Water Quality In Guadalupe

The City of Guadalupe is working to produce the highest quality drinking water for our customers.

The City receives water from two sources – ground water wells (from underground aquifers), and State surface water (through membership with Central Coast Water Authority). Both sources are monitored and assessed in accordance with government standards and monitoring requirements. Checking water quality and identifying potential problems is one of our primary goals. **We are proud to say that the water delivered to your home in 2013 complied with all State and Federal drinking water requirements.**

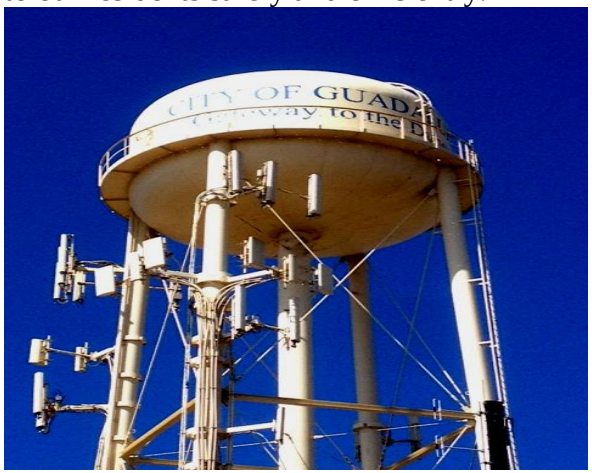
The City prepares an annual report to inform customers of the quality of water being delivered. This report contains data from January 1, 2013 to December 31, 2013 testing results. **It shows that the water delivered to your home complied with regulatory standards and is reliable for domestic use.**

For more information about this report or for questions about any topic related to water and water quality, please contact Jaime Vidales, City of Guadalupe Water Department Supervisor, at (805) 356-3890.

Este informe contiene información importante sobre su agua de beber y como cumple con los estándares estatales y federales. Tradúzcalo o hable con alguien que lo entienda bien. Si no encuentra la manera de entender este reporte, por favor contacte a Jaime Vidales del departamento de agua de la Ciudad de Guadalupe al (805) 356-3890.

City of Guadalupe Water Pumping Station

The City of Guadalupe water system consists of two pumping stations, active and standby wells, three water storage tanks, and various water mains. Safe treatment and distribution of water is our daily goal. Maintaining pumping stations, tanks, and water mains is vital to achieving that goal. The City also has security measures in place to ensure that our water supply is delivered to our residents safely and efficiently.



New Elevated 100K gal Reservoir

City of Guadalupe 2013

WATER QUALITY REPORT

This report provides information regarding the quality of drinking water for the City of Guadalupe during 2013. Included are details about where your water comes from, what it contains, and how it compares to established, drinking water standards.

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CITY OF GUADALUPE
WATER SOURCE DETECTIONS (FROM ACTIVE WATER WELLS)

TABLE 1 – SAMPLING RESULTS FOR MICROBIOLOGICAL CONTAMINATION

Microbial Contaminant	Highest No. of Detections in a month	No. of Months in Violation	MCL	PHG (MCLG)	Major Sources of Bacteria
Total Coliform Bacteria	1	0	5% of Monthly Samples Positive	(0)	Natural Present in the Environment
Fecal Coliform or E.coli	0	0	A routine sample and repeat sample detecting positive coliform, and either sample detects	(0)	Human and animal fecal waste

TABLE 2- SAMPLING RESULTS OF LEAD AND COPPER

Lead and Copper	*Date	No. of Samples Collected	90th Percentile level detected	No. of Sites Exceeding AL	AL	PHG (MCLG)	Typical Source of Contaminant
Lead (ppb)	8/2011	20	ND	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppb)	8/2011	20	110	0	1300	300	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

TABLE 3 – SAMPLING RESULTS FOR SODIUM AND HARDNESS

Chemical or Constituent (and reporting units)	*Sample Date	Average Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	3/15/11	42	42	None	None	Salt present in the water and is generally naturally occurring
Hardness (ppm)	3/15/11	420	420	None	None	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

TABLE 4 – SAMPLING RESULTS OF CONTAMINANTS WITH PRIMARY DRINKING WATER STANDARD

Chemical or constituent (and reporting units)	*Sample Date	Average Level Detected	Range of Detections	MCL	PHG (MCLG)	Major Sources in Drinking Water
Total Trihalomethanes (ppb)	1-8-13, 4-9-13, 7-16-13	26.3	14.8 – 35.2	80	N/A	By-product of drinking water disinfection
Haloacetic Acids (ppb)	1-8-13, 4-9-13, 7-16-13	7.25	4.1 – 10.3	60	N/A	By-product of drinking water disinfection
Arsenic (ppb)	3/15/11	ND	ND	10	.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride (ppm)	3/15/11	0.21	0.21	2.0	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate as NO3 (ppm)	11/12/13	ND	ND	45	45	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion from natural deposits
Nitrite as N (ppb)	3/15/11	480	480	1000	1000	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion from natural deposits
Total Chlorine Residual (ppm)	Daily	1.56 (RAA)	1.17 – 1.80	MRDL = 4.0	MRDLG = 4.0	Drinking water disinfectant added for potable water treatment
Uranium (pCi/L)	4/26/11	2.7	2.7	20	0.43	Erosion of natural deposits
Gross Alpha (pCi/L)	3/1/11, 8/2/11	5.2	4.5 – 5.9	15	(0)	Erosion of natural deposits

TABLE 5 – SAMPLING RESULTS OF CONTAMINANTS WITH SECONDARY DRINKING WATER STANDARD

Chemical or constituent (and reporting units)	*Sample Date	Average Level Detected	Range of Detections	MCL	PHG (MCLG)	Major Sources in Drinking Water
Chloride (ppm)	3/15/11	19	19	500	N/A	Runoff/leaching from natural deposits; seawater influence
Color (ACU)	3/15/11	ND	ND	15	N/A	Natural –occurring organic materials
MBAS(ppb)	3/15/11	ND	ND	500	N/A	Municipal and industrial waste discharges
Iron (ppb)	3/15/11	ND	ND	300	N/A	Leaching from natural deposits; industrial wastes
Manganese (ppb)	3/15/11	ND	ND	50	N/A	Leaching from natural deposits
Odor Threshold (TON)	3/15/11	1	1	3	N/A	Naturally-occurring organic materials
Specific Conductance (µmho/cm)	3/15/11	940	940	1600	N/A	Substances that form ions when in water; seawater influence
Sulfate (ppm)	3/15/11	280	280	500	N/A	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	3/15/11	640	640	1000	N/A	Runoff/leaching from natural deposits
Turbidity (NTU)	3/15/11	ND	ND	5	N/A	Soil runoff

TABLE 6 – SAMPLING RESULTS OF UNREGULATED CONTAMINANTS

Chemical or constituent (and reporting units	Sample Date	Average Level Detected	Range of Detections	MCL	PHG (MCLG)	Major Sources in Drinking Water
Alkalinity (ppm)	3/15/11	210	210	N/A	N/A	Runoff/leaching from natural deposits; seawater influence
Bicarbonate (ppm)	3/15/11	260	260	N/A	N/A	--
Calcium (ppm)	3/15/11	120	120	N/A	N/A	Runoff/leaching from natural deposits; seawater influence
Corrosivity (SI)	Non-Corrosive	Non-Corrosive	Non-Corrosive	N/A	N/A	Natural or industrially-influenced balance of hydrogen, carbon and oxygen in the water; affected by temperature and other factors.
Magnesium (ppm)	3/15/11	40	40	N/A	N/A	Runoff/leaching from natural deposits; seawater influence
pH (units)	3/15/11	7.7	7.7	N/A	N/A	Runoff/leaching from natural deposits; seawater influence
Potassium (ppm)	3/15/11	2.3	2.3	N/A	N/A	Runoff/leaching from natural deposits; seawater influence

TABLE 7 – SAMPLING RESULTS OF UNREGULATED CONTAMINANTS WITH NOTIFICATION LEVELS

Chemical or constituent (and reporting units	*Sample Date	Average Level Detected	Range of Detections	NL	PHG (MCLG)	Possible Health Effects
Boron (ppb)	3/15/11	130	130	1000	N/A	Babies of some pregnant women who drink water, containing boron in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.
Vanadium (ppb)	3/15/11	6.2	6.2	50	N/A	Babies of some pregnant women who drink water, containing boron in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.

***** *The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.*

NOTE: *All results represent raw water from our active water wells, except microbiological, Lead and Copper, Trihalomethanes and Haloacetic Acids, and Chlorine Residuals, which were taken at various distribution points within the city.*

PURCHASED SURFACE WATER
CENTRAL COAST WATER AUTHORITY

Parameter	Units	State MCL	PHG (MCLG)	State DLR	Range / Average	TREATED CCWA PPWTP	SOURCE STATE WATER	Major Sources in Drinking Water
PRIMARY STANDARDS—Mandatory Health-Related Standards								
Clarity (a)								
Combined Filter Effluent Turbidity	NTU	TT=<1 NTU every 4 hours			Range	0.04 – 0.13	NA	Soil runoff
		TT=95% of samples <0.3 NTU			%	100%	NA	
INORGANIC CHEMICALS								
Aluminum	ppm	1 (b)	0.6	0.05	Range	ND – 0.15	ND – 0.096	Residue from water Treatment process; Erosion of natural deposits
					Average	0.083	0.043	
Arsenic, Total	ppb	10	0.004	2	Range	ND	2.8	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
					Average	ND	2.8	
Nitrate as Nitrogen	ppm	10	10	0.4	Range	0.41	ND	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion from natural deposits
					Average	0.41	ND	
RADIONUCLIDES								
Gross Alpha Particle	pCi/L	15	(0)	3	Range	ND – 3.9	ND – 3.7	Erosion of natural deposits
					Average	2.0	1.9	
Uranium	**pCi/L**	20	0.43	1	Range	ND	1.0	Erosion of natural deposits
					Average	ND	1.0	
DISTRIBUTION SYSTEM MONITORING								
Total Chlorine Residual	ppm	MRDL= 4.0	MRDL G=4.0	NA	Range	1.2 – 3.5	NA	Measurement of the disinfectant used in the production of drinking water
					Average	2.2	NA	
Total Trihalomethanes (d)	ppb	80	NA	NA	Range	ND – 75	NA	By-product of drinking water chlorination
					Average	52	NA	
Haloacetic Acids (d)	ppb	60 (e)	NA	NA	Range	10 – 34	NA	By-product of drinking water chlorination
					Average	18	NA	
SECONDARY STANDARDS—Aesthetic Standards								
Chloride	ppm	500	NA	NA	Range	45 – 136	41 – 134	Runoff/leaching from natural deposits; seawater influence
					Average	90	86	
Color	ACU	15	NA	NA	Range	ND	15	Naturally-occurring organic materials
					Average	ND	15	
Iron, Total	ppb	300	NA	100	Range	ND	80	Balance of hydrogen, carbon, & oxygen in water, affected by temperature & other factors
					Average	ND	80	
Odor Threshold	TON	3	NA	1	Range	ND - 1	ND – 8	Naturally-occurring organic materials
					Average	ND	1.5	
Specific Conductance	µmho s/cm	1600	NA	NA	Range	366 – 715	308 – 634	Substances that form ions when in water; seawater influence
					Average	569	523	
Sulfate	ppm	500	NA	0.5	Range	36	38	Runoff/leaching from natural deposits; industrial wastes
					Average	36	38	
Total Dissolved Solids (TDS)	ppm	1000	NA	NA	Range	218 – 423	182 – 375	Runoff/leaching from natural deposits
					Average	336	309	
Turbidity (Monthly)	NTU	5	NA	NA	Range	0.04 – 0.17	0.45 – 5.8	Soil runoff
					Average	0.06	1.6	
ADDITIONAL PARAMETERS (Unregulated)								
Alkalinity (Total) as $CaCO_3$ equivalents	ppm	NA	NA	NA	Range	60 – 90	60 – 96	Runoff/leaching from natural deposits; seawater influence
					Average	72	78	
Calcium	ppm	NA	NA	NA	Range	34 – 78	32 – 80	Runoff/leaching from natural deposits; seawater influence
					Average	54	54	
Hardness (Total) as $CaCO_3$	ppm	NA	NA	NA	Range	76 – 150	76 – 156	Leaching from natural deposits
					Average	111	111	
Heterotrophic Plate Count (f)	CFU/ mL	TT	NA	NA	Range	0 – 2	NA	Naturally present in the environment
					Average	0.4	NA	
Magnesium	ppm	NA	NA	NA	Range	10	13	Runoff/leaching from natural deposits; seawater influence
					Average	10	13	
pH	pH Units	NA	NA	NA	Range	7.4 – 8.6	7.5 – 9.5	Runoff/leaching from natural deposits; seawater influence
					Average	8.3	8.6	
Potassium	ppm	NA	NA	NA	Range	2.4	3.0	Runoff/leaching from natural deposits; seawater influence
					Average	2.4	3.0	
Sodium	ppm	NA	NA	NA	Range	42	55	Runoff/leaching from natural deposits; seawater influence
					Average	42	55	
Total Organic Carbon (TOC) (g)	ppm	TT	NA	0.30	Range	1.7 – 3.2	2.4 – 6.1	Various natural and manmade sources
					Average	2.4	3.7	

Footnotes: Abbreviations

(a) Turbidity (NTU) is a measure of the cloudiness of the water and it is a good indicator of the effectiveness of our filtration system. Monthly turbidity values are listed in the Secondary Standards section.
(b) Aluminum has a Secondary MCL of 200 ppb.
(c) Total coliform MCLs: No more than 5.0% of the monthly samples may be Total Coliform positive. Fecal coliform/*E. coli* MCLs: The occurrence of 2 consecutive Total Coliform positive samples, one of which contains fecal coliform/E. coli, constitutes an acute MCL violation.
(d) Compliance based on the running quarterly annual average of distribution system samples.
(e) Monochloroacetic Acid (MCAA) has a DLR of 2.0 ug/L while the other four Haloacetic Acids have DLR's of 1.0 ug/L.
(f) Pour plate technique -- monthly averages.
(g) TOCs are taken at the treatment plant's combined filter effluent. pCi/L = PicoCuries per liter
(h) State MCL is 45 mg/L as nitrate, which equals 10 mg/L as N. PHG = Public Health Goal

AL = Regulatory Action Level
ACU = Apparent Color Units
CCWA= Central Coast Water Authority
CFU/ml = Colony Forming Units per milliliter
DHS = Department of Health Services
DLR = Detection Level for purposes of Reporting
MCL = Maximum Contaminant Level
MCLG = Maximum Contaminant Level Goal
MFL = Million Fibers per Liter
MRDL = Maximum
MRDLG = Maximum Residual Disinfectant Goal
NA = Not Applicable
NC = Not Collected
NL = Notification Level
NTU = Nephelometric Turbidity Units
pCi/L = PicoCuries per liter
PHG = Public Health Goal
ppb = parts per billion, or micrograms per liter (µg/L)
ppm = parts per million, or milligrams per liter (mg/L)
PPWTP = Polonio Pass Water Treatment Plant
SI = Saturation Index
TOC = Total Organic Carbon
TT = Treatment Technique
UCMR = Unregulated Contaminant Monitoring Regulation
µmho/cm = micromhos per centimeter (unit of specific conductance of water).

WHERE DOES YOUR WATER COME FROM?

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

In 2013, the City of Guadalupe drew 70% well water from our active wells here in the city, and 30% surface water from the State water project (Central Coast Water Authority). Water from our wells is treated at our distribution center then mixed in our tank for distribution. Water from State project is treated at the Polonio Pass Water Treatment Plant, and delivered directly to our tank. For more details on the treatment process of the State water project, please call the City of Guadalupe Water Department Supervisor at (805) 356-3890.

Contaminants that may be present in source water include:

- **Microbial Contaminants**, such as viruses and bacteria that may come from septic systems, sewage treatment plants, agricultural livestock, and wildlife.
- **Inorganic contaminants,** such as salts and metals that can be naturally-occurring or result from storm water runoff, industrial or domestic wastewater discharge, oil and gas production, mining, or farming.
- **Pesticides and herbicides,** which may come from a variety of sources such as agricultural and urban storm water runoff as well as residential use.
- **Organic chemical contaminants,** including synthetic and volatile organic chemicals that are byproducts of industrial processes and petroleum production and can also come from gas stations, urban storm water runoff, agricultural applications, and septic systems.
- **Radioactive contaminants** which can be naturally occurring or the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the United States Environmental Protection Agency (USEPA) and the California Department of Public Health, (CDPH) prescribe regulations that limit the amount of certain contaminants in drinking water provided by public systems. USEPA and CDPH regulations also establish limits for contaminants in bottled water.

Definitions

- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to public health goals as 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 California Environmental Protection Agency.
- **Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. The 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.
- **Primary Drinking Water Standards (PDWS):** MCLs or MRDLs for contaminants that affect health along with their monitoring, reporting, and water treatment requirements.
- **Secondary Drinking Water Standards (SDWS):** MCLs for contaminants that affect taste, odor, and appearance of drinking water.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.
- **Regulatory Action Level (AL):** The concentration of a contaminant that a water system must not exceed.

Additional Information on Drinking Water

Drinking water, both tap water and bottled water, may reasonably contain small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a risk to health. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at the number below. Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as cancer patients undergoing chemotherapy, persons who have undergone organ transplants, who have HIV/AIDS or other immune system disorders, and 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 and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium or microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791 or at www.epa.gov/safewater/resource.

City of Guadalupe-Chemicals Used for Disinfection

The City of Guadalupe uses both chlorine and chloramines as primary forms of disinfection. Chlorine and Chloramines are both state and federally approved forms of disinfection, but unlike chlorine, chloramines minimize disinfection byproduct formation. Another benefit of chloramines is improved taste of the drinking water as compared to chlorine. Chloramines are used by many water utilities. Chloramines have the same effect as chlorine for typical water use with the exception that chloramines must be removed from water used in kidney dialysis and for fish tanks and aquariums. Treatments to remove chloramines from water are different than treatments for removing chlorine. Please contact your physician or dialysis specialist for questions pertaining to kidney dialysis water treatment. Contact your pet store or veterinarian for questions regarding water used for fish and other aquatic life. You may also call 800-111-2222 for additional chloramine information.

City of Guadalupe Water Assessment

An assessment of the drinking water sources for the City of Guadalupe found that they are most vulnerable to the following activities associated with potential contaminants in the water supply – runoff and leaching from fertilizer use plus the erosion of natural mineral deposits.

Detection of Contaminants Summary

Nitrate: Due to high concentrations of Nitrates found in the water from one of our wells in the last few years, including 2013, the City does not regularly use this source and will only use this source in an emergency. Nitrate in drinking water at levels above 45 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 an infant's blood to carry oxygen, resulting in serious illness. Symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of 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.

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. The City of Guadalupe is responsible for providing quality drinking water, but the City cannot control the variety of materials used in plumbing components. If the water in your home has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may want to have your home 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 at 800-426-4791 or at http://www.epa.gov/safewater/lead

Trihalomethanes (THMs) and Haloacetic Acids (HAA5s): The City has been monitoring these contaminants with direction by state regulatory agencies. There is detection of these contaminants in our water. THMs and HAA5s are disinfection byproducts. They are produced when a disinfectant like chlorine or chloramine is added to drinking water and organic matter is present. Some people who drink water containing THMs and HAA5s in excess of the MCL over many years may experience liver, kidney or central nervous problems and may have an increased risk of cancer. For more information on disinfection byproducts please call the Safe Drinking Water Hotline at 800-426-4791 or visit http://water.epa.gov/drink/contaminants/basicinformation/disinfectionbyproducts.cfm

About Water Blending: The City combines well water with State surface water to offset any contaminants that may be present in either source and to ensure that the water delivered to your home meets all State and Federal drinking water requirements.

For questions: Please call Jaime Vidales at the City of Guadalupe Water Department, (805) 356-3890.

Public Participation Opportunities: The Guadalupe City Council meets every 2nd and 4th Tuesday of the month at the Council Chambers located at 918 Obispo St. Guadalupe, CA.