

2018 Consumer Confidence Report

Water System Name: SMWD – Nichols Institute Report Date: 5/21/2019

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 to December 31, 2018 and may include earlier monitoring data.

Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse SMWD – Nichols Institute a (949) 459 6400 para asistirlo en español.

Type of water source(s) in use: Groundwater well and treated surface water purchased from Santa Margarita Water District (SMWD)

Name & general location of source(s): Nichols Well: City of San Juan Capistrano, CA 92675
Santa Margarita Water District: Rancho Santa Margarita, CA 92688

Drinking Water Source Assessment information: Well - Completed in 1999. Copy of complete assessment may be viewed at: SWRCB-DDW, Santa Ana District Office, 2 MacArthur Place, Suite 150, Santa Ana, CA 92707.

SMWD - The watershed sanitary surveys for Metropolitan Water District of Southern California's (MWDSC's) Colorado River supply was recently updated in 2015 and for the State Water Project supply in 2016. The IRWD's watershed sanitary survey for Santiago Reservoir (Irvine Lake) was updated in 2014. Copies of the most recent summary of any of the aforementioned-watershed sanitary surveys can be obtained by calling SMWD Customer Service at (949) 459-6400.

Time and place of regularly scheduled board meetings for public participation: Santa Margarita Water District has two regular Board meetings each month. Meeting details can be found on the District's website at <https://smwd.com/meetings>.

For more information, contact: Rachel Pasco Phone: (949) 459 6674

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 (U.S. EPA).

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 and MRDLs 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 that a water system must follow.

Variances and Exemptions: Permissions from the State Water Resources Control Board (State Board) to exceed an MCL or not comply with a treatment technique under certain conditions.

Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

ND: not detectable at testing limit

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

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

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

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

pCi/L: picocuries per liter (a measure of radiation)

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 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 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, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater 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, the U.S. EPA and the State Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

Tables 1, 2, 3, 4, and 5 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State Board 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. Any violation of an AL, MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA (Distribution System)								
Microbiological Contaminants (complete if bacteria detected)	Highest No. of Detections	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria			
Total Coliform Bacteria (state Total Coliform Rule)	0 (In a month)	0	1 positive monthly sample	0	Naturally present in the environment			
Fecal Coliform or <i>E. coli</i> (state Total Coliform Rule)	0 (In the year)	0	A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or <i>E. coli</i> positive		Human and animal fecal waste			
<i>E. coli</i> (federal Revised Total Coliform Rule)	0 (In the year)	0	(a)	0	Human and animal fecal waste			
(a) Routine and repeat samples are total coliform-positive and either is <i>E. coli</i> -positive or system fails to take repeat samples following <i>E. coli</i> -positive routine sample or system fails to analyze total coliform-positive repeat sample for <i>E. coli</i> .								
TABLE 2 – SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER (Customer Tap Sampling)								
Lead and Copper (complete if lead or copper detected in the last sample set)	Sample Date	No. of Samples Collected	90 th Percentile Level Detected	No. Sites Exceeding AL	AL	PHG	No. of Schools Requesting Lead Sampling	Typical Source of Contaminant
Lead (ppb)	06/14/18	21	<5	0	15	0.2	Not applicable	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Lead (ppb)	12/07/18	21	<5	0	15	0.2	Not applicable	
Copper (ppm)	06/14/18	21	1.0	1	1.3	0.3	Not applicable	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Copper (ppm)	12/07/18	21	0.75	0	1.3	0.3	Not applicable	

TABLE 3 – SAMPLING RESULTS FOR SODIUM AND HARDNESS (Groundwater Source ¹)						
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	2018	69	65 – 72	None	None	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2018	264	259 - 268	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 Source of Contaminant
Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors (Distribution System)						
Chlorine (ppm)	2018	0.51	0.14 – 1.27	[4.0]	[4.0]	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
TTHMs [Total Trihalomethanes] (ppb)	2018	64	18 – 57	80.	N/A	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney, or central nervous system problems, and may have an increased risk of getting cancer.
HAA5 [Haloacetic Acids] (ppm)	2018	18	ND – 11	60.	N/A	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Inorganic Contaminants (Groundwater Source¹)

Fluoride (ppm)	2018	0.32	0.31 – 0.32	2.0	1	Some people who drink water containing fluoride in excess of the federal MCL of 4 mg/L over many years may get bone disease, including pain and tenderness of the bones. Children who drink water containing fluoride in excess of the state MCL of 2 mg/L may get mottled teeth.
Nitrate as N (ppm)	2018	1.2	0.96 – 1.4	10.	10.	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.

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Radioactive Contaminants						
Gross Alpha Particle Activity (pCi/L)	2015	4.13		15	(0)	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Uranium (pCi/L)	2015	2.52		20	0.43	Some people who drink water containing uranium in excess of the MCL over many years may have kidney problems or an increased risk of getting cancer.

**TABLE 5 – DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD
(Groundwater Source¹)**

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	SMCL	PHG (MCLG)	Typical Source of Contaminant
Chloride (ppm)	2018	81	80 – 81	500		Runoff/leaching from natural deposits; seawater influence
Iron (ppb)	2018	225	120 – 330	300	300	Leaching from natural deposits; industrial wastes
Manganese (ppb)	2018	11	4 – 17	50		Leaching from natural deposits
Odor (TON)	2018	2	1 – 2	3		Naturally-occurring organic materials
Sulfate (ppm)	2018	180		500		Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2018	590	580 – 600	1000		Runoff/leaching from natural deposits
Turbidity	2017	0.22	0.16 – 0.43	5		Soil runoff
Distribution System Water Quality						
Odor (TON)	2018	1	NOD – 1	3		Naturally-occurring organic materials
Specific Conductance (µS/cm)	2018	930	850 – 1055	1600		Substances that form ions when in water; seawater influence
Turbidity (NTU)	2018	0.17	0.06 – 0.32	5		Soil runoff
Color (Color Units)	2018	1	ND – 1	15		Naturally-occurring organic materials

Notes

- For treated surface water purchased from SMWD source, please refer to enclosed 2019 Water Quality Report (for 2018 report year).

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA'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. U.S. EPA/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).

Lead-Specific Language: 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. ***SMWD – Nichols Institute*** 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 (1-800-426-4791) or at <http://www.epa.gov/lead>.

Summary Information for Violation of a MCL, MRDL, AL, TT, or Monitoring and Reporting Requirement

VIOLATION OF A MCL, MRDL, AL, TT, OR MONITORING AND REPORTING REQUIREMENT				
Violation	Explanation	Duration	Actions Taken to Correct the Violation	Health Effects Language
Non-compliance with Surface Water Treatment Rule	<p>There was less than 95% of the samples taken with detectable chlorine residual. The system was not in compliance with requirements of Section 64654(b)(2), Title 22, California Code of Regulations.</p> <p>One distribution system sample each in the months of September 2018 and October 2018 had no detectable chlorine residual (less than 0.10 mg/L) and heterotrophic plate count (HPC) of greater than 500 CFU/mL.</p>	09/2018 – 10/2018	Nichols has installed a Reservoir Management System to improve and maintain the required chlorine residual levels of 0.2 mg/L in the distribution system.	Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.