May 25, 2018

TO: CITY OF MADERA WATER CUSTOMERS

SUBJECT: 2017 CITY OF MADERA WATER SYSTEM CONSUMER CONFIDENCE REPORT

Este informe contiene información muy importante sobre su agua potable. Traduzcalo, o habla con alguien que lo entiende bien.

The City of Madera is required by the State Water Resources Control Board to report annually to all customers regarding water quality. The enclosed report summarizes water quality sample results for 2017. You may also view this report on the City of Madera's web site www.cityofmadera.org. All samples were collected from eighteen groundwater wells. Minimum, maximum, and average values are listed for all elements that were detected.

Significant time and expense by the City ensures that consumers are provided with water that meets or exceeds drinking water standards. The City's stringent testing program is in full compliance with State and Federal requirements.

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. City of Madera 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.

Questions regarding this report should be directed to John Botwright, Water Quality Specialist, of the City Water Quality Division at (559) 661-5466.

John Scarborough
Public Works Operations Director

CITY OF MADERA WATER QUALITY REPORT 2017

Primary Standards	MCL	PHG (MCLG)	RANGE OF DETECTION			AVERAGE	U.O.M.	TYPICAL SOURCE OF CONTAMINANT
Arsenic	10.00	0.004	N/D	TO	5.80	1.34	ug/L	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes.
Barium	1000.00	2000.00	N/D	TO	160.00	30.39	ug/L	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits.
Nitrate (as N)	10.00	10.00	0.00	TO	2.70	1.72	mg/L	Runoff from fertilizer use; leaching from septic tanks and sewage erosion of natural deposits.
Dibromochloropropane (DBCP)*	0.2	0.0017	N/D	TO	1.00	0.13	ug/L	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards.
Chlorine Residual	4.0	4.0	0.1	TO	0.8	0.25	mg/L	Drinking water disinfectant added for prcautionary disinfection
Total Coliform Bacteria [Total Coliform Rule] % positive samples	More than 5% of samples are positive	0	Amount detected: 0			N/A	NO VIOLATIONS	Naturally present in the environment
Secondary Standards								
Aluminum	200		0.00	TO	78.00	4.33	ug/L	Erosion of natural deposits; residual from surface water treatment
Iron	300		0.00	TO	0.00	0.00	ug/L	Leaching from natural deposits; industrial wastes
Chloride	500.00		13.00	TO	39.00	21.22	mg/L	Runoff/leaching from natural deposits; seawater influence.
Color	15.00		N/D	TO	5.00	0.56	units	Naturally-occurring organic materials
Odor	3.00		N/D	TO	2.00	0.72	units	Naturally occurring organic materials.
pH (Laboratory)	6.5 - 8.5		7.40	TO	8.00	7.76	Std. units	
Specific Conductance	1600.00		210.00	TO	550.00	273.33	umho/cm	Substances that form ions when in water; seawater influence.
Total Filterable Residue (TDS)	1000.00		160.00	TO	380.00	207.22	mg/L	Runoff/Leaching from natural deposits.
Sulfate	500.00		2.70	TO	19.00	6.76	mg/L	Runoff/leaching from natural deposits; industrial wastes.
Lab Turbity	5.00		N/D	TO	2.30	0.19	NTU	*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.
General Minerals								
Bicarbonate	N/A		76.00	TO	230.00	109.44	mg/L	
Calcium	N/A		13.00	TO	48.00	20.17	mg/L	
Fluoride	2000.00	1000.00	N/D	TO	1.60	1.13	ug/L	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Magnesium	N/A		4.00	TO	15.00	6.34	mg/L	
Potassium	N/A		N/D	TO	6.90	2.81	mg/L	
Sodium	N/A		20.00	TO	41.00	24.56	mg/L	
Total Alkalinity	N/A		62.00	TO	190.00	89.83	mg/L	
Total Hardness (as CaCO3)	N/A		49.00	TO	180.00	75.94	mg/L	
MBAS	0.50		N/D	TO	0.050	0.000	mg/L	Municipal and industrial waste discharges
Organics								
Tetrachloroethylene (PCE)	5.00	0.06	N/D	TO	28.00	0.00	ug/L	Discharge from factories, dry cleaners and auto shops (metal degreaser)
Radioactivity								
Gross Alpha	15.00		N/D	TO	10.80	0.80	pCi/L	Erosion of natural and man-made deposits
Uranium	20.00	0.43	0.00	TO	9.10	0.88	pCi/L	Erosion of natural deposits
Unregulated Organics								
Vanadium	N/A	50.00	11.00	TO	30.00	20.67	ug/L	
tert-Butyl Alcohol (TBA)	N/A		N/D	TO	0.00	0.00	ug/L	
Unregulated Inorganics								
Hexavalent Chromium VI	0.10		N/D	TO	3.20	1.38	ug/L	N/A
STAGE 2 DBPR Monitoring								
Total Trihalomethanes (TTHM) (ug/L)	80.00	N/A	N/D	TO	0.00	0.00	ug/L	***9-28-17 Byproduct of drinking water chlorination***
Haloacetic Acids (HAA5) (ug/L)	60.00	N/A	N/D	TO	0.00	0.00	ug/L	***9-28-17 Byproduct of drinking water chlorination***

LEAD AND COPPER

Contaminant	No. of samples collected	90th Percentile level detected	No. of sites exceeding action	Action level	MCLG	TYPICAL SOURCE OF CONTAMINANT
Lead (ug/L) Sampled 8-2016	50	<.005	1	15	0.2	Internal corrosion of household water plumbing systems ; discharges from industrial manfacturers, erosion of natural deposits.
Copper (mg/L) Sampled 8-2016	50	0.21	3	1.3	0.3	

The State allows the City to monitor for some contaminants less than once per year because the concentration of these contaminants do not change frequently. Some of the above data, though representative, is more than one year old, the data ranges from 1996 to 2017.

ABBREVIATION KEY

MCL = Maximum Contaminant Level
mg/L = Milligrams per Liter or parts per million
ug/L = Micrograms per Liter or parts per billion
NTU = Nephelometric Turbidity Units
PHG = Public Heath Goal
MCLG= Maximum Contaminant Level Goal
RAL= Regulating Action Level
TT= Treatment Technique
N/A = Not Applicable
pCi/L = Picocuries per Liter
N/D = Non-Detect
U.O.M. = Unit of Measurement
TON = Threshold odor number
umho/cm= Micromhos per Centimeter
PDWS= Primary Drinking Water Standards
MRDL= Maximum Residual Disinfection Level
MRDG= Maximum Residual Disinfection Goal

REQUIRED PUBLIC NOTICE

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 heath care providers. 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).

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 1(800) 426-4791.

DEFINITIONS

Maximum Contaminant Level or (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.

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

Public Health Goals or 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 Contaminant Level Goal or 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.

HEALTH EFFECTS FOR INORGANIC CONTAMINANTS

Nitrate: 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 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 mg/L 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.

ARSENIC: While drinking water meets the Federal and State standards for arsenic, it does contain low levels of arsenic. The Arsenic standard balances the current understanding of arsenic's possible health affects against the cost of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health affects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

TREATMENT

Chlorination: Each well site has a chlorine generation system which produces a 0.8% chlorine solution and dosage to the distribution system is set at 0.25 Parts Per Million.

REQUIRED PUBLIC INFORMATION

1. 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.

2. Contaminants that could be present in source water include:

(**a**) Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(**b**) 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.

(**c**) Pesticides and herbicides, that may come from a variety of sources such as agriculture, urban water runoff, and residential uses.

(**d**) Organic chemical contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application, and septic systems.

(**e**) Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

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

City of Madera
Source Water Assessment

A source water assessment was conducted for the City of Madera water system in 2003 and is ongoing as water wells are being developed. A completed copy of this report may be viewed at City of Madera, Public Works Department 1030 South Gateway Drive Madera, CA 93637 or, a copy may be requested by contacting the City Clerk at: (559) 661-5405

The following chart summarizes potential sources of contamination, in the vicinity of each water well, that could affect water quality:

Activities	Water Wells
Airports - Maintenance/fueling areas	#26
Automobile - Body shops, Historic gas stations, Machine shops, Junk/scrap salvage yards	#25
Automobile – Gas stations	#17, #18, #20, #21, #22, #26
Automobile - Repair shops	#18, #25
Boat services/repair/refinishing, sewer collection systems, pesticide/fertilizer/petroleum storage & transfer area	#18, #31
Chemical/petroleum processing/storage, dry cleaners, injection wells/dry wells/sumps	#28, #17
Dry cleaners, injection wells/dry wells/sumps	#28
Fertilizer/pesticide/herbicide application, storm drain discharge points	#29, #31, 32, #33, #34
Grazing (>5 large animals or equivalent per acre)	#23
Historic waste dumps/landfills	#25, #26
Housing – high density (>1 house / 0.5 acres)	#15, #16, #17, #21, #22, #23, #24, #25, #29, #31, #32, #33, #34
Metal plating/finishing/fabricating	#26, #27, #30
Military installations	#24
Transportation corridors - Road right - of - ways (herbicides use areas)	#15, #16, #17, #29
Waste Transfer/Recycling stations	#17, #31, #34

DISCUSSION OF VULNERABILITY

There is no current Maximum Contaminant Level (MCL) exceedance noted in the State Water Resources Control Board database for City of Madera Water Wells: 15, 16, 17, 18, 20, 22, 23, 24, 25, 26, 28, 29, 30, 31, 32, and 34.

Detected contaminants 2017

Water Well	Chemical	Sample Date	Level Detected	MCL	DLR

ADDITIONAL COMMENTS:

Lead Sampling in Schools: We conducted Lead sampling in accordance with SWRCB requirements at 18 MUSD Schools.

VIOLATION OF TT OR MONITORING AND REPORTING REQUIREMENTS:

MONITORING AND REPORTING VIOLATION: We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the month of June 2017 we did not conduct timely monitoring or testing of our groundwater sources in response to a total coliform-positive sample from the distribution system and therefore cannot be sure of the quality of the drinking water during that time. We have rewritten our Bacteriological Sample Site Plan to make sure this does not happen again.