A Message from General Manager Stephen M. Zurn

federal, state and local water quality standards in 2016. GWP's by sizing them correctly, and by setting and maintaining the water dedicated team of water quality professionals, engineers, elevation set points properly as noted in the previous section. operators and distribution crews work to ensure safe and reliable Residuals are monitored weekly in the distribution system and water service to the City by overseeing a comprehensive cross- storage facilities and flushing is conducted as needed. Additional connection control program, planning and replacing aging sample stations will be added to our distribution system for water infrastructure, responding quickly to unexpected leaks, and quality monitoring along with revisions to GWP's BSSP and operating the system efficiently to meet water demands. We are Nitrification Monitoring Plans. able to accomplish all of these while maintaining competitive rates To ensure the continued value of your community's water system, for our water customers.

every employee in GWP's Water Division. A detailed System savings GWP has achieved in recent years and the continuing Optimization Program has been put in place to work through need to replace and rehabilitate the City's water system. Being opportunities to reduce detention time to maintain a disinfectant proactive in updating the costs to provide service ensures the residual throughout our distribution system, as well as making appropriate costs are being charged and it maintains the high other improvements in the system. The best method is to use level of service provided by your utility. the water as soon as possible once it is either delivered from the Thank you for your support. well, treatment plant, or from the water we purchase from the Metropolitan Water District. This means that it is important to

I am proud to report that Glendale Water & Power has met all reduce the detention time of the water in the reservoirs and tanks

GWP will be completing an updated cost of service analysis over Maintaining excellent water quality is a primary duty of the coming months taking into account the considerable cost

Om m.Z

WQR.17

City of Glendale Water & Power 2016 Water Quality Report to Our Customers

Follow us on:

COGwaterpower **F** GlendaleWaterAndPower

This information is very important. Please have someone translate it for you. Esta informacion es muy importante. Por favor pidale a alguien que se lo tradusca. Այս տեղեկությունը շատ կարևոր է։ Խնդրում ենք, որ մեկին թարգմանել տաք այն։ 此資訊十分重要。請您找人幫您翻譯。

यह सूचना अत्यंत ही महत्त्वपूर्ण है। कृपया कसीि से इसका अनुवाद करा लीजएि। これは非常に重要な情報です。どなたかに翻訳をお願いしてください。 이 정보는 매우 중요합니다. 누군가에게 번역해달라고 하십시오. Napakahalaga ang impormasyon na ito. Mangyaring ipasalin ninyo para sa inyong pang unawa.

Important Information for People with **Compromised Immune Systems**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

In 2016 Glendale Water and Power delivered 7.5 billion gallons of potable water to our customers. 65% was purchased from the Metropolitan Water District, after being imported and treated from Northern California and the Colorado River. 35% comes from local groundwater sources extracted from the Verdugo and San Fernando Basins. In addition, 7% of total water used in 2016 was recycled water delivered by the Los Angeles-Glendale Water Reclamation Plant. The plant's highly treated waste water meets or exceeds the water quality standards for recycled water and is used ONLY for irrigation and industrial processes.

Water Quality Terms in This Report

Maximum Contaminant Level (MCL):

The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG):

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

Public Health Goal (PHG):

The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the CalEPA.

Primary Drinking Water Standard (PDWS):

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

Maximum Residual Disinfectant Level (MRDL):

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

Maximum Residual Disinfectant Level Goal (MRDLG):

The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Regulatory Action Level:

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique (TT):

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

Level 1 Assessment:

A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment:

A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Source Water Contaminants

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, 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.

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

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can, come 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.

Disinfection By-Products, which include Trihalomethanes (THMs) and Haloacetic Acids (HAAs), are generated by the interaction between naturally occurring matter and disinfectants, such as chlorine.



Your Trusted Community Utilit

Glendale Water & Power 141 North Glendale Ave., Level 4 Glendale, CA 91206

PRESORTED STANDARD U.S. POSTAGE PAID GLENDALE, CA 912 PERMIT #1728



Glendale Water and Power

Glendale Water and Power (GWP) water was established in 1914. GWP provides water service to almost all residential, commercial and industrial consumers located within the incorporated areas of the City. GWP is the retail provider of water service to all consumers in the city except for a small areas in the northern portion served by Crescenta Valley Water District, GWP currently has approximately 33,700 service connections within 31 square miles. The potable water system has seven main pressure zones and consists of 397 miles of water mains, 28 pumping stations, 30 reservoirs and tanks, and 2 treatment plants: Verdugo Park Water Treatment Plant and Glendale Water Treatment Plant.

Sources of Glendale's Water



WOR.17

City of Glendale Water & Power 2016 Water Quality Report to Our Customers

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

The water delivered to you by Glendale Water & Power continuously passes tough State and Federal quality standards. This booklet is a detailed report on the water we delivered to you in 2016.





State and Federal Regulation

In order to ensure that tap water is safe to drink, the USEPA and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DDW regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Customer Participation and Assistance

Comments from the public are welcome and may be presented at the Glendale Water & Power Commission meetings held the first Monday of each month, at 4:00PM, in the Glendale City Council Chambers, 613 E. Broadway. Please write to: James Saenz, Water Quality Manager, Water Quality Section, Glendale Water & Power 141 N. Glendale Ave., Level 4, Glendale, CA 91206 or call (818) 548-2011 . This report can also be downloaded on GWP's website www.GlendaleWaterAndPower.com



UNREGULATED CONTAMINANTS DETECTED AT GLENDALE'S WATER SOURCES											
	Units	Noti- fication Level	State DLR [PHG]		MWD Weymouth Plant	MWD Jensen Plant	Glendale Treatment Plant	Verdugo Park Treatment Plant (n)	Glorietta Wells	Foothill Well	Major Sources of Contaminants in Drinking Water
CONTAMINANTS WITH NO MCLs											
Boron	ppb	1,000	100	Range Average	150 150	270 270	140-230 180	-	NA	NA	Runoff/leaching from natural deposits; industrial wastes
Chlorate (j)	ppb	800	20	Range Average	60 26 ·	39 - 60	100 -240 157	-	NA	NA	By-product of drinking water chlorination; industrial processes
N-Nitrosodimethylamine (NDMA)	ppt	10	2	Range Average	ND ND	ND - 2.7 - 5.1	ND - 6.4 6.4	-	NA	NA	By-product of drinking water chloramination; industrial processes
N-Nitrosodiethylamine (NDEA)	ppb	10	0.005	Range Average	NA	NA	ND - 2.9 2.9	-	NA	NA	By-product of drinking water chloramination; industrial processes
Trichloropropane (1,2,3-TCP)	ppt	5	NA	Range Average	NA	NA	ND - 7.3 ND	-	ND	ND	Commonly used as an industrial solvent, cleaner, and degreaser, as well in the production of paint thinners and varnish removers.
Vanadium	ppb	50	3	Range Average	ND	7.4 7.4	4.3 - 5.9 5	-	NA	NA	Naturally-occurring; industrial waste discharge

LEAD AND COPPER RULE (d)										
	Units	Action Level	PHG	No. of Samples	90th Percentile	No. of sites exceeding action level	Major Sources of Contaminants in Drinking Water			
SAMPLES FROM CUSTOMERS' TAPS (COLLECTED EVERY 3 YEARS)										
Copper (e)	ppb	1300	170	51	260	0	Internal corrosion of household pipes; erosion of natural deposits; wood preservative leaching			
Lead	ppb	15	0.20	51	ND	0	Internal corrosion of household pipes; discharges from industrial manufacturer; erosion of natural deposits			

			CITYWIDE SA	AMPLING							
	Units	State MCL [MRDL]	MCLG [MRDLG]	Citywide Average	Range	Major Sources of Contaminants in Drinking Water					
SAMPLES FROM DISTRIBUTION SYSTEM											
Total Coliform Bacteria	%	5.0 (c)	0	0.5	0.0 - 3.1	Naturally present in the environment					
Fecal Coliform and E. Coli		(c)	0	0	0	Human and animal fecal waste					
Total Trihalomethanes (TTHM) (g)	ppb	80	NS	38	25 - 58	By-product of drinking water disinfection					
Haloacetic Acids (HAA5) (g)	ppb	60	NS	8.8	ND - 18	By-product of drinking water disinfection					
Total Chlorine Residual	ppm	[4]	[4]	1.02	ND - 3.0	Drinking water disinfectant added for treatment					
Bromate (m)	ppb	10	(0.1)	7.4	4.4 - 13	By-product of drinking water ozonation					

WATER CONSTITUENTS OF INTEREST TO THE PUBLIC											
	Units		MWD Weymouth Plant	MWD Jensen Plant	Glendale Treatment Plant	Verdugo Park Treatment Plant (n)	Glorietta Wells	Foothill Well			
Alkalinity	ppm	Range Average	113 - 124 118	92 - 124 94	210 210	-	160 - 210 182	160 160			
Calcium	ppm	Range Average	75 - 79 77	30 - 36 33	95 95	-	87 - 110 97	71 - 77 73			
Corrosivity (I) Aggressive Index	AI	Range Average	12.4 - 12.5 12.5	12.2 12.2	NA	_	12 - 12 12	12 12			
Corrosivity Saturation Index	AI	Range Average	0.56 - 0.60 0.57	0.35 - 0.40 0.38	NA	-	NA	NA			
Hardness (h)	ppm	Range Average	293 - 306 300	126 - 132 129	340 340	-	350 - 440 387	280 - 300 289			
Magnesium	ppm	Range Average	25 - 27 26	12 12	26 26	-	32 - 39 35	25 - 27 26			
рН	pH Units	Range Average	8.1 8.1	8 8.3	6.6 - 8.3 7.7	_	6.6 - 8.3 7.3	6.6 - 7.8 7.4			
Potassium	ppm	Range Average	5.0 - 5.1 5.1	2.9 - 3.2 3.1	4 4.20	-	2.8 - 3.8 3.3	4.1 - 4.4 4.3			
Sodium	ppm	Range Average	104 - 106 105	84 - 94 89	53 53	_	41 - 51 46	31 - 32 32			
Total Organic Carbon (TOC)	ppm	Range Average	1.7 - 2.8 2.5	1.8 - 2.8 2.2	0.51 - 1.3 1.10	_	NA	NA			

Abbreviations

- cu = color units
- DLR = Detection Limits for purposes of reporting
- DPH = Department of Public Health
- DDW = Division of Drinking Water
- MCL = Maximum Contaminant Level
- MCLG = Maximum Contaminant Level Goal
- mg/L = milligrams per liter
- MRDL = Maximum Residual Disinfectant Level
- MRDLG = Maximum Residual Disinfectant Level Goal
- MWD = Metropolitan Water District of Southern CA
- NA = Not Analyzed
- ND = None Detected
- NL = Notification Level
- NS = No Standard
- NTU = Nephelometric Turbidity Units
- pCi/L = picoCurries per liter
- PHG = Public Health Goal
- ppb = parts per billion
- ppm = parts per million
- TON = Threshold Odor Number
- TT = Treatment Technique

- a) Aluminum has a secondary MCL of 200 ppb.
- b) Standard is for Radium-226 and -228 combined (calculated).
- c) Total coliform MCL: No more than 5% of the monthly samples may be
- total coliform-positive. d) Lead and Copper Rule compliance based on 90th percentile of all samples being below the Action Level. Samples were taken from 51 customer taps. Testing is required every three years. This data was collected in 2014. Next testing is 2017.

Nitrate

Nitrate levels may rise quickly for short quality drinking water, but cannot control periods of time because of rainfall or the variety of materials used in plumbing agricultural activity. Nitrate in drinking components. When your water has been water at levels above 10 mg/L is a health sitting for several hours, you can minimize risk for infants of less than six months of the potential for lead exposure by flushing age. Such nitrate levels in drinking water your tap for 30 seconds to 2 minutes can interfere with the capacity of the before using water for drinking or cooking. infant's blood to carry oxygen, resulting If you are concerned about lead in your in a serious illness; symptoms include water, you may wish to have your water shortness of breath and blueness of the tested. Information on lead in drinking skin. Nitrate levels above 10 mg/L may water, testing methods, and steps you pregnant women and those with certain http://www.epa.gov/lead. specific enzyme deficiencies. If you are Infants and young children are typically caring for an infant, or you are pregnant, more vulnerable to lead in drinking to maintain levels below the MCL to ensure the community as a result of materials safe to drink.

Lead

materials and components associated Water Hotline (1-800-426-4791). with service lines and home plumbing.

also affect the ability of the blood to can take to minimize exposure is available carry oxygen in other individuals, such as from the Safe Drinking Water Hotline or at you should ask advice from your health water than the general population. It is care provider. Glendale's water is tested at possible that lead levels at your home the source for contamination then treated may be higher than at other homes in the water delivered to our customers is used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may If present, elevated levels of lead can or flush your tap for 30 seconds cause serious health problems, especially to 2 minutes before using for pregnant women and young children. tap water. Additional information is Lead in drinking water is primarily from available from the USEPA Safe Drinking

Explanation Regarding Contaminants

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

e) Copper has a secondary MCL of 1000 ppb. f) Analysis was on water before blending with MWD supply. g) Compliance is based on system-wide annual average for the stage

2 DBPR.

0.60 ppm.

distribution system wide.

with an average of 2.5 ppm.

h) Hardness in grains/gallon can be found by dividing ppm by 17.1. i) For GWP sources, data represents the amount of naturally occurring fluoride. For MWD sources, data is after fluoride added at MWD treatment plant. Glendale's distribution system fluoride levels were monitored in 2016 - range 0.40 ppm - 0.75 ppm with an average of

j) Chlorate has a DDW Notification level of 800 ppb. Chlorate is a by-product of liquid chlorine. MWD range results were given

k) Water from the Foothill Well is blended with system water, actual level of nitrate in water served ranged between 1.4 and 4.7 ppm,

 AI < 10.0 = Highly aggressive and very corrosive water. AI >/= 12 = Non-aggressive water. AI (10.0 - 11.9) - Moderately aggressive water. m) Compliance was based on RAA. Bromate was tested at effluent of Jensen Treatment Plant where ozone is used as a disinfectant. n) Verdugo Park Water Treatment Plant was offline in 2016. o) While your drinking water meets the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

GWP is responsible for providing high

DETECTED CONTAMINANTS AT GLENDALE'S WATER SOURCES											
	Units	State MCL	PHG or [MCLG]		MWD Weymouth Plant	MWD Jensen Plant	Glendale Treatment Plant	Verdugo Park Water Treatment Plant (n)	Glorietta Wells	Foothill Well	Major Sources of Contaminants in Drinking Water
ORGANIC CHEMICALS			1				r T				
Tetrachloroethylene (PCE)	ppb	5	0.06	Range Average	ND	ND	ND	-	0.7 - 2.5 1.3	ND - 0.52 0.13	Discharge from factories, dry cleaners, and auto shops (metal degreaser)
Aluminum (a)	ppb	1000	600	Range Average	77 - 220 159	ND - 130 100	ND	-	ND	ND	Residue from some water treatment process; natural deposits erosion
Antimony	ppb	6	20	Range Average	ND	ND	ND - 1.0 1.0	-	ND	ND	Petroleum refinery discharges; fire retardants; solder; electronics
Arsenic (o)	ppb	10	0.004	Range Average	ND	3.1 3.1	ND - 1.6 1.6	-	ND	ND - 1.2 0.9	Erosion of natural deposits; runoff from orchards; glass a electronics production wastes
Barium	ppb	1000	2000	Range Average	144 144	ND	57 - 95 68.7	-	49 - 120 107	83 - 88 86	Discharges of oil drilling waste and from metal refineries erosion of natural deposits
Chromium 6	ppb	10	0.02	Range Average	ND	ND	3.6 - 6.4 5.3 (f)		0.3 - 0.4 0.3	1.4 - 1.4 1.4	Industrial waste discharge; runoff/leaching from natural deposits
Chromium, Total	ppb	50	[100]	Range Average	ND	ND	2.6 - 7.0 5.3	-	ND	ND - 1.9 0.8	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (i)	ppm	2	1	Range Average	0.6 - 1.0 0.7	0.6 - 0.8 0.7	0.35 0.35	-	0.20 -0.25 0.23	0.18 - 0.22 0.19	Erosion of natural deposits; water additives that promot strong teeth; discharge from fertilizer and aluminum fac
Nitrate (As N)	ppm	10	10	Range Average	ND	0.6 - 0.9 0.8	4.3 - 5.7 5.2	-	5.7 - 8.8 7.4	8.7 - 10 9.8 (k)	Runoff and leaching from fertilizer use septic tank and sewage; natural erosion
RADIOLOGICALS											
Gross Alpha Particle Activity	pCi/L	15	[0]	Range Average	ND - 4 ND	ND - 5 3	7.9 7.9	-	3.35 - 6.61 5.05	3.85 - 3.85 3.85	Erosion of natural deposits
Gross Beta Particle Activity	pCi/L	50	[0]	Range Average	4 - 6 5	ND - 5 ND	1.3 1.3	-	NA	NA	Decay of natural and man-made deposits
Combined Radium (b)	pCi/L	5	[0]	Range Average	ND	ND	ND - 2.4 0.7	-	ND	ND	Erosion of natural deposits
Strontium	pCi/L	8	0.35	Range Average	ND	ND	0.63 - 0.66 0.64	-	NA	NA	Decay of natural and man-made deposits
Uranium	pCi/L	20	0.43	Range Average	2 - 3 3	2 - 3 2	5.7 - 5.8 5.75	-	5.6 - 9.4 7.1	3.6 3.6	Erosion of natural deposits
REGULATED CONTAMIN	IANTS WIT	HSECOND	ARY MCLS		1						
Chloride	ppm	500	NS	Range Average	103 103	89 - 97 93	61 - 64 62	-	87 - 110 100	49 - 60 56	Runoff/leaching from natural deposits; seawater influen
Color	cu	15	NA	Range Average	1	1 - 2 2	ND	-	ND	ND	Naturally occurring organic materials
ron	ppb	300	NA	Range Average	ND	ND	ND	-	ND	ND - 0.17 0.04	Leaching from natural deposits; industrial waste
Manganese	ppb	50	NL = 500	Range Average	ND	ND	ND - 3.6 2.8	-	ND	ND - 2.2 0	Leaching from natural deposits; industrial wastes
Odor	TON	3	NS	Range Average	2 2	3 3	1	-	ND	ND	Naturally occurring organic materials
Silver	ppb	100	NA	Range Average	ND	ND	ND - 3.6 3.6	-	ND	ND	Industrial discharges
Specific Conductance	uS/cm	1600	NA	Range Average	1020 - 1050 1035	652 - 721 687	910 910	-	920 - 1000 970	690 - 740 726	Substances that form ions in water; seawater influence
Sulfate	ppm	500	NS	Range Average	256 - 259 258	89 - 104 95	140 140	-	120 - 140 132	72 - 84 80	Runoff/leaching from natural deposits; industrial waste
Total Dissolved Solids (TDS)	ppm	1000	NS	Range Average	650 - 659 655	377 - 423 400	550 - 560 553	-	570 - 680 620	420 - 480 459	Runoff/leaching from natural deposits; seawater influen
Turbidity	NTU	ТТ	NS	Range	ND	ND	ND - 0.1 0.075	-	ND - 0.11 0.04	1.2 - 1.2 1.2	Soil runoff

Footnotes