A Message from General Manager Stephen M. Zurn

I am proud to report that Glendale Water & Power has met all federal, state and local water quality standards in 2016. GWP's dedicated team of water quality professionals, engineers, operators and distribution crews work to ensure safe and reliable water service to the City by overseeing a comprehensive cross-connection control program, planning and replacing aging infrastructure, responding quickly to unexpected leaks, and operating the system efficiently to meet water demands. We are able to accomplish all of these while maintaining competitive rates for our water customers.

Maintaining excellent water quality is a primary duty of every employee in GWP's Water Division. A detailed System Optimization Program has been put in place to work through opportunities to reduce detention time to maintain a disinfectant residual throughout our distribution system, as well as making other improvements in the system. The best method is to use the water as soon as possible once it is either delivered from the well, treatment plant, or from the water we purchase from the Metropolitan Water District. This means that it is important to reduce the detention time of the water in the reservoirs and tanks by sizing them correctly, and by setting and maintaining the water elevation set points properly as noted in the previous section. Residuals are monitored weekly in the distribution system and storage facilities and flushing is conducted as needed. Additional sample stations will be added to our distribution system for water quality monitoring along with revisions to GWP's BSSP and Nitrification Monitoring Plans.

To ensure the continued value of your community's water system, GWP will be completing an updated cost of service analysis over the coming months taking into account the considerable cost savings GWP has achieved in recent years and the continuing need to replace and rehabilitate the City's water system. Being proactive in updating the costs to provide service ensures the appropriate costs are being charged and it maintains the high level of service provided by your utility.

Thank you for your support.

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.

City of Glendale Water & Power
Your Trusted Community Utility

Glendale Water & Power
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Glendale, CA 91206

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

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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 किसी से इसका अनुवाद करा लीजिए।

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

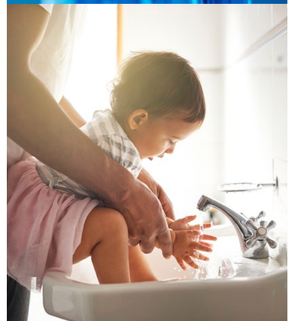
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants 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).

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

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.



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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.

City of Glendale Water & Power
Your Trusted Community Utility

glendale california

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	Notification 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	150	270	140-230	–	NA	NA	Runoff/leaching from natural deposits; industrial wastes
				Average	150	270	180				
Chlorate (j)	ppb	800	20	Range	60	39	100 -240	–	NA	NA	By-product of drinking water chlorination; industrial processes
				Average	26 - 60		157				
N-Nitrosodimethylamine (NDMA)	ppt	10	2	Range	ND	ND - 2.7	ND - 6.4	–	NA	NA	By-product of drinking water chloramination; industrial processes
				Average	ND - 5.1		6.4				
N-Nitrosodiethylamine (NDEA)	ppb	10	0.005	Range	NA	NA	ND - 2.9	–	NA	NA	By-product of drinking water chloramination; industrial processes
				Average			2.9				
Trichloropropane (1,2,3-TCP)	ppt	5	NA	Range	NA	NA	ND - 7.3	–	ND	ND	Commonly used as an industrial solvent, cleaner, and degreaser, as well in the production of paint thinners and varnish removers.
				Average			ND				
Vanadium	ppb	50	3	Range	ND	7.4	4.3 - 5.9	–	NA	NA	Naturally-occurring; industrial waste discharge
				Average		7.4	5				

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 SAMPLING

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

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

Footnotes

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.
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.
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 0.60 ppm.
j) Chlorate has a DDW Notification level of 800 ppb. Chlorate is a by-product of liquid chlorine. MWD range results were given distribution system wide.
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, with an average of 2.5 ppm.
l) 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.

Nitrate

Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider. Glendale's water is tested at the source for contamination then treated to maintain levels below the MCL to ensure the water delivered to our customers is safe to drink.

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 service lines and home plumbing. GWP is responsible for providing high quality drinking water, but 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 http:www.epa.gov/lead.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and/or flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the USEPA Safe Drinking Water Hotline (1-800-426-4791).

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).

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											
Tetrachloroethylene (PCE)	ppb	5	0.06	Range	ND	ND	ND	–	0.7 - 2.5	ND - 0.52	Discharge from factories, dry cleaners, and auto shops (metal degreaser)
				Average					1.3	0.13	
INORGANIC CHEMICALS											
Aluminum (a)	ppb	1000	600	Range	77 - 220	ND - 130	ND	–	ND	ND	Residue from some water treatment process; natural deposits erosion
				Average	159	100					
Antimony	ppb	6	20	Range	ND	ND	ND - 1.0	–	ND	ND	Petroleum refinery discharges; fire retardants; solder; electronics
				Average			1.0				
Arsenic (o)	ppb	10	0.004	Range	ND	3.1	ND - 1.6	–	ND	ND - 1.2	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
				Average		3.1	1.6			0.9	
Barium	ppb	1000	2000	Range	144	ND	57 - 95	–	49 - 120	83 - 88	Discharges of oil drilling waste and from metal refineries; erosion of natural deposits
				Average	144		68.7		107	86	
Chromium 6	ppb	10	0.02	Range	ND	ND	3.6 - 6.4		0.3 - 0.4	1.4 - 1.4	Industrial waste discharge; runoff/leaching from natural deposits
				Average			5.3 (f)		0.3	1.4	
Chromium, Total	ppb	50	[100]	Range	ND	ND	2.6 - 7.0	–	ND	ND - 1.9	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
				Average			5.3			0.8	
Fluoride (i)	ppm	2	1	Range	0.6 - 1.0	0.6 - 0.8	0.35	–	0.20 -0.25	0.18 - 0.22	Erosion of natural deposits; water additives that promotes strong teeth; discharge from fertilizer and aluminum factories
				Average	0.7	0.7	0.35		0.23	0.19	
Nitrate (As N)	ppm	10	10	Range	ND	0.6 - 0.9	4.3 - 5.7	–	5.7 - 8.8	8.7 - 10	Runoff and leaching from fertilizer use septic tank and sewage; natural erosion
				Average		0.8	5.2		7.4	9.8 (k)	
RADIOLOGICALS											
Gross Alpha Particle Activity	pCi/L	15	[0]	Range	ND - 4	ND - 5	7.9	–	3.35 - 6.61	3.85 - 3.85	Erosion of natural deposits
				Average	ND	3	7.9		5.05	3.85	
Gross Beta Particle Activity	pCi/L	50	[0]	Range	4 - 6	ND - 5	1.3	–	NA	NA	Decay of natural and man-made deposits
				Average	5	ND	1.3				
Combined Radium (b)	pCi/L	5	[0]	Range	ND	ND	ND - 2.4	–	ND	ND	Erosion of natural deposits
				Average			0.7				
Strontium	pCi/L	8	0.35	Range	ND	ND	0.63 - 0.66	–	NA	NA	Decay of natural and man-made deposits
				Average			0.64				
Uranium	pCi/L	20	0.43	Range	2 - 3	2 - 3	5.7 - 5.8	–	5.6 - 9.4	3.6	Erosion of natural deposits
				Average	3	2	5.75		7.1	3.6	
REGULATED CONTAMINANTS WITH SECONDARY MCLS											
Chloride	ppm	500	NS	Range	103	89 - 97	61 - 64	–	87 - 110	49 - 60	Runoff/leaching from natural deposits; seawater influence
				Average	103	93	62		100	56	
Color	cu	15	NA	Range	1	1 - 2	ND	–	ND	ND	Naturally occurring organic materials
				Average	1	2					
Iron	ppb	300	NA	Range	ND	ND	ND	–	ND	ND - 0.17	Leaching from natural deposits; industrial waste
				Average						0.04	
Manganese	ppb	50	NL = 500	Range	ND	ND	ND - 3.6	–	ND	ND - 2.2	Leaching from natural deposits; industrial wastes
				Average			2.8			0	
Odor	TON	3	NS	Range	2	3	1	–	ND	ND	Naturally occurring organic materials
				Average	2	3	1				
Silver	ppb	100	NA	Range	ND	ND	ND - 3.6	–	ND	ND	Industrial discharges
				Average			3.6				
Specific Conductance	uS/cm	1600	NA	Range	1020 - 1050	652 - 721	910	–	920 - 1000	690 - 740	Substances that form ions in water; seawater influence
				Average	1035	687	910		970	726	
Sulfate	ppm	500	NS	Range	256 - 259	89 - 104	140	–	120 - 140	72 - 84	Runoff/leaching from natural deposits; industrial waste
				Average	258	95	140		132	80	
Total Dissolved Solids (TDS)	ppm	1000	NS	Range	650 - 659	377 - 423	550 - 560	–	570 - 680	420 - 480	Runoff/leaching from natural deposits; seawater influence
				Average	655	400	553		620	459	
Turbidity	NTU	TT	NS	Range	ND	ND	ND - 0.1	–	ND - 0.11	1.2 - 1.2	Soil runoff
				Average			0.075		0.04	1.2	