Annual Drinking Water Quality Report for 2014
PWS ID# 41-00323

City of Glendale
124 Third Street
PO Box 361
Glendale, OR. 97442

Esta es información importante. Si no la pueden leer, necesitan que alguien se la traduzca.

We are pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you everyday. Our constant goal is to provide you with a safe and dependable supply of drinking water. Our water sources are Cow Creek, Section Creek and Mill Creek. The source water is pumped to the water treatment plant located at the end of 4th Street where it is filtered, chlorinated and tested. It is then pumped into the holding reservoir. A reserve is kept at all times for possible firefighting use.

If you have any questions about this report or concerning your water utility, please contact: Don Arnpriester, Acting Public Works Superintendent at City Hall 541-832-2106 or on-call operators at 541-226-6892. We want our valued customers to be informed about their water utility. If you want to learn more, about the utility or any scheduled public meetings, please call the above contacts or visit our web site at www.cityofglendaleor.com. We welcome and encourage our water users to participate in decisions that affect the quality of the water and service within the Community. Please attend any of our regularly scheduled meetings that are held on the second Monday, of each month at 6 P.M., Glendale City Hall, 124 S. 3rd Street.

The City of Glendale Water System routinely monitors for contaminants in your drinking water according to Federal and State laws. The tables shows the results of our monitoring for the period of January 1st to December 31st, 2014. As you may have realized, water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals and radioactive substances. All drinking water, including bottled drinking water, maybe reasonably expected to contain at least small amounts of some contaminants. The purpose of water treatment is to remove 99% of water born diseases and 99.99% of viruses. Further information on this subject can be obtained by calling the EPA Safe Drinking Water Hotline at 800-426-4791 or at **www.epa.gov/safewater** on the Internet.

Contaminants that may be present in source water include:

- *Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment Plants, septic systems, agricultural livestock operation, and wildlife.*
- *Inorganic contaminants, such as salts and metals, which 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, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.*

- *Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.*
- *Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.*

In order to ensure that tap water is safe to drink, EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which provides the same protection for public health. In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

P/A – presence or absence of coliform bacteria.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l) - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in $10,000,000,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Action Level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) - (mandatory language) A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level - (mandatory language) The “Maximum Allowed” (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal - (mandatory language) The “Goal”(MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

TEST RESULTS

The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Some of our data (e.g., for organic contaminants), though representative, is more than one year old.

Contaminant	Sample Date	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants							
Total Coliform Bacteria	N/A	N	0	P/A	0	presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment
Fecal coliform and *E.coli*	N/A	**N**	**0**	P/A	0	a routine	Human and animal fecal waste
Turbidity Percent of readings below MCL	N/A	**N**	**100%**	NTU	N/A	TT	Soil runoff
Contaminant	Sample Date	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Radioactive Contaminants							
Gross Alpha Radiation	8/20/13	N	0 .31	pCi/l	0	15	Decay of natural and man-made deposits
Gross Alpha presision	8/20/13	N	1.30	pCi/l	0	5	Decay of natural and man-made deposits
Combined Radium 226/228	8/20/13	N	0.11	pCi/l	0	5	Erosion of natural deposits
Radium 226 + Radium 228	8/20/13	N	0 .39	pCi/l	0	5	Erosion of natural deposits
Uranium	8/20/13	N	ND	pCi/l	0	0.03	Erosion of natural deposits
Arsenic	8/13/14	N	ND	Ppm	0.010		
Nitrate (as Nitrogen)	8/13/14	N	ND	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Synthetic Organic Contaminants including Pesticides and Herbicides

1,2 Dibromoethane	8/26/13	N	ND	PPM	70	70	Runoff from herbicide used on row crops.
2,4,5-TP(Silvex)	8/26/13	N	ND	PPM	50	50	Residue of Banned herbicide.
Aldrin	8/26/13	N	ND	PPM	0	TT	Added to water during sewage / wastewater treatment
1,2-Dibromo-3-chloropropane	8/26/13	N	ND	PPM	MCLG	MCL	Likely source of contamination

Chlordane	8/26/13	N	ND	PPM	0	2	Runoff from herbicide use on row crops.
Atrazine	8/26/13	N	ND	PPM	3	3	Runoff from herbicide use on row crops.
Dieldrin	8/26/13	N	ND	PPM	0	200	Leaching from linings of water storage tanks/ Distribution lines.
Endrin	8/26/13	N	ND	PPM	40	40	Leaching of soil fumigant used on rice and alfalfa.
Gamma-BHC	8/26/13	N	ND	PPM	0	2	Residue of banned termiticide.
Heptachlor	8/26/13	N	ND	PPM	200	200	Runoff from herbicide use.
Heptachlor epoxide	8/26/13	N	ND	PPM	400	400	Discharge from chemical factories.
Methoxychlor	8/26/13	N	ND	PPM	0	6	Discharge from rubber and chemical factories.
Polychlorinated Biphenyls	8/26/13	N	ND	PPM	0	200	Runoff/leaching from soil fumigant used on soy beans, cotton, pineapples and orchards.
Toxaphene	8/26/13	N	ND	PPM	7	7	Runoff/leaching from soil fumigant used on soy beans and vegetables
2,4,-D	8/26/13	N	ND	PPM	20	20	Runoff from herbicide use.
Cabaryl	8/26/13	N	ND	PPM	0		Runoff from herbicide use.
Dalapon	8/26/13	N	ND	PPM	0	30	Emissions' from waste incineration and other combustion discharge from chemical factories.
Dicamba	8/26/13	N	ND	PPM	100	100	Runoff from herbicide use.
Diquat	8/26/13	N	ND	PPM	0		Runoff from herbicide use.
Dinoseb	8/26/13	N	ND	PPM	2	2	Residue from banned insecticides.
Pentachlorophenol	8/26/13	N	ND	PPM	0	TT	Discharge from industrial chemical factories; an impurity of some water treatment chemicals.
Picloram	8/26/13	N	ND	PPM	0	50	Discharge from petroleum refineries.
2,4,5-TP(Silvex	8/26/13	N	ND	PPM	700	700	Runoff from herbicide use.
Alachlor	8/26/13	N	ND	PPM	0	400	Residue of banned termiticide.
Aldicarb	8/26/13	N	ND	PPM	0	400	Residue of banned termiticide.
Aldicarb sulfone	8/26/13	N	ND	PPM	0	400	Residue of banned termiticide.
Aldicarb sulfoxide	8/26/13	N	ND	PPM	0	400	Residue of banned termiticide.
Benzo(a)pyrene	8/26/13	N	ND	PPM	0	200	Breakdown of heptachlor
Baygon	8/26/13	N	ND	PPM	0	200	Breakdown of heptachlor
Bis(2-Ethylhexly)adipate	8/26/13	N	ND	PPM	0	1	Discharge from metal refineries and agricultural chemical factories
Bis(2-Ethylhexyl)phthalate	8/26/13	N	ND	PPM	50	50	Discharge from chemical factories.
Butachlor	8/26/13	N	ND	PPM	200	200	Runoff/leaching from insecticide used on cattle,lumber,gardens.
Hexachlorobenzene	8/26/13	N	ND	PPM	40	40	Runoff/leaching from insecticides used on fruits, vegetables ,alfalfa, livestock.

Glyphosate	8/26/13	N	ND	PPM	40	40	Runoff/leaching from insecticides used on fruits, vegetables ,alfalfa, livestock.
Endothall	8/26/13	N	ND	PPM	40	40	Runoff/leaching from insecticides used on fruits, vegetables ,alfalfa, livestock.
Hexachlorocyclopentadiene	8/26/13	N	ND	PPM	200	200	Runoff/leaching from insecticides used on potatoes, apples, and tomatoes.
Oxamyl (Vydate)	8/26/13	N	ND	PPM	200	200	Runoff/leaching from insecticides used on potatoes, apples, and tomatoes.
3-Hydroxycarbofuran	8/26/13	N	ND	PPM	200	200	Runoff/leaching from insecticides used on potatoes, apples, and tomatoes.
Metolachlor	8/26/13	N	ND	PPM	500	500	Runoff from landfills; discharge of waste chemicals.
Methiocarb	8/26/13	N	ND	PPM	500	500	Runoff from landfills; discharge of waste chemicals.
Metribuzin	8/26/13	N	ND	PPM	0	1	Discharge from wood preserving factories.
Methomyl	8/26/13	N	ND	PPM	0	1	Discharge from wood preserving factories.
Proachlor	8/26/13	N	ND	PPM	500	500	Herbicide runoff.
Simazine	8/26/13	N	ND	PPM	4	4	Herbicide runoff.
Carbofuran	8/26/13	N	ND	PPM	0	3	Runoff/leaching from insecticide used on cotton and cattle.
Volatile Organic Contaminants							
Benzene	6/04/14	N	ND	Ppm	0		Discharge from factories; leaching from gas storage tanks and landfills
Carbon tetrachloride	6/04/14	N	ND	Ppm	0		Discharge from chemical plants and other industrial activities
monochlorobenzene	6/04/14	N	ND	Ppm	100		Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene	6/04/14	N	ND	Ppm	600		Discharge from industrial chemical factories
p-Dichlorobenzene	6/04/14	N	ND	Ppm	75		Discharge from industrial chemical factories
1,2 – Dichloroethane	6/04/14	N	ND	Ppm	0		Discharge from industrial chemical factories
1,1 – Dichloroethylene	6/04/14	N	ND	Ppm	7		Discharge from industrial chemical factories
cis-1,2-Dichloroethylene	6/04/14	N	ND	Ppm	70		Discharge from industrial chemical Factories
trans – 1,2 –Dichloroethlene	6/04/14	N	ND	Ppm	100		Discharge from industrial chemical factories
Dichloromethane	6/04/14	N	ND	Ppm	0		Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane	6/04/14	N	ND	Ppm	0		Discharge from industrial chemical factories
.Ethylbenzene	6/04/14	N	ND	Ppm	700		Discharge from petroleum refineries
Styrene	6/04/14	N	ND	Ppm	100		Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene	6/04/14	N	ND	Ppm	0		Leaching from PVC pipes; discharge from factories and dry cleaners
1,2,4 –Trichlorobenzene	6/04/14	N	ND	Ppm	70		Discharge from textile-finishing factories
1,1,1 – Trichloroethane	6/04/14	N	ND	Ppm	200		Discharge from metal degreasing sites and other factories

1,1,2 –Trichloroethane	6/04/14	N	ND	Ppm	3		Discharge from industrial chemical factories
Trichloroethylene	6/04/14	N	ND	Ppm	0		Discharge from metal degreasing sites and other factories
TTHM [Total trihalomethanes]	6/04/14	N		Ppm	0		By-product of drinking water chlorination
Toluene	6/04/14	N	ND	Ppm	1		Discharge from petroleum factories
Vinyl Chloride	6/04/14	N	ND	Ppm	0		Leaching from PVC piping; discharge from chemical factories
Xylenes	6/04/14	N	ND	Ppm	10		Discharge from petroleum factories; discharge from chemical factories

Volatile Organic Contaminants							
1,1,1,2-Tetrachloroethane 1,1,2,2,-Tetrachloroethane 1,1,-Dichloroethane	6/04/14	N N N	ND ND ND	Ppm			Discharge from factories; leaching from gas storage tanks and landfills
1,1,Dichloropropene 1,2,3-Trichloropropane	6/04/14	N N	ND ND	Ppm			Discharge from chemical plants and other industrial activities
1,3-Dichloropropane 1,3-Dichloropropene 2,2-Dichloropropane	6/04/14	N N N	ND ND ND	Ppm			Discharge from chemical and agricultural chemical factories
Bromobenzene Bromodichloromethane	6/04/14	N N	ND .00057	Ppm			Discharge from industrial chemical factories
Bromoform	6/04/14	N	ND	Ppm			Discharge from industrial chemical factories
Bromomethane	6/04/14	N	ND	Ppm			Discharge from industrial chemical factories
Chloroethane	6/04/14	N	ND	Ppm			Discharge from industrial chemical factories
Chloroform	6/04/14	N	0.00166	Ppm			Discharge from industrial chemical Factories
Chloromethane	6/04/14	N	ND	Pp m			Discharge from industrial chemical factories
Dibromochloromethane	6/04/14	N	ND	Ppm			Discharge from pharmaceutical and chemical factories
Dibromomethane	6/04/14	N	ND	Ppm			Discharge from industrial chemical factories
m-Dechlorobenzene	6/04/14	N	ND	Ppm			Discharge from petroleum refineries
Methyl tert-butyl ether	6/04/14	N	ND	Ppm			Discharge from rubber and plastic factories; leaching from landfills
o-Chlorotoluene	6/04/14	N	ND	Ppm			Leaching from PVC pipes; discharge from factories and dry cleaners
p-Chlorotoluene	6/04/14	N	ND	Ppm			Discharge from textile-finishing factories
Phthalates	7/16/14	N	ND	Ppm			

Cooper	7/24/15	N	.0148	PPM	o	1.3	Soil runoff, pesticides, manufacturing
Cooper	7/24/15	N	.00290	PPM	o	1.3	Soil runoff, pesticides, manufacturing

Cooper	7/24/15	N	.000515	PPM	o	1.3	Soil runoff, pesticides, manufacturing
Cooper	7/25/15	N	.00524	PPM	o	1.3	Soil runoff, pesticides, manufacturing
Cooper	7/25/15	N	.0355	PPM	o	1.3	Soil runoff, pesticides, manufacturing
Cooper	7/25/15	N	.00403	PPM	o	1.3	Soil runoff, pesticides, manufacturing
Cooper	7/26/15	N	.00516	PPM	o	1.3	Soil runoff, pesticides, manufacturing
Cooper	7/30/15	N	.0231	PPM	o	1.3	Soil runoff, pesticides, manufacturing
Cooper	7/37/15	N	.0347	PPM	o	1.3	Soil runoff, pesticides, manufacturing
Cooper	8/8/15	N	.0506	PPM	o	1.3	Soil runoff, pesticides, manufacturing
Lead	7/24/15	N	.000290	PPM	o	.015	Materials and components Associated with plumbing
Lead	7/24/15	N	.00219	PPM	o	.015	Materials and components Associated with plumbing
Lead	7/24/15	N	.000103	PPM	o	.015	Materials and components Associated with plumbing
Lead	7/25/15	N	.000125	PPM	o	.015	Materials and components Associated with plumbing
Lead	7/25/15	N	.000158	PPM	o	.015	Materials and components Associated with plumbing
Lead	7/25/15	N	.00122	PPM	o	.015	Materials and components Associated with plumbing
Lead	7/26/15	N	.000181	PPM	o	.015	Materials and components Associated with plumbing
Lead	7/30/15	N	ND	PPM	o	.015	Materials and components Associated with plumbing
Lead	7/31/15	N	.00246	PPM	o	.015	Materials and components Associated with plumbing
Lead	8/8/15	N	.00211	PPM	o	.015	Materials and components Associated with plumbing

Additional Drinking Water Information: No violations in 2014

Total Organic Carbon

A little information on this testing is found in Wikipedia, the free internet encyclopedia and reads: Since the early 1970's total organic carbon (TOC) has been recognized as an analytic technique to measure water quality during the drinking water purification process. TOC source water comes from decaying natural organic matter and from synthetic sources. Humic acid, folic acid, amines and urea are types of natural organic matter. Detergents, pesticides, fertilizers, herbicides, industrial chemicals and chlorinated organics are examples of synthetic sources. Before sources water is treated for disinfection, TOC provides an important role in quantifying the amount of organic matter in the source water. In water treatment facilities, source water is subject to reaction with chloride containing disinfectants. When the raw water is chlorinated, active chlorine compounds react with the natural organic matter to produce chlorinated disinfection byproducts. Many researchers have determined that higher levels of natural organic matter in source water during the disinfection process will increase the amount of carcinogens in the processed drinking water.

Total Organic Carbon removed from our source water was an average of 2.39 ppm with the total value on raw water of 9.57 – 4.94 ppm on finished water for a removal of 4.63 ppm or 2085.98 pounds of organic carbon of treated water and the total amount of treated water for the year was 54.021 million gallons.

Disinfection By Products

Total Trihalomethanes and Haloacetic Acids

A little information on these chemical compounds is found in Wikipedia, the free internet encyclopedia and reads: Chlorinated disinfection agents such as chlorine and chloramine are strong oxidizing agents introduced into water in order to destroy pathogenic microbes, to oxidize taste/odor-forming compounds, and to form a disinfectant residual so water can reach the consumer tap safe from microbial contamination. These disinfectants may react with naturally present folic and humic acids, amino acids, and other natural organic matter, as well as iodide and bromide ions, to produce a range of DBPs such as the trihalomethanes (THMs), haloacetic acids (HAAs), and chlorite (which are regulated in the US), and so-called "emerging" DBPs such as halonitromethanes, haloacetonitriles, haloamides, halofuranones, iodo-acids, iodo-THMs, nitrosamines, and others.[1]

Since we removed so much of the Total Organic Carbon from the raw water our disinfection by product numbers are very low: Total Trihalomethanes average for the year 2014 was 0.0369 ppm. Haloacetic Acids the average was 0.0155 ppm.

Arsenic **is a naturally occurring mineral known to cause cancer in humans at high concentrations. Arsenic levels above 25 ppb warrant public concern. (No arsenic was detected in our water.)**

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural

activity. If you are caring for an infant, and detected nitrate levels are above 5 ppm, you should ask advice from your health care provider. (No nitrate was detected in our system.)

Some people may be more vulnerable to contaminants in drinking water than the general public. 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 of infections. These people should seek advice about drinking water from their health care providers.
EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and microbiological contaminants are available from the Safe drinking Water Hotline.

A statement about Lead in your drinking water:

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. The City of Glendale 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 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

During the 2014 year we processed 54,021,100 gallons of water from Cow Creek.