City of Glendale Water & Power

Your Trusted Community Utility

City of Glendale *Water & Power*

WQR.11

Water Quality Report for 2010

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 2010.

You can be assured that your Glendale water is of the highest quality and is SAFE TO DRINK.

From the General Manager's Desk

Glenn Steiger, General Manager, Glendale *Water & Power*

First of all, I would like to thank our GWP customers for your impressive water conservation efforts during California's water supply crisis. Since August 2009 when the City Council activated Phase II of our Mandatory Water Conservation Ordinance, you have reduced your water usage by an average of 19%. Well done!!!!

2010 saw the launch, continuation and completion of a number of important projects for the Water Section. The installation of our new Smart Meters began. The project is expected to be completed before the end of 2011. Utilizing this technology, leaks have already been detected in several GWP customer's systems, resulting in both money and water savings for those customers.

GWP continues our expanded multi-year, citywide water pipeline replacement and rehabilitation program. The latest two projects, Pelanconi Avenue and Central Avenue, began in 2007. Together, these projects resulted in the rehabilitation of 76, 291 lineal feet of pipeline.

The Chevy Chase 968 Reservoir replacement received the Project of the Year Award from the American Public Works Association. This complex project was completed ahead of time and under budget.

Glendale continues to maintain its national leadership role in the search for an effective method for the removal of chromium 6 from drinking water. With the recent renewed interest in this unregulated constituent in water, our demonstration treatment plant program has become even more important in the evaluation of extraction technologies.

Moving forward into 2011-2012, various continuing multi-year projects include the Glorietta Well conversion, Diederich Reservoir line project, San Luis Rey tanks project, and the Rockhaven exploratory well.

Glendale *Water & Power* thanks you for continued encouragement and support for over 100 years.

Water Quality Terms You Will Find in This Report

- **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 U.S. Environmental Protection Agency (EPA).

- **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 California Environmental Protection Agency.

- **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.

- **Treatment Technique (TT):**

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

- **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.

- **Primary Drinking Water Standard (PDWS):**

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

- **Regulatory Action Level:**

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

AMI Update

The City of Glendale *Water & Power* (GWP) Water Smart Initiative is in the process of installing a new Advanced Metering Infrastructure (AMI)/Meter Data Management System (MDMS) metering technology for our water customers. This system will provide all water customers with access to their own usage data and aid in implementing new water conservation, demand response and dynamic rate programs. The AMI technology will help identify household leaks, leaks in the water distribution delivery system, and alert customers when consumption is higher than normal, creating a near real-time environment for customers to monitor their water consumption. It will help manage pressure zone water balances, detect theft of service and assist in the monitoring of water used for landscaping during allowed watering days and times.

This two-year project began with the installation of AMI meters in April 2010 during the "proof of concept" phase. The project is currently in full implementation, and is expected to be completed in the fourth quarter of 2011. GWP is installing water AMI meters at the same time as electric AMI meters so that both systems will be able to work together using the same network communications infrastructure.

It is estimated that the Water Smart Initiative will facilitate a total annual savings of over 1.5 billion gallons, the development of additional programs and procedures that utilize AMI data and the increased use of recycled water. The total cumulative water savings for the first 15-years of the program's life is estimated to be about 280 billion gallons.

GWP is confident that the Glendale City Water Smart Initiative will serve as a model for others to follow. GWP is committed to sharing data and lessons learned with others.

Laboratory Spotlight

Glendale's Water Quality Section collects thousands of samples every year to test the water quality. Some samples that are tested in the field let staff know the condition of the water on a daily basis. Other tests require sophisticated equipment. State and federal regulations mandate that we regularly test for the presence of hundreds of constituents down to parts per billion and even parts per trillion levels. How small is that? Well, one drop of detergent added to a 10-mile long line of railroad tanker cars is the equivalent of a part-per-trillion.

For these kinds of tests, GWP sends samples to MWH Laboratories in Monrovia, CA. The laboratory employs about 100 professional staff and maintains over 100 pieces of analytical equipment. To run these tests, the laboratory must be certified by the California Department of Public Health. Most of the data in this water quality report was generated by these dedicated scientists and professionals. If you'd like to take a tour of the laboratory used by GWP, please let us know.

Did You Know?

Ancient civilizations developed and thrived around sources of water. As cities and civilizations grew, the importance of ample water quantity was more important than water quality. Most treatment of water focused on improving the taste and odor of drinking water.

Centuries later, in the 1800s, large areas in Europe and the United Kingdom were impacted by outbreaks of typhoid and cholera. Hundreds of thousands were sickened during these outbreaks. The most prevalent theory at the time was that "miasma" (meaning "bad air") was the cause of these disease outbreaks.

And then, in 1855, decades before Louis Pasteur developed his "germ theory" of disease, Dr. John Snow made a brilliant scientific breakthrough by linking a cholera outbreak in London to a public well that had been contaminated by sewage. Removing the pump handle at the well resulted in the elimination of the epidemic in the area surrounding the well.

Water treatment up to that time consisted primarily of filtering water though sand before consumption. In 1908, Jersey City, New Jersey became the first city in the United States to use chlorine to treat drinking water (to kill any waterborne bacteria) and protect public health. Over the next decade, thousands of cities and towns across the United States began disinfecting water with chlorine.

The implementation of chlorination led to a dramatic decrease of waterborne illness throughout the United States. By 2006 the number of cases of typhoid fever in the United States had dropped from the 1900 average of 100 cases per 100,000 people to less than one case.

In April 1999, the US Centers for Disease Control (CDC) and Prevention, named control of infectious diseases, including disinfection of water, as one of the top ten achievements in public health protection of the 20th Century.

Public Notification

At GWP, it is our goal to deliver water of the best possible quality to all of our customers. As a part of this effort, and in compliance with State and Federal regulations, we diligently collect and test hundreds of samples every month.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. As a precautionary measure, the results of regular monitoring events may trigger follow-up sampling. One such follow-up sampling event was triggered late last year by the Ground Water Rule. The intended purpose of this follow-up sample was to determine whether a total coliform-positive sample in the distribution system originated from fecal coliform contamination in the source water. During our sampling event on November 18, 2010, we did not complete all monitoring for *e. coli*, and therefore, cannot be sure of the quality of your drinking water during that time. However, based on the extensive amount of monitoring data, we feel confident in stating that there is no indication of any contamination in that area. Samples were routinely collected before the missed samples and GWP has since taken numerous samples from the area in question; the results continue to indicate that the water is safe to drink. The missed samples were an oversight on our part and several precautionary measures have been implemented to avoid such occurrences in the future. Customers need not take any action based on this information.

Common Contaminants in Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and in some cases radioactive material. It can also 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, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants,** such as salts and metals that can be naturally occurring or result from urban 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, that are by-products of industrial process and petroleum production and can also come from gas stations, urban stormwater 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.

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).

Sources of Glendale's Drinking Water

In 2010, Glendale delivered 8.4 billion gallons of potable (drinking water quality) water to the City's customers. 62% of that water was purchased from the Metropolitan Water District (MWD), after being imported from Northern California and the Colorado River. Before it was delivered to Glendale, it was treated at MWD's treatment plants in Granada Hills and La Verne and monitored by MWD in their water quality laboratory.

Water from local sources made up 38% of our drinking water supplies and was blended with MWD water before being delivered to your home and business. 31% of GWP water was groundwater extracted from the San Fernando Basin and conveyed through the Glendale Water Treatment Plant. Water from the City's Glorietta Wells and the Verdugo Park Water Treatment Plant accounted for 7% of our supplies.

Source water assessments were conducted in 2006 for the five wells in the Verdugo Basin and updated in the 2010 Watershed Sanitary Survey. Located in an urban area, they are considered to be potentially vulnerable to contamination from underground gasoline storage tanks (a gasoline station was previously located in the area) and installed sewer lines. Private septic systems were eliminated. In 2000, programs to control contamination from fertilizers and pesticides were put in place. Before being introduced into the water system, water from two wells is treated at the Verdugo Park Water Treatment Plant and water from three wells is blended with water from MWD.

WHERE DOES YOUR DRINKING WATER COME FROM?

SOURCE	ACRE FEET	PERCENTAGE
Metropolitan Water District	15,834	62%
Glendale Water Treatment Plant	7,997	31%
Glorietta Wells	1,422	5%
Verdugo Park Water Treatment Plant	489	2%

For Your Information...

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/safewater/lead.

Nitrate

Nitrate in drinking water at levels above 45 ppm 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 45 ppm 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 for advice from your health care provider.

Capital Improvement and Water Quality

Parts of Glendale's water distribution system were built in the early 1900s; thus, keeping it in a clean and operable condition is vital in maintaining good water quality. The following describes some of what GWP is doing to achieve this goal:

Pipe Cleaning and Lining

A multi-year program is in place to replace or re-line aging water pipes. For pipes that are still structurally sound and meet the minimum size to provide the required water flow, a cleaning and lining process is used. In the re-lining process, the interior of the pipes are smoothed to increase water flow and improve water quality. Pipelines that cannot be cleaned and lined are replaced. In the last five years, the City has replaced about 51,150 feet and cleaned/re-lined about 78,210 feet of pipeline; a total of about 50,925 feet were addressed in 2010.

Diederich Reservoir By-pass Line

Of the thirty water storage facilities in the City of Glendale, Diederich reservoir is the largest. As a critical supply of stored water, it serves about 50% of GWP's service area; this includes commercial, industrial and densely populated residential areas. The 48-inch transmission main that carries water in and out of this facility has become worn and in need of maintenance. To avoid loss of water to customers during the rehabilitation process for this pipeline, GWP has begun work on the construction of a back-up pipeline that will by-pass the existing main. Upon its estimated completion towards the end of 2011, GWP will then be able to address the existing, aging pipeline in a safe and efficient manner.

San Luis Rey Tanks Project

The San Luis Rey Tanks, with 156,000 gallons of total capacity, serve a small area of Glendale where the demand for water is disproportionately less than the total capacity. Due to low turn-over rates and long detention times, GWP is required to exert greater effort (and funds) to maintain good water quality in these tanks. To resolve this problem, the utility has devised a plan to use new pumps and different pumping procedures to provide water to the San Luis Rey Tanks service area without having to use the tanks. When completed, this project will dramatically reduce the staff time it takes to maintain the water in that area, ensure a more uniform level of water quality, and save money for the utility and its customers.

New Well Development

Currently, GWP purchases about 65% of its water supply from the Metropolitan Water District (MWD) and produces the remaining amount locally. In an effort to maximize local production, which is less expensive than purchasing from MWD, GWP is in the process of developing two new wells in the Verdugo basin. The Foothill Well project, which is a rehabilitation of an existing well that was previously decommissioned, is undergoing final water quality testing, and a permit to operate the well from the California Department of Public Health (CDPH) is expected by mid 2011. In addition, the City will also be developing a second well in the northern portion of the city; this project is currently in the design stage and is projected to be in service in early 2012.

Water Quality Maintenance

The City uses both chlorine and chloramines for disinfection. Some locations may alternate from chloramines to chlorine depending on operating conditions. Customers with special water quality needs such as kidney dialysis or aquariums should prepare for removal of chloramines as well as chlorine.

State and Federal Regulation

In order to ensure that tap water is safe to drink, the U.S. Environmental Projection Agency (USEPA) and the State Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

State and Federal agencies thoroughly regulate the water we deliver to our customers by requiring significant water quality sampling. They require over 8,000 tests each year. The laboratory testing costs alone are over $100,000 annually, plus staff time involved in collecting the water samples. Additionally, the State inspects our water system and reviews the test results to ensure that required sampling is occurring and that we meet all regulatory requirements.

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	Notification Level		MWD Weymouth Plant [n]	MWD Jensen Plant [n]	Glendale Water Treatment Plant [e]	Glorietta Wells [e]	Verdugo Park Treatment Plant	Major Sources of Contaminants in Drinking Water
STATE REGULATED CONTAMINANTS WITH NO MCLs									
Boron	ppb	1,000	Range	120 - 130	200 - 220	170 - 300	NA	NA	Runoff/leaching from natural deposits; industrial wastes
			Average	120	210	190			
Chromium VI	ppb	NS	Range	0.04 - 0.10	0.37 - 0.45	3.2 - 11.0	0.24 - 0.39	0.27 - 0.32	Industrial waste discharge could be naturally present as well
			Average	0.08 [r]	0.52 [r]	6.7 [i]	0.32	0.29	
Vanadium	ppb	50	Range	ND - 3.1	4.8 - 5.6	4.3 - 6.0	NA	NA	Naturally-occurring; industrial waste discharge
			Average	ND	5.2	4.9			
N-Nitrosodimethy-lamine (NDMA) [q]	ppb	0.01	Range	ND - 0.002	0.004 - 0.007	ND - 0.004	0.005	NA	By-product of drinking water chloramination; industrial processes
			Average	ND	0.006	0.003	0.005		
N-Nitrosodi-n-propylamine (NDPA)	ppb	0.01	Range	ND	ND	ND - 0.003	NA	NA	By-product of drinking water chloramination; industrial processes
			Average			0.0029			

LEAD AND COPPER RULE [g]

	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 [h]	ppb	1300	170	73	300	0	Internal corrosion of household plumbing system; erosion of natural deposits; wood preservative leaching
Lead	ppb	15	0.20	73	ND	0	Internal corrosion of household plumbing system; discharges from industrial manufacturer; erosion of natural deposits

CITYWIDE SAMPLING

	Units	State MCL [MRDL]	MCLG [MRDLG]	Range	Citywide Average	Major Sources of Contaminants in Drinking Water
SAMPLES FROM DISTRIBUTION SYSTEM						
Total Coliform Bacteria	%	5.0 [f]	0	0 - 0.66	0.15	Naturally present in the environment
Fecal Coliform and *E. Coli*		[f]	0	0	0	Human and animal fecal waste
Total Trihalomethanes (TTHM)	ppb	80	NS	10 - 77	33.5 [j]	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	ppb	60	NS	ND - 20	8.2 [j]	By-product of drinking water chlorination
Total Chlorine Residual	ppm	[4]	[4]	0.02 - 3.20	1.11	Drinking water disinfectant added for treatment

WATER CONSTITUENTS OF INTEREST TO THE PUBLIC

	Units		MWD Weymouth Plant [n]	MWD Jensen Plant [n]	Glendale Treatment Plant [e]	Glorietta Wells [e]	Verdugo Park Treatment Plant
Alkalinity	ppm	Range	63 - 130	81 - 99	NA	160 - 200	210 - 220
		Average	120 [r]	88 [r]		177	214
Bromate	ppb	Range	NA	ND - 11	NA	NA	NA
		Average		7.2			
Calcium	ppm	Range	49 - 71	26 - 31	98	91 - 100	110 - 130
		Average	64 [r]	30 [r]	98	95	118
Chlorate [m]	ppb	Range	110	20	94 - 260	140 - 230	150 - 160
		Average			159	164	153
Hardness [k]	ppm	Range	84 - 300	86 - 130	NA	360 - 400	440 - 500
		Average	260 [r]	120 [r]		381	465
Magnesium	ppm	Range	20 - 28	11 - 12	25 - 27	33 - 37	39 - 45
		Average	26 [r]	12 [r]	26	35	42
pH	pH Units	Range	7.6 - 8.6	8.1 - 8.4	8.2	6.7 - 9.4	6.4 - 8.7
		Average	7.9	8.2	8.2	7.6	7.1
Potassium	ppm	Range	3.8 - 5.0	2.5 - 2.8	4.3	3.0 - 3.5	3.3 - 3.7
		Average	4.6 [r]	2.7 [r]	4.3	3.2	3.5
Sodium	ppm	Range	83 - 98	58 - 65	54	42 - 49	50 - 54
		Average	94 [r]	67 [r]	54	45	53
Total Organic Carbon (TOC)	ppm	Range	1.6 - 2.4	1.3 - 1.8	NA	NA	NA
		Average	2.1 [r]	1.5 [r]			

Abbreviations

cu = color units
DLR = Detection Limits for purposes of reporting
DPH = Department of Public Health
MCL = Maximum Contaminant Level
MCLG = Maximum Contaminant Level Goal
MRDL = Maximum Residual Disinfectant Level
MRDLG = Maximum Residual Disinfectant Level Goal
MWD = Metropolitan Water District of Southern California
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
TT = Treatment Technique

Footnotes (For all charts)

a) As the result of blending, level of tetrachloroethylene (PCE) in water served ranged between ND and 0.56 ppb, with an average of 0.05 ppb that was below the reporting limit.

b) Aluminum has a secondary MCL of 200 ppb.

c) As the result of blending, level of nitrate in water served ranged between 1.3 and 19.0 ppm, with an average of 9.7 ppm.

d) Standard is for Radium-226 and -228 combined. (calculated)

e) These results were before blending unless otherwise noted.

f) Total coliform MCL: No more than 5% of the monthly samples may be total coliform-positive.

g) Lead and Copper Rule compliance based on 90th percentile of all samples being below the Action Level. Samples were taken from 73 customer taps. Testing is required every three years. This data was collected in 2008.

h) Copper has a secondary MCL of 1000 ppb.

i) Analysis was on water before blending with MWD supply.

j) Compliance is based on system-wide RAA (Running Annual Average).

k) Hardness in grains/gallon can be found by dividing the hardness values in this table by 17.1. For example, 260 ppm = 15.2 grains/gallon.

l) For GWP sources, data represents the amount of naturally occurring fluoride. For MWD sources, data represents after MWD began fluoridation. Glendale's distribution system fluoride levels were monitored in 2010 - range 0.44 ppm - 1.0 ppm with an average of 0.66 ppm.

m) Chlorate has a DPH Notification level of 800 ppb. Chlorate is a by-product of liquid chlorine.

n) During 2010, Glendale received MWD water primarily from the Weymouth Treatment Plant.

o) Turbidity is a measure of the cloudiness of the water. Turbidity is monitored because it is a good indicator of the effectiveness of our filtration system. Treatment Technique for turbidity applies to MWD's Weymouth and Jensen plants and the Verdugo Park Water Treatment Park. It does not apply to the Glendale Water Treatment Plant or Glorietta Wells.

p) MWD received an exemption from DPH to report Nitrate (as N) instead of Nitrate (as NO3) in their CCR.

q) In 2009, GWP conducted sampling in compliance with the Federal Unregulated Contaminant Monitoring Rule. Of the 25 contaminants that were tested, only NDMA was detected. (Range: 0.002 ppb- 0.011 ppb, average: 0.005 ppb)

r) MWD results are expressed as Highest RAAs. RAA = Running Annual Average; highest RAA is the highest of all Running Annual Averages calculated as an average of all the samples collected within a twelve-month period (this method of reporting includes averages from 2009) and therefore it is possible for the RAA to be higher than the upper range result.

DETECTED CONTAMINANTS AT GLENDALE'S WATER SOURCES

	Units	State MCL	PHG or [MCLG]		MWD Weymouth Plant [n]	MWD Jensen Plant [n]	Glendale Water Treatment Plant [e]	Glorietta Wells [e]	Verdugo Park Water Treatment Plant	Major Sources of Contaminants in Drinking Water
ORGANIC CHEMICALS										
Tetrachloroethylene (PCE) [a]	ppb	5	0.06	Range Average	ND	ND	ND	0.86 - 3.30 1.77	ND	Discharge from factories, dry cleaners and auto shops (metal degreaser)
INORGANIC CHEMICALS										
Aluminum [b]	ppb	1000	600	Range Average	ND - 200 170 [r]	56 - 100 82 [r]	ND	ND - 27 2	ND	Residue from some water treatment process; natural deposits erosion
Arsenic	ppb	10	0.004	Range Average	ND - 2.7 2.2 [r]	2.5 - 3.2 3.2 [r]	ND	ND	ND - 1.1 0.3	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium	ppb	1000	2000	Range Average	ND - 130 110	ND	67 - 88 76	100 - 130 114	88 - 97 94	Discharges of oil drilling waste and from metal refineries; erosion of natural deposits
Cadmium	ppb	5	0.04	Range Average	ND	ND	ND	ND - 0.56 0.05	ND	Internal corrosion of galvanized pipes; natural deposits erosion
Chromium, Total	ppb	50	(100)	Range Average	ND	ND	ND - 11 7	ND - 2.2 1.0	1.1 - 2.3 1.6	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Cyanide	ppb	150	150	Range Average	ND	ND	NA	ND - 5.4 0.6	ND - 33.0 11.8	Discharge from steel/metal, plastic, and fertilizer factories
Fluoride [l]	ppm	2	1	Range Average	0.7 - 1.0 0.8	0.7 - 0.9 0.8	NA	0.17 - 0.22 0.19	0.25 - 0.29 0.27	Erosion of natural deposits; water additives for dental health; discharge from fertilizer and aluminum factories
Nitrate [p]	ppm	45	45	Range Average	ND - 0.4 ND [r]	0.5 - 0.7 0.6 [r]	24 24	28 - 39 37 [c]	18 - 20 18.7	Runoff and leaching from fertilizer use septic tank and sewage; natural deposit erosion
RADIOLOGICALS										
Gross Alpha Particle Activity	pCi/L	15	(0)	Range Average	ND - 7.6 5.2	ND - 7.3 3.4	ND - 11 4	ND - 8.4 4.0	3.7 - 12.0 8.5	Erosion of natural deposits
Gross Beta Particle Activity	pCi/L	50	(0)	Range Average	ND - 9.7 4.2	ND - 5.2 ND	ND - 7.7 3.1	3.1 - 4.1 3.6	ND - 3.3 1.7	Decay of natural and man-made deposits
Combined Radium [d]	pCi/L	5	(0)	Range Average	ND	ND	ND - 2.4 0.7	ND - 1.20 0.13	ND - 1.0 0.3	Erosion of natural deposits
Strontium	pCi/L	8	0.35	Range Average	ND	ND	0.64 - 0.66 0.65	0.7 - 0.9 0.8	ND	Decay of natural and man-made deposits
Tritium	pCi/L	20000	400	Range Average	ND	ND	NA	202 - 204 203	262 262	Decay of natural and man-made deposits
Uranium	pCi/L	20	0.43	Range Average	2.4 - 3.4 2.9	1.6 - 2.0 1.8	5.0 - 13.4 8.4	5.2 - 7.4 6.3	7.4 - 8.0 7.6	Erosion of natural deposits
REGULATED CONTAMINANTS WITH SECONDARY MCLS										
Chloride	ppm	500	NS	Range Average	84 - 94 93 [r]	67 - 80 79 [r]	60 60	87 - 96 92	110 - 120 118	Runoff/leaching from natural deposits; seawater influence
Color	cu	15	NA	Range Average	1 1 [r]	1 - 2 1 [r]	NA	ND	ND - 3.0 0.1	Naturally occurring organic materials
Manganese	ppb	50	NL = 500	Range Average	ND	ND	ND - 3.3 2.4	ND	ND	Leaching from natural deposits; industrial wastes
Odor	TON	3	NS	Range Average	2 2	3 3	NA	ND - 1 0.5	ND - 2 0.5	Naturally occurring organic materials
Sulfate	ppm	500	NS	Range Average	160 - 250 210 [r]	55 - 65 63 [r]	130 130	130 -140 136	170 - 200 185	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	ppm	1000	NS	Range Average	470 - 630 570 [r]	290 - 320 330 [r]	NA	580 - 710 623	700 - 760 735	Runoff/leaching from natural deposits; seawater influence
Turbidity [o]	NTU	TT	NS	Range Average	0.03 - 0.06 0.05 [r]	0.03 - 0.08 0.04 [r]	0.16 0.16	0.07 - 0.30 0.21	ND - 0.50 0.07	Soil runoff
Zinc	ppm	5	NS	Range Average	ND	ND	ND	ND - 0.05 0.007	ND - 0.04 0.011	Runoff/leaching from natural deposits; industrial wastes

Frequently Asked Questions

Is Chromium 6 a Concern in Glendale?

Chromium 6 is an unregulated constituent of water that first gained public attention in the 2000 film *Erin Brockovich*. Due to recent concerns raised by a study conducted by the Environmental Working Group, a private organization based in Washington D.C., GWP has fielded numerous calls from interested citizens with regards to the topic of chromium 6.

Despite the fact there were, and continue to be, no State or Federal regulations with regards to this constituent, the City of Glendale responded to this initial public interest by instituting a self-imposed limit of 5 micrograms per liter for chromium 6. GWP has been able to consistently meet this self-imposed limit and is currently studying state-of-the-art technologies to remove chromium from drinking water.

Recently, California's Office of Environmental Health Hazard Assessment (OEHHA) has been reviewing the health effects information of chromium 6 in order to publish a Public Health Goal (PHG). A PHG is not a regulatory level, but should an official regulatory limit be developed based on OEHHA's findings, GWP will successfully maintain compliance.

Does Glendale Add Fluoride to Drinking Water? Is it safe?

Glendale *Water & Power* does not add fluoride to its water supply. In November of 2007, the Metropolitan Water District (MWD) of Southern California joined a majority of the nation's public water suppliers by adding fluoride to the drinking water it delivers. Glendale receives 65% of its water supply from MWD.

Despite fluoride's proven record, many consumers may not be familiar with its benefits or may be concerned about adding it to their drinking water. The fact is that more than 60 years of scientific research and experience have demonstrated that the practice is not only safe, but it is actually the best method of improving oral health in a community.

GWP currently monitors fluoride levels throughout the City on a quarterly basis. Residents can find the results of this sampling and find more information about fluoride at:

www.glendalewaterandpower.com/residents/fluoride_in_drinking_water.aspx

What Can I do About the Hardness of my Water?

Water hardness is still one of the most common water quality concerns we hear from Glendale residents. Water hardness is caused primarily by the presence of calcium and magnesium ions that occur naturally in water.

Is hard water safe to drink and use? Yes. The California Department of Public Health (CDPH) and the US Environmental Protection Agency (USEPA) do not consider hard water a health issue and there are no standards or limits set for hardness. Hard water causes spots to form on glassware and plumbing fixtures. White film and mineral deposits on kitchen utensils can be formed when water is boiled for cooking.

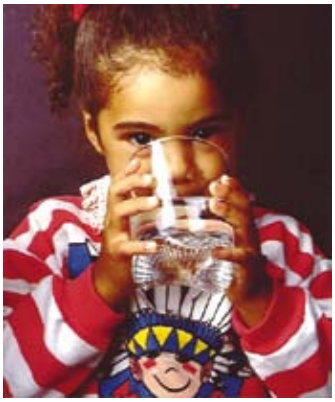
Another frequent question deals with the level of hardness in the water in grains per gallon or milligrams per liter. In the tables of this report you will find information on the range and average levels of hardness for the various sources of Glendale's drinking water. These are needed when making adjustments to household appliances such as dishwashers and water softeners.

Customers often ask about removing water hardness. While GWP cannot recommend a particular water softening device, online resources such as the Water Quality Association and National Sanitation Foundation websites may provide customers with some valuable information.

City of Glendale Water & Power

Your Trusted Community Utility

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



WQR.11

City of Glendale *Water & Power* 2010 Water Quality Report to Our Customers

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.

Ang impormasyon na ito ay mahalagang-mahalaga.
Mangyaring maghanap ng makakapagsalin nito para sa inyo.

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 4:00 PM, in the Glendale City Council Chambers, 613 E. Broadway.

If you have any questions regarding the quality of your drinking water or would like more information about Glendale water, please write to: Ray Notario , Principal Water Quality Specialist, Water Quality Section, Glendale *Water & Power* 141 N. Glendale Ave., Level 4, Glendale, CA 91206 or call (818) 548-3962 or (818) 548-2062. You may also visit our website at www.GlendaleWaterAndPower.com

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

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