

We test the drinking water quality for many constituents as required by state and federal regulations. This report shows the results of our monitoring for the period of January 1 - December 31, 2011

Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien.

Type of water sources(s) in use: According to California Department of Health Services (DHS) records, Wells 03, 04, & 05 are Groundwater. This Assessment was done using the Default Groundwater System Method. This info is not available for Wells 06 as it does not have a completed assessment on file. This info for Well 07 and Well 08 is not contained in this report, however a completed assessment is on file at City Hall where it can be viewed. Please see the Drinking Water Source Assessment Information section located at the end of this report for more details.

Your water comes from 6 sources: Well 03, Well 04, Well 05, Well 06, Well 07 and Well 08.

For more information about this report, or for any questions relating to your drinking water, please call (209) 883 4054 and ask for Sam Rush, or visit our website at www.hughson.org

TERMS USED 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 U.S. Environmental Protection Agency.

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. 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 Standards (PDWS): MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

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 which, if exceeded, triggers treatment or other requirements which a water system must follow.

Variations and Exemptions: Department permission to exceed an MCL or not comply with a treatment technique under certain conditions.

ND: not detectable at testing limit

ppm: parts per million or milligrams per liter (mg/L)

ppb: parts per billion or micrograms per liter ($\mu\text{g/L}$)

ppt: parts per trillion or nanograms per liter (ng/L)

ppq: parts per quadrillion or picograms per liter (pg/L)

pCi/l: picocuries per liter (a measure of radioactivity)

The sources of drinking water(both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, spring, 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, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- *Inorganic contaminants*, such as salts and metals, which 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*, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- *Radioactive contaminants*, which can be naturally occurring or the result of oil production and mining activities.
- *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 storm water runoff, and septic systems.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the California Department of Health Services (Department) prescribes regulations which 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.

Tables 1, 2, 3,4,5,6 and 7 list all of the drinking water contaminants that were detected during the most recent sampling for the constituents. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The Department allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old.

TABLE 1 - SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA					
Microbiological Contaminants (complete if bacteria detected)	Highest No. of Detections	No. of Months in Violation	MCL	MCLG	Typical Sources of Contaminant
Total Coliform Bacteria	3/mo. (2011)	2	no more than 1 positive monthly sample	0	Naturally present in the environment.

Any violation of MCL,AL or MRDL is shaded. Additional information regarding the violation is provided later in this report.

TABLE 2 - SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER						
Lead and Copper (complete if lead or copper detected in the last sample set)	No. of Samples Collected	90th Percentile Level	No. Site Exceeding AL	AL	PHG	Typical Sources of Contaminant
Lead (Pb) (ppb)	18 (2011)	0.50	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers, erosion of natural deposits
Copper (ppm)	18 (2011)	0.010	0	1.3	.17	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	Level Detected	Range of Detections	MCL (MRDL)	PHG (MCLG)	Typical Sources of Contaminant
Sodium (ppm)	2011	74	74 - 74	none	none	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2011	83	35 - 200	none	none	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

TABLE 4 - DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD						
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL (MRDL)	PHG (MCLG) [MRDLG]	Typical Sources of Contaminant
Arsenic (As) ppb	2011	10.1	5 - 17	10	n/a	Erosion of natural deposits; runoff from orchards, glass and electronics production wastes
Barium (Ba) ppm	2011	0.13	0.1 - 0.1	1	2	Discharge from oil drilling wastes and from metal refineries; erosion of natural deposits
Chromium (Total Cr) ppb	2011	2	2 - 2	50.0	n/a	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Mercury ppb	2011	0.08	0.08 - 0.08	2	1.2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and cropland
Nickel ppb	2011	2	2 - 2	100	12	Erosion of natural deposits; discharge from metal factories
Nitrate (NO ₃) ppm	2011	30.0	ND - 67	45	45	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrate + Nitrite as N ppm	2011	4.00	4.0 - 4.0	10	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Gross Alpha pCi/L	2010	4.3	0.5 - 14	15	n/a	Erosion of natural deposits.
Uranium pCi/L	2010	8.2	6 - 10	20	0.5	Erosion of natural deposits
Dibromochloropropane (DBCP) ppt	2011	196	140 - 270	200	1.7	Banned nematocide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit

Any violation of MCL,AL or MRDL is shaded. Additional information regarding the violation is provided later in this report.

TABLE 5 - DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD						
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL (MRDL)	PHG (MCLG)	Typical Sources of Contaminant
Chloride ppm	2011	77	77 - 77	500	n/a	Runoff/leaching from natural deposits; seawater influence
Corrosivity (Langlier Index)	2011	-1	-1 - -1	> 0	n/a	Natural or industrial-influenced balance of hydrogen, carbon and oxygen in the water, affected by temperature and other factors.
Iron (Fe) ppb	2011	650	ND - 5800	300	n/a	Leaching from natural deposits; Industrial wastes
Manganese (Mn) ppb	2011	28	ND - 120	50	500	Leaching from natural deposits
Specific Conductance umhos/cm	2011	533	533 - 533	1600	n/a	Substances that form ions when in water; seawater influence.

TABLE 5 - DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD						
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL (MRDL)	PHG (MCLG)	Typical Sources of Contaminant
Sulfate (SO4) ppm	2011	18.9	4.0 - 54	500	n/a	Runoff/leaching from natural deposits; industrial wastes
TDS ppm	2011	340	340 - 340	1000	n/a	Runoff/leaching from natural deposits

Any violation of MCL,AL or MRDL is shaded. Additional information regarding the violation is provided later in this report.

TABLE 6 - DETECTION OF UNREGULATED CONTAMINANTS					
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	Notification Level	Health Effects Language
Vanadium ppm	2011	0.02	0.004 - 0.03 (2011)	0.05	The babies of some pregnant women who drink water containing vanadium in excess of the action level may have an increased risk of developmental effects, based on studies in laboratory animals.

TABLE 7 - DETECTION OF FEDERAL DISINFECTANT/DISINFECTANT BYPRODUCT RULE						
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL (MRDL)	PHG (MCLG)	Typical Sources of Contaminant
Total Trihalomethanes (TTHMs) ppb	2011	0.3	ND - 1.2	80	n/a	By-product of drinking water disinfection

Additional General Information on Drinking Water

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 (800-426-4791).

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 provider. 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 (800-426-4791)

For Lead (Pb), 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. *HUGHSON, CITY OF* 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>

CITATION:

The City of Hughson received a citation for not reporting, in a timely manner, a high level of Nitrates at Well # 7 on 11-21-11 (03-10-11c-006). This well has been taken offline until a resolution is developed and approved by the California Department of Public Health (CDPH).

Summary Information for Contaminants Exceeding an MCL, MRDL, or AL, or a violation of Any Treatment Technique or Monitoring and Reporting Requirement

About our Total Coliform Bacteria: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

For Arsenic (As) results above 5 ppb up to and including 10 ppb: Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

For Nitrate (NO3) results above 23 ppm (50% of the MCL) but below 45 ppm (the MCL): Infants below the age of six months who drink water containing nitrate in excess of the MCL may quickly become seriously ill and, if untreated, may die because high nitrate levels can interfere with the capacity of the infant's blood to carry oxygen. Symptoms include shortness of breath and blueness of the skin. High nitrate levels may also affect the oxygen-carrying ability of the blood of Pregnant women.

About our Dibromochloropropane (DBCP): Some people who use water containing DBCP in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.

About our Corrosivity (Langlier Index): Corrosivity less than 0 indicates your water may be corrosive to the plumbing and fixtures. The Corrosivity MCL was set to protect you against unpleasant aesthetic affects such as color, taste and odor. Violating this MCL does not pose a risk to public health.

About our Iron (Fe): Iron was found at levels that exceed the secondary MCL. The Iron MCL was set to protect you against unpleasant aesthetic affects such as color, taste, odor and the staining of plumbing fixtures (e.g., tubs and sinks), and clothing while washing. Violating this MCL does not pose a risk to public health.

About our Manganese (Mn): Manganese was found at levels that exceed the secondary MCL. The Manganese MCL was set to protect you against unpleasant aesthetic affects such as color, taste, odor and the staining of plumbing fixtures (e.g., tubs and sinks), and clothing while washing. Violating this MCL does not pose a risk to public health. Manganese (Mn) result found exceeded California Department of Public Health(CDPH) notification level. The notification level for manganese is used to protect consumers from neurological effects. High levels of manganese in people have been shown to result in effects of the nervous system.

Drinking Water Source Assessment Information

Assessment Info

A source water assessment was conducted for the WELL 03, WELL 04, and WELL 05 of the HUGHSON, CITY OF water system in January, 2001. According to the Drinking Water Source Assessment and Protection Program's Source Water Assessments Public Access web page, the Public Water Source WELL 06 of the HUGHSON, CITY OF water system number 5010008, does not have a completed Source Water Assessment on file. A source water assessment was conducted for WELL 07 and WELL 08 of the HUGHSON, CITY OF water system; although the info is not contained in this report the assessments may be viewed at City Hall.

Well 03 - is considered most vulnerable to the following activities not associated with any detected contaminants:
Sewer collection systems

Well 04 - is considered most vulnerable to the following activities not associated with any detected contaminants:
Historic gas stations

Well 05 - is considered most vulnerable to the following activities not associated with any detected contaminants:
Historic gas stations

Well 06 - info is not available, as this water system does not have a completed assessment on file.

Well 07 - info is not contained in this report, however a completed assessment is on file at City Hall, where it can be reviewed.

Well 08 - info is not contained in this report, however a completed assessment is on file at City Hall, where it can be reviewed.

Discussion of Vulnerability

Assessment summaries are not available for some sources. This is because:

- The Assessment has not been completed. Contact the local Department of Health Services (DHS) Drinking Water field office or the water system to find out when the Assessment is scheduled to be done.
- The source is not active. It may be out of service, or new and not yet in service.
- The Assessment was not submitted electronically. The site used to obtain Assessments only provides access to Assessment summaries submitted electronically.

Acquiring Info

A copy of the complete assessment may be viewed at:

Department Of Health Services
Office Of Drinking Water
31 East Channel Street, Room 270
Stockton, CA 95202

You may request a summary of the assessment be sent to you by contacting:

District Office
(209) 948-3816