Water System Name: City of Orland Report Date: June 3, 2022

******* Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse City of Orland a (530) 865-1610 para asistirlo en español.*******

Last year, as in years past, your tap water met all USEPA and State of California (State) drinking water health standards. The City of Orland (City) vigilantly safeguards its water supplies and once again, we are proud to report that our system has not violated a maximum contaminant level or any other water quality standard. Included are details about where your water comes from, what it contains, and how it compares to State standards. We are committed to providing you with information, because informed customers are our best allies.

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 through December 31, 2021 and may include earlier monitoring data. For additional water quality data, contact Public Works Director Ed Vonasek at (530) 865-1610.

The Orland City Council meets on the first and third Tuesday of each month at 6:30 p.m. at the Carnegie Center. Please feel free to participate in these meetings.

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 (USEPA).

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

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.

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

ND: not detectable at testing limit

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

ppb: parts per billion or micrograms per liter (ug/L)

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 the 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 (1-800-426-4791).

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 providers. The 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 (1-800-426-4791).

WATER SUPPLY SOURCES

The City has six wells which supply water to the system. The wells are distributed throughout the City and range in depth from 150 feet to 490 feet. The wells produce between 350 and 1,090 gallons per minute each, and are automatically regulated by the pressure in the distribution system.

CITY WATER SOURCES

WELL NUMBER	WELL NAME	WATER SOURCE
01	Central Street	Ground water
04	Woodward Avenue	Ground water
07	Suisun Street	Ground water
08	Roosevelt Avenue	Ground water
09	Lely Aquatic Park	Ground water
10	Eva Drive	Ground water

A Drinking Water Source Assessment was performed, for Well Numbers 01 through 09 in May of 2003 and Well Number 10 in May of 2017 by the State Water Resources Control Board Division of Drinking Water, Valley District. The sources are considered most vulnerable to the following activities not associated with any detected contaminants: sewer collection systems, above ground storage tanks, motor pools, parks, utility stations/maintenance areas, contractor/government agency equipment storage yards, high density housing (>1 house/0.5 acres), road/street/railroad transportation corridors, schools, rv parks and railroad yards/maintenance/fueling areas. At the time the assessment was performed, there were no contaminants detected in the water supply, however the wells are still considered vulnerable to activities located near the drinking water sources.

A copy of the complete assessment is available at:

SWRCB Division of Drinking Water District 21
364 Knollcrest Drive, Suite 101
Redding, CA 96002
Attention: Reese Crenshaw, (530) 224-4800

or at

City of Orland
815 Fourth Street
Orland, CA 95963
Attention: Ed Vonasek, (530) 865-1610

The City adds chlorine to the groundwater from the Lely Aquatic Park, Woodward Avenue, Central Street, Suisun Street, Roosevelt Avenue, and Eva Drive wells as a preventative measure due to intermittent positive bacteriological tests of the wells.

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.

Contaminants that may be present in source water before we treat it 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 result from urban storm water 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 storm water runoff, and residential uses.

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 application and septic systems.

Radioactive contaminants, that 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, USEPA 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.

MICROBIOLOGICAL WATER QUALITY

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system.

Testing for bacteriological contaminants in the water distribution system is required by State regulations. This testing is done regularly to verify that the water system is free of coliform bacteria. Multiple samples are taken weekly at dedicated locations in the distribution system for bacteriological testing. Two or more positive results in any month constitute a failure of the standard.

LEAD AND COPPER TESTING

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 Orland 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 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 http://www.epa.gov/lead.

Lead and copper testing of water from individual customer taps throughout the distribution system is required by State regulations. The City of Orland is responsible for collecting water samples every three years, to be tested for lead and copper contamination. The table below summarizes the most recent monitoring for these constituents in parts per billion (ppb) or parts per million (ppm).

The City did not receive any requests from local schools to perform lead sampling.

TABLE 1 – DETECTION OF MICROBIOLOGICAL CONTAMINANTS					
MICROBIOLOGICAL CONTAMINANTS	**HIGHEST NO. OF DETECTIONS**	**NO. OF MONTHS IN VIOLATION**	**MCL**	**MCLG**	**TYPICAL SOURCE**
Total Coliform Bacteria	0	0	More than 1 sample in a month with a detection	0	Naturally present in the environment
Fecal Coliform or *E. coli*	0	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or *E. coli*	0	Human and animal fecal waste

TABLE 2 – DETECTION OF LEAD AND COPPER							
SUBSTANCE (unit of measure)	**YEAR SAMPLED**	**NO. OF SAMPLES**	**90th PERCENTILE LEVEL DETECTED**	**NO. OF SAMPLES ABOVE AL**	**AL**	**PHG**	**TYPICAL SOURCE**
Lead (ppb)	2020	20	ND	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	2020	20	0.07	0	1.3	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

SAMPLING RESULTS

The City of Orland obtains multiple water samples each year in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The following tables show only those contaminants that were detected. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water. The State allows us to monitor 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 is included, along with the year in which the sample was taken.

TABLE 3 – DETECTION OF SODIUM AND HARDNESS						
SUBSTANCE (unit of measure)	**YEAR SAMPLED**	**LEVEL DETECTED**	**RANGE OF DETECTIONS**	**MCL**	**PHG**	**TYPICAL SOURCE**
Sodium (ppm)	2014	22.2	19.9 – 29.5	None	None	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2014	196	120 – 240	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 (unit of measure)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	MCL	PHG	TYPICAL SOURCE
Arsenic (ppb)	2019-2021	0.80	ND-2.48	10	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	2015-2021	0.02	ND-0.12	1	2	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits
Chromium, hexavalent (ppb)	2014-2017	3.5	ND-9.1	10	.02	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Fluoride (ppm)	2015-2021	0.02	ND-0.12	2	1	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as N) (ppm)	2021	1.72	1.0-4.2	10	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits

TABLE 5 – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

CHEMICAL OR CONSTITUENT (unit of measure)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	MCL	PHG	TYPICAL SOURCE
Chloride (ppm)	2015-2021	17.5	16-21	500	N/A	Runoff/leaching from natural deposits; seawater influence
PH, Laboratory (Standard Units)	2014-2020	7.4	7.2-7.9	N/A	N/A	
Specific Conductance (µS/cm)	2019-2021	442	374-558	1600	N/A	
Sulfate (ppm)	2015-2021	18.8	13.1-21.4	500	N/A	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	2017-2020	253	226-314	1000	N/A	Erosion of natural deposits
Turbidity[1] (NTU)	2020	0.64	ND-2.60	5	N/A	Soil runoff

TABLE 6 – DETECTION OF DISINFECTION BYPRODUCTS

CHEMICAL OR CONSTITUENT (unit of measure)	MCL	PHG	AVERAGE	RANGE LOW-HIGH	SAMPLE DATE	VIOLATION	TYPICAL SOURCE
Total Trihalomethanes[2] (TTHMs) (ppb)	80	N/A	ND	N/A	2020	No	Byproduct of drinking water chlorination

Table Footnotes:

[1] Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

[2] One sample taken from fire hydrant.