***Presented By***

THE CITY OF SAN FERNANDO

# ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2016

Este informe contiene información muy importante sobre su agua potable.
Tradúzcalo o hable con alguien que lo entienda bien.

PWS ID#: 1910143

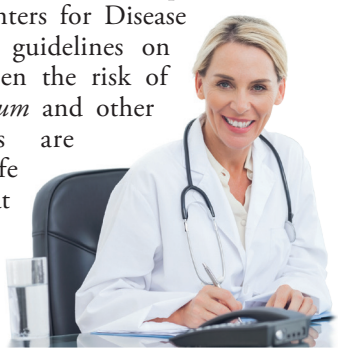
## We've Come a Long Way

Once again we are proud to present our annual water quality report covering the period between January 1 and December 31, 2016. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at any hour—to deliver the highest quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

## 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.



## 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 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.

## 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 24,560 residents. Annually, the city serves approximately 1 billion gallons of water to our customers. San Fernando residents are fortunate to have three sources of water: (1) local ground water 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 2016, the City of San Fernando received 100% of its water supply from local ground water.

## Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council (NRDC), bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to $1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at https://goo.gl/Jxb6xG.

## 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.

## How Long Can I Store Drinking Water?

The disinfectant in drinking water will eventually dissipate even in a closed container. If that container housed bacteria prior to filling up with the tap water the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

## 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 do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.) 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/lead.

# QUESTIONS?

**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.**

## 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 |

## Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

How chlorination works:

**Potent Germicide Reduction** in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

**Taste and Odor Reduction** of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.

**Biological Growth Elimination** of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

**Chemical Removal** of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

## How Is My Water Treated and Purified?

The treatment process consists of some basic steps. First, ground water is drawn from the Sylmar basin, and then chlorine is injected in a sodium hypochlorite solution of 0.8% for disinfection (as a precaution against any bacteria that may be present). 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 to ensure a reliable supply of drinking water.

## Sampling Results

Our water is monitored for many different kinds of contaminants on a very strict State-mandated sampling schedule. The information below represents only those substances that were detected; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

### REGULATED SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | MCL [MRDL] | PHG (MCLG) [MRDLG] | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|
| **Barium** (ppm) | 2015 | 1 | 2 | 0.145 | 0.12–0.17 | No | Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits |
| **Chromium** (ppb) | 2016 | 50 | (100) | 3.3 | 3.1–3.4 | No | Discharge from steel and pulp mills and chrome plating; erosion of natural deposits |
| **Fluoride** (ppm) | 2016 | 2.0 | 1 | 0.29 | 0.22–0.36 | No | Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories |
| **Free Chlorine Residual** (ppm) | 2016 | [4.0] | NS | 1.83 | 0.40–2.80 | No | Drinking water disinfectant added for treatment |
| **Haloacetic Acids** (ppb) | 2016 | 60 | NA | 0.8 | ND–3.3 | No | By-product of drinking water disinfection |
| **Hexavalent Chromium** (ppb) | 2016 | 10 | 0.02 | 3.64 | 3.35–3.99 | 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) | 2016 | 45 | 45 | 34 | 29–38 | No | Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits |
| **Nitrate + Nitrite as Nitrogen [N]** (ppb) | 2016 | 10,000 | NS | 7,740 | 6,500–8,500 | No | Runoff and leaching from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| **Perchlorate** (ppb) | 2014 | 6 | 1 | 2.4 | ND–2.6 | No | Industrial waste discharge |
| **TTHMs [Total Trihalomethanes]** (ppb) | 2016 | 80 | NA | 8.9 | 1.7–32.0 | No | By-product of drinking water disinfection |
| **Tetrachloroethylene [PCE]** (ppb) | 2016 | 5 | 0.06 | 0.79 | 0.72–0.86 | No | Discharge from factories, dry cleaners, and auto shops (metal degreaser) |
| **Total Coliform Bacteria** (# positive samples) | 2016 | No more than 1 positive monthly sample | (0) | 1 | NA | No | Naturally present in the environment |
| **Turbidity** (NTU) | 2016 | TT | NA | 0.20 | ND–0.20 | No | Soil runoff |

**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** (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

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | SMCL | PHG (MCLG) | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|
| **Chloride** (ppm) | 2015 | 500 | NS | 26 | 24–28 | No | Runoff/leaching from natural deposits; seawater influence |
| **Odor–Threshold** (TON) | 2016 | 3 | NS | 1.8 | ND–3.0 | No | Naturally occurring organic materials |
| **Specific Conductance** (µS/cm) | 2015 | 1,600 | NS | 605 | 560–650 | No | Substances that form ions when in water; seawater influence |
| **Sulfate** (ppm) | 2015 | 500 | NS | 57 | 52–61 | No | Runoff/leaching from natural deposits; industrial wastes |
| **Total Dissolved Solids** (ppm) | 2015 | 1,000 | NS | 365 | 340–390 | No | Runoff/leaching from natural deposits |

## UNREGULATED AND OTHER SUBSTANCES [1]

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AMOUNT DETECTED | RANGE LOW-HIGH | TYPICAL SOURCE |
|---|---|---|---|---|
| **Aggressiveness Index Corrosivity** (Units) | 2016 | 12 | 12–12 | Elemental balance in water; affected by temperature, other factors |
| **Alkalinity [Total] as CaCO3** (ppm) | 2016 | 180 | 180–180 | Naturally occurring |
| **Anion Sum-Calculated** (Units) | 2009 | 6.9 | 5.8-7.8 | Naturally occurring |
| **Bicarbonate [as HCO3]** (ppm) | 2016 | 230 | 230–230 | Naturally ocurring |
| **Boron** (ppb) | 2014 | 160 | 160-160 | Runoff/leaching from natural deposits; industrial wastes |
| **Calcium** (ppm) | 2016 | 69 | 69–69 | Erosion; leaching of natural deposits |
| **Carbon Dioxide** (ppb) | 2015 | 5,800 | 5,400–6,200 | Naturally ocurring |
| **Cation Sum-Calculated** (Units) | 2009 | 6.2 | 2.5-7.0 | Naturally occurring |
| **Chlorate** (ppb) | 2015 | 133 | 130–140 | By-product of drinking water chlorination; industrial processes |
| **Chlorodifluoromethane** (ppb) | 2015 | 380 | 360–400 | NA |
| **Chloroform** (ppb) | 2016 | 0.57 | 0.54–0.60 | By-product of drinking water disinfection |
| **Hardness [Total] as CaCO3** (ppm) | 2015 | 230 | 200–260 | Erosion; leaching of natural deposits |
| **Langelier Index at 60 C** | 2016 | 1.0 | 1.0–1.0 | NA |
| **Magnesium** (ppm) | 2015 | 17 | 12–21 | Erosion; leaching of natural deposits |
| **Molybdenum** (ppb) | 2015 | 4 | 4–4 | NA |
| **pH** (Units) | 2016 | 7.8 | 7.8–7.8 | Naturally occuring |
| **Potassium** (ppm) | 2015 | 3.9 | 3.4–4.4 | Erosion; leaching of natural deposits |
| **Sodium** (ppm) | 2015 | 30 | 26–33 | Erosion; leaching of natural deposits; sea water influence |
| **Strontium** (ppb) | 2015 | 517 | 500–530 | NA |
| **Vanadium** (ppb) | 2015 | 7 | 7–8 | Naturally-occurring; industrial waste discharge |

[1] Unregulated contaminant monitoring helps U.S. EPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

## Definitions

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

**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.

**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).

**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.