.	MAX	RANGE	BLENDED ZONE (325) AVE.	MAX	RANGE
ALKALINITY (PPM)	127	131	119 - 131	134	142	126 - 142
CALCIUM (PPM)	78	80	74 - 80	47	81	22 – 81
HARDNESS (PPM)	311	322	299 - 322	171	320	65 – 320
HARDNESS (GPG)	18	19	17 - 19	10	19	3.8 – 19
MAGNESIUM (PPM)	28	31	27 - 31	13	29	2.5 – 29
PH (FIELD)	7.97	8.22	7.77 – 8.22	8.06	8.30	7.69 – 8.30
POTASSIUM (PPM)	4.95	5.26	4.77 – 5.26	2.94	4.98	1.4 - 4.98
SILICA (PPM)	7.5	10	5.8 – 10	15	19	5.0 - 19
SODIUM (PPM)	103	108	100 - 108	82	102	68 - 102

ADDITIONAL CONSTITUENTS OF INTEREST

PARAMETER 2015	2ND MCL	MWD ZONE (114) AVE.	MAX	RANGE	BLENDED ZONE (325) AVE.	MAX	RANGE	TYPICAL SOURCES OF CONTAMINATION
CHLORIDE (PPM)	500	99	111	91 - 111	62	95	37 - 95	Runoff/leaching from natural deposits; seawater influence
COLOR (CU)	15	ND	1	ND - 1	2	4	ND - 4	Naturally-occurring organic materials
SPECIFIC CONDUCTANCE (µS/cm)	1600	1045	1204	967 - 1204	649	1034	420 - 1034	Substances that form ions when dissolved in water; seawater influence
ODOR[3] (TON)	3	2	NA	NA	2	NA	NA	Naturally-occurring organic materials
SULFATE (PPM)	500	251	281	238 - 281	115	241	23 - 241	Runoff/leaching from natural deposits; industrial wastes
TOTAL DISSOLVED SOLIDS (PPM)	1000	653	768	536 - 768	423	656	287 - 656	Runoff/leaching from natural deposits

Footnotes

1 Lead and Copper – lead and copper are regulated under the Lead and Copper Rule, which requires water samples to be collected at the consumers' tap. If lead and copper levels are exceeded in more than 10% of consumers' taps, water systems must take steps to reduce these levels through Treatment Technique. Lead and copper testing is conducted every three years, most recently in 2013 at consumers' taps. The values reported are in compliance with the Federal Lead and Copper Rule.

2 Turbidity 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.

3 Single value from LBWD's annual monitoring.

4 Data triennially monitored by MWD (2014). Uranium monitored by MWD detected levels of 2 – 3 pCi/L at Weymouth Plant Effluent.

5 Data from MWD's 2015 system wide monitoring.

Definitions of terms used in this Report

AL

(Regulatory Action Level)

Such as salts and metals that can be naturally occurring or can result from urban storm-water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming

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 USEPA.

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 SWRCB 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

PDWS

(Primary Drinking Water Standard)

MCLs and MRDLs for contaminants that affect health, along with their monitoring and reporting requirements and water treatment requirements.

pH

A measurement of acidity, 7.0 being neutral.

PHG

(Public Health Goal)

PHGs are established by the Office of Environmental Health Hazard Assessment (OEHHA).

Units of measurement used in reporting constituents found in drinking water

gpg

(grains per gallon)

Grains of compound per gallon of water. A measurement of water hardness often used for dishwashers and water softeners. One grain per gallon is equal to 17.1 mg/L of hardness.

NTU

(Nephelometric Turbidity Units)

Measurement of the clarity or cloudiness of water.

pCi/L

(picocuries per liter)

Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).

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.

µS/cm

(microsiemens per centimeter)

A unit expressing the amount of electrical conductivity of a solution.

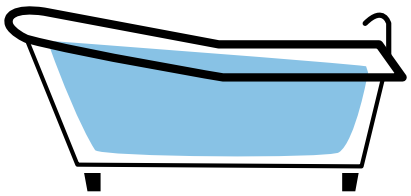
Another way to look at the **measurements**

Parts per million (ppm)

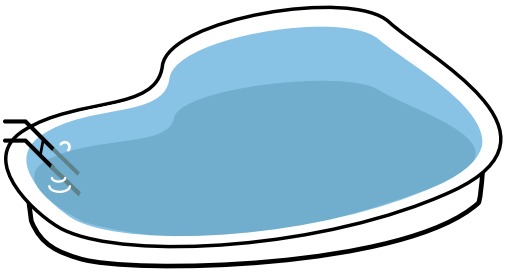
1 second in **12** days

1 inch in **16** miles

1 drop in **14** gallons



Parts per billion (ppb)



1 second in **32** years

1 inch in **16,000** miles

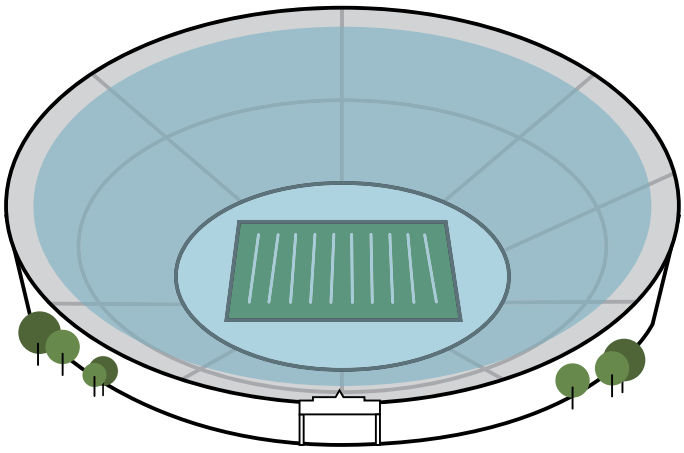
1 drop in **14,000** gallons

Parts per trillion (ppt)

1 second in **32,000** years

1 inch in **16** million miles

10 drops in enough water to fill the Rose Bowl



Long Beach Water Department
Award Winning Members of
Partnership for Safe Water
(AWWA)

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