



ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2014



Our Commitment

The City of San Fernando is committed to delivering safe, reliable, quality water to you. Please take a few moments to examine the information in this report.

Once again, we are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2014. As new drinking water safety and drought issues emerge, we remain vigilant in meeting the goals of source water protection, water conservation and community education, while continuing to serve the needs of you, our valued customer.

For additional information on water quality and conservation please visit our City Web site at http://www.ci.san-fernando.ca.us/city_government/departments/pubworks/divisions/water.shtml

If you should have any questions relating to your drinking water, or for additional information regarding this report, you may contact Public Works Superintendent Tony Salazar at (818) 898-1294.

Important Health Information

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 advice from your health care provider.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.

Community Participation

You are invited to participate at our City Council meetings and voice your concerns about your drinking water. The City Council meets every first and third Monday of each month beginning at 6 p.m. at City Hall, 117 Macneil Street, San Fernando, CA.

Substances That Could Be in 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, and can pick up substances resulting from the presence of animals or from human activity.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. 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.

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 can 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, which are by-products of industrial processes and petroleum production, and which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

Radioactive Contaminants, that can be naturally occurring or can be the result of oil and gas production and mining activities.

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

Source Water Assessment

In August 2002, the California Department of Public Health, Drinking Water Field Operations Branch, Central District, conducted a Drinking Water Source Assessment for the City of San Fernando Water Division. The purpose of the assessment was to determine the vulnerability of our water sources to "possible contaminating activities." The following are the results for wells 2A, 3, 4A, and 7A.

Source	Vulnerability Associated With Detected Contaminants	Vulnerability Not Associated With Any Detected Contaminants
Well 2A	Housing-high density; parks; septic systems-high density; apartments and condominiums	Sewer collection systems
Well 3	Housing-high density; parks; Septic systems-high density; apartments and condominiums	Sewer collection systems, automobile gas stations, dry cleaners
Well 4A	Sewer collection systems; dry cleaners	None
Well 7A	Housing-high density; septic systems-high density; apartments and condominiums	Automobile gas stations

Lead in Home Plumbing

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. We are 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 www.epa.gov/safewater/lead.

Where Does My Water Come From?

The City of San Fernando, incorporated in 1911, provides water service to an area of approximately 2.42 square miles with an approximate population of 23,645 residents. Annually, the city serves 1 billion gallons of water to our customers. San Fernando residents are fortunate to have three sources of water: (1) Local groundwater wells that draw water from the Sylmar basin; (2) Imported water from the Metropolitan Water District (MWD), which delivers surface water from the Joseph Jensen Plant; and (3) A connection from the City of Los Angeles distribution system that is used only in extreme emergencies. In 2014, the City of San Fernando received 99% of its water supply from local groundwater and 1% imported water was purchased from MWD.

How Is My Water Treated and Purified?

The treatment process consists of some basic steps. First, groundwater is drawn from the Sylmar basin; then chlorine is injected in a sodium hypochlorite solution of 0.8% for disinfection (as a precaution against any bacteria that may be present). All of the city's wells utilize an on-site chlorine generation (OSG) system, in which the 0.8% of sodium hypochlorite solution is used as a disinfectant agent. Through an electrolytic process, the OSG operates automatically, requiring only salt, water (softened), and electricity to produce the sodium hypochlorite solution. We carefully monitor on a daily basis the amount of chlorine injected at each well site. Water is then pumped to reservoirs, where it flows by gravity through the distribution system into your home or business. Likewise, chlorine residuals are monitored from the distribution system daily in order to ensure a reliable supply of drinking water.



Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Regulation (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if EPA needs to introduce new regulatory standards to improve drinking water quality.

REGULATED SUBSTANCES									
				San Fernando		MWD			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum ¹ (ppb)	2014	1,000	600	NA	NA	81	ND–110	No	Residue from water treatment process; natural deposits erosion
Arsenic (ppb)	2014	10	0.004	NA	NA	2.2	2.2–2.2	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Bromate (ppb)	2014	10	0.1	NA	NA	7.8	4.4–13	No	By-product of drinking water ozonation
Chromium (ppb)	2014	50	(100)	3.78	3.2–4.2	NA	NA	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Combined Filter Effluent Turbidity ² (NTU)	2014	TT= 1	NS	NA	NA	50.03	0.06–100	No	Soil runoff / Naturally present in groundwater
Fluoride, Natural-Source (ppm)	2014	2.0	1	0.31	0.24–0.37	NA	NA	No	Erosion of natural deposits
Flouride Treatment-Related ³ (ppm)	2014	2.0	1	NA	NA	0.8	0.7–0.9	No	Erosion of natural deposits; water additive that promotes strong teeth
Free Chlorine Residual (ppm)	2014	[4.0]	NS	1.61	1.09–1.92	NA	NA	No	Drinking water disinfectant added for treatment
Gross Alpha Particle Activity (pCi/L)	2014	15	(0)	NA	NA	3	ND–5	No	Erosion of natural deposits
Gross Beta Particle Activity ⁴ (pCi/L)	2014	50	(0)	NA	NA	ND	ND–5	No	Decay of natural and man-made deposits
Haloacetic Acids–Stage 2 (ppb)	2014	60	NA	2.6	ND–2.6	4.2	3.2–6.0	No	By-product of drinking water chlorination
Hexavalent Chromium (ppb)	2014	10	0.02	3.71	3.18–4.1	NA	NA	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Nitrate [as nitrate] (ppm)	2014	45	45	31	25–37	NA	NA	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrate (as Nitrogen) ⁵ (ppm)	2014	10	0.4	NA	NA	0.6	0.6–0.6	No	Runoff and leaching from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Perchlorate (ppb)	2014	6	6	2.4	ND–2.6	NA	NA	No	Industrial waste discharge
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2014	80	NA	7.54	1.8–6.7	12	10–15	No	By-product of drinking water chlorination
Tetrachloroethylene [PCE] (ppb)	2014	5	0.06	0.80	0.74–0.93	NA	NA	No	Discharge from factories, dry cleaners, and auto shops (metal degreaser)
Total Chlorine Residual (ppm)	2014	[4.0]	NS	1.12	1.06–1.17	2.3	1.3–2.9	No	Drinking water disinfectant added for treatment
Total Coliform Bacteria [Total Coliform Rule] ⁶ (# positive samples)	2014	No more than 1 positive monthly sample	(0)	1	NA	NA	NA	No	Naturally present in the environment
Uranium (pCi/L)	2014	20	0.43	NA	NA	2	2–3	No	Erosion of natural deposits
Tap water samples were collected for lead and copper analyses from sample sites throughout the community									
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE		
Copper ¹ (ppm)	2014	1.3	0.3	0.31	0/30	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives		
Lead (ppb)	2014	15	0.2	1.3	0/30	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits		

SECONDARY SUBSTANCES

				San Fernando		MWD			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum ¹ (ppb)	2014	1,000	NS	NA	NA	81	ND–110	No	Residue from water treatment process; natural deposits erosion.
Chloride (ppm)	2014	500	NS	NA	NA	86	85–86	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2014	15	NS	0.28	ND–3.0	1	1–1	No	Naturally-occurring organic materials
Copper ¹ (ppm)	2014	1.0	NS	0.18	0.016–0.59	NA	NA	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Odor–Threshold (TON)	2014	3	NS	1.46	ND–8.0	3	3–3	No	Naturally-occurring organic materials
Specific Conductance (µS/cm)	2014	1,600	NS	NA	NA	610	588–631	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2014	500	NS	NA	NA	69	63–75	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2014	1,000	NS	NA	NA	340	325–355	No	Runoff/leaching from natural deposits; seawater influence
Turbidity (NTU)	2014	5	NS	0.08	ND–0.32	NA	NA	No	Soil runoff

UNREGULATED AND OTHER SUBSTANCES

		San Fernando		MWD		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Alkalinity (ppm)	2014	NA	NA	89	84–94	Naturally occurring
Boron (ppb)	2014	NA	NA	160	160–160	Runoff/leaching from natural deposits; industrial wastes
Calcium (ppm)	2014	NA	NA	31	26–36	Erosion; leaching of natural deposits
Chlorate (ppb)	2014	130	130–130	36	36–36	By-product of drinking water chlorination; industrial processes
Chlorodifluoromethane (ppt)	2014	400	400–400	NA	NA	NA
Corrosivity ⁷ (as Aggressiveness Index)	2014	NA	NA	12.0	12.0–12.0	Elemental balance in water; affected by tempature, other factors
Corrosivity ⁸ (as Saturation Index)	2014	NA	NA	0.21	0.15–0.27	Elemental balance in water; affected by tempature, other factors
Hardness (ppm)	2014	NA	NA	125	114–136	Naturally occurring
Magnesium (ppm)	2014	NA	NA	12	12–12	Erosion; leaching of natural deposits
Molybdenum (ppb)	2014	3.7	3.7–3.7	NA	NA	NA
N-Nitrosodimethylamine [NDMA] (ppt)	2014	NA	NA	1.1	ND–2.2	Byproduct of drinking water chloramination; industrial processes
pH (Units)	2014	NA	NA	8.2	8.1–8.3	Naturally occurring
Potassium (ppm)	2014	NA	NA	2.7	2.6–2.7	Erosion; leaching of natural deposits
Sodium (ppm)	2014	NA	NA	71	69–73	Erosion; leaching of natural deposits; sea water influence
Strontium (ppb)	2014	480	480–480	NA	NA	NA
Total Organic Carbon [TOC] (ppm)	2014	NA	NA	1.9	1.3–2.1	Various natural and man-made sources; TOC as a medium for the formation of disinfection by-products.
Vanadium (ppb)	2014	6.2	6.2–6.2	4.8	4.8–4.8	Naturally-occurring; industrial waste discharge

¹ Aluminum and copper have both primary and secondary standards.

² As a Primary Standard, the turbidity levels of the filtered water were less than or equal to 0.30 NTU in 95% of the online measurements taken each month and did not exceed 1 NTU for more than one hour. Turbidity, a measure of the cloudiness of the water, is an indicator of treatment performance. The turbidity levels for grab samples at these locations were in compliance with the Secondary Standard.

³ Metropolitan was in compliance with all provisions of the State's Fluoridation System Requirements.

⁴ The State Board considers 50 pCi/L to be the level of concern for beta particles.

⁵ State MCL is 45 mg/L as nitrate, which is equivalent to 10 mg/L as N.

⁶ Total coliform MCLs: No more than 5.0% of the monthly samples may be total coliform-positive. Compliance is based on the combined distribution system sampling and from all the wells for San Fernando and all the treatment plants for MWD. In 2014, for San Fernando 364 samples were analyzed, and two samples were positive for total coliforms. For MWD 7,641 samples were analyzed and six samples were positive for total coliforms. The MCL was not violated.

⁷ AI > 12.0 = Nonaggressive water; AI (10.0-11.9) = Moderate aggressive water; AI < 10.0 = Highly aggressive water

⁸ Positive SI index = noncorrosive; tendency to precipitate and/or deposit scale on pipes. Negative SI index = corrosive; tendency to dissolve calcium carbonate.

Definitions

AL (Regulatory Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

MCL (Maximum Contaminant Level): 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 (SMCLs) are set to protect the odor, taste and appearance of drinking water.

MCLG (Maximum Contaminant Level Goal): 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. EPA.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

PDWS (Primary Drinking Water Standard): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

PHG (Public Health Goal): 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 EPA.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

TON (Threshold Odor Number): A measure of odor in water.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.