



moulton niguel water district

2016 WATER QUALITY REPORT

Moulton Niguel Water District
27500 La Paz Rd
Laguna Niguel, CA 92677
mnwd.com

**It's better
on tap.**

Proudly serving our communities since 1960.

MNWD 2016 WATER QUALITY REPORT

USEPA

Letter from the General Manager

Moulton Niguel Water District (MNWD) is committed to ensuring that our customers have a reliable, sustainable and economical water supply for the future. In addition to providing reliable water services, MNWD is especially proud of the high-quality water that is delivered to your homes and businesses.

Since 1990, California public utilities have been providing an annual Water Quality Report to their customers. This year's report covers drinking water quality testing and reporting during calendar year 2016. MNWD vigilantly safeguards its water supply, and, as in years past, is pleased to report that the drinking water provided to your home meets all standards required by state and federal regulatory agencies. MNWD is dedicated to providing our customers with high-quality water and excellent customer service. We hope you enjoy reading this year's water quality report and learning about our commitment to deliver high-quality water to our communities.

Thirsty for more information? Visit www.mnwd.com for more information on one of nature's most precious resources - water. If you have any questions, please contact our Outreach Department at outreach@mnwd.com or give us a call at **949. 831. 2500**.

Sincerely,

Joone Lopez



General Manager

The United States Environmental Protection Agency (USEPA) and the State Water Resources Control Board, Division of Drinking Water (DDW) are the agencies responsible for establishing drinking water quality standards. The Metropolitan Water District of Southern California (MWD), which supplies treated imported water to MNWD, tests for unregulated chemicals in our water supply. Whenever possible, MWD goes beyond what is required by testing for unregulated chemicals that do not have drinking water standards. Unregulated chemical monitoring helps USEPA and DDW determine where certain chemicals may be present and whether new standards need to be established to protect public health.

Through drinking water quality testing programs carried out by MWD for treated imported water and MNWD for our local distribution system, your drinking water is constantly monitored from source to tap for regulated and unregulated constituents.

The State allows monitoring for some contaminants less than once per year because concentrations of these contaminants do not change frequently. Some data, though representative, is more than one year old.

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

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

此份有关你的食水报告,内有重要资料和讯息,请找他人替你翻译及解释清楚。

”هذا التقرير يحتوي على معلومات مهمة تتعلق بمياه الشفة (أو الشرب).
ترجم التقرير, أو تكلم مع شخص يستطيع أن يفهم التقرير.“

QUESTIONS ABOUT YOUR WATER?

Contact us for answers.

For information or questions about this report, please call Kevin Crawford at **949.425.3562**.

To reach MNWD Customer Service and for other information, please call **949. 831. 2500** or visit www.mnwd.com.

A copy of this report is also available on our website: www.mnwd.com/CCR.

For more information about the health effects of the listed contaminants in this report, call the **USEPA Safe Drinking Water Hotline** at **800. 426. 4791**.

COMMUNITY PARTICIPATION

The MNWD Board of Directors typically meets the third Thursday of each month beginning at 6 p.m. at MNWD, 27500 La Paz Road, Laguna Niguel, CA 92677. More information is available at www.mnwd.com.



THE QUALITY OF YOUR WATER IS OUR PRIMARY CONCERN

Sources of Water Supply

MNWD relies on imported water from MWD, which sources its water supply from the Colorado River and the State Water Project. With less water available this past year from the State Water Project, most of our drinking water was delivered to MNWD from the Colorado River.

MWD provides drinking water to nearly 19 million people in parts of Los Angeles, Orange, San Diego, Riverside, San Bernardino, and Ventura counties, and delivers an average of 1.7 billion gallons of water per day to a 5,200-square-mile service area.

Your water is treated at the Diemer Filtration Plant in Yorba Linda by MWD and delivered to the MNWD. MNWD's pipelines, pump stations, and reservoirs are utilized to deliver water to you when and where it is needed.

Winter storms this year helped improve California's water supply conditions, but other key reservoirs and groundwater basins remain critically low, particularly along the Colorado River. Since California frequently experiences dry conditions, drought cycles and variable rainfall, it is important for Moulton Niguel Water District's customers to continue using water efficiently and identify ways to reduce water waste.

Basic Information About Your Drinking Water

Drinking water, both tap and bottled, may reasonably be expected to contain trace amounts of some contaminants. The presence of trace contaminants does not indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the **USEPA Safe Drinking Water Hotline** at **800. 426. 4791** or visiting www.epa.gov/your-drinking-water.

The sources of both tap and bottled drinking water include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it can dissolve 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, protozoa, and bacteria that may come from wastewater 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 by-products 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 USEPA and DDW prescribe regulations that limit the amounts of certain contaminants in water provided by public water systems. DDW and U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water that provide similar protection for public health.

INFORMATION THE EPA WOULD LIKE YOU TO KNOW



Drinking Water Fluoridation

Fluoride has been added to drinking water supplies in the United States since 1945. Of the 50 largest cities in the United States, 43 fluoridate their drinking water. In December 2007, MWD joined a majority of the nation's public water suppliers in adding fluoride to drinking water in order to prevent tooth decay.

In line with recommendations from the DDW, as well as the U.S. Centers for Disease Control and Prevention, MWD adjusted the national fluoride level in imported treated water from the Colorado River and State Water Project to the optimal range for dental health of 0.6 to 1.2 parts per million. Fluoride levels in drinking water are limited under California State regulations at a maximum dosage of two (2) parts per million.

There are many places to go for additional information about the fluoridation of drinking water, including:

U.S. Centers for Disease Control and Prevention
800. 232. 4636
www.cdc.gov/fluoridation/

State Water Resources Control Board,
Division of Drinking Water
www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml

American Water Works Association
www.awwa.org

For more information about MWD's fluoridation program, please contact Edgar G. Dymally at **213. 217. 5709** or at edymally@mwdh2o.com.

Immuno-Compromised People

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, or have HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These individuals should seek advice about drinking water from their health care providers.

Chloramines

All of MNWD's drinking water is imported from MWD and is disinfected by MWD with chloramines, which is a combination of chlorine and ammonia. In addition, MNWD maintains disinfection levels in stored water through the addition of chloramines, as needed. Chloramines are effective killers of bacteria and other microorganisms that may cause disease. Compared to chlorine alone, chloramines last longer in the distribution system, minimize byproduct formation, and have minimal odor.

Individuals who use kidney dialysis machines may want to take special precautions and consult their health care providers for the appropriate type of supplementary water treatment, if required. Customers who maintain fish ponds, tanks, or aquariums should also make necessary adjustments in water quality treatment, as these disinfectants may be toxic to fish. For further information, or if you have any questions about chloramines, please call MNWD at **949. 425. 3562**.

Cryptosporidium

Cryptosporidium is a microbial pathogen that originates from animal or human waste and is found in surface waters throughout the United States. When ingested, it can cause diarrhea, fever, and other gastrointestinal symptoms.

MWD tested but did not detect cryptosporidium in the source and treated surface waters during 2016. If detected, cryptosporidium is eliminated by an effective treatment combination including sedimentation, filtration, and disinfection.

The USEPA and Federal Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the **USEPA Safe Drinking Water Hotline** at **800. 426. 4791** between 7 a.m. to 1 p.m. Pacific Time.

WATER QUALITY ISSUES THAT YOU SHOULD BE AWARE OF

Water Hardness

Levels of calcium and magnesium, which occur naturally in water, are the primary substances that determine whether water is hard or soft. Water from the Colorado River, one of MNWD's sources of water, contains fairly high levels of these minerals and is considered "hard." Water hardness does not negatively affect your health; however, hard water does require more soap than soft water and will leave mineral deposits on plumbing fixtures over time. In 2016, the hardness found in your water averaged 296 parts per million or 17 grains per gallon.

About Lead in Tap Water

MNWD meets all required standards for lead in the USEPA Lead and Copper Rule. 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.

MNWD is responsible for providing high quality drinking water, but cannot control the variety of materials used in household 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 two minutes before using water for drinking or cooking.

Should you have any questions about your water quality, you may contact Moulton Niguel Water District at **949. 831. 2500**.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the **Safe Drinking Water Hotline, 800. 426. 4791**, or at **www.epa.gov/lead**.

SOURCE WATER ASSESSMENT

Imported (MWD) Water Assessment

Every five years, MWD is required by DDW to examine possible sources of drinking water contamination in its State Water Project and Colorado River source waters.

The most recent watershed sanitary surveys for MWD's source waters are the Colorado River Watershed Sanitary Survey - 2015 Update, and the State Water Project Watershed Sanitary Survey - 2011 Update. Both source waters are exposed to stormwater runoff, recreational activities, wastewater discharges, wildlife, fires, and other watershed-related factors that could affect water quality.

Water from the Colorado River is considered to be most vulnerable to contamination from recreation, urban and stormwater runoff, increasing urbanization in the watershed, and wastewater. Water supplies from Northern California's State Water Project are most vulnerable to contamination from urban and stormwater runoff, wildlife, agriculture, recreation, and wastewater.

USEPA also requires MWD to complete one Source Water Assessment (SWA) that utilizes information collected in the watershed sanitary surveys. MWD completed its SWA in December 2002. The SWA is used to evaluate the vulnerability of water sources to contamination and helps determine whether more protective measures are needed.

A copy of the most recent summary of either Watershed Sanitary Survey or the SWA can be obtained by calling **MWD at 213. 217. 6850**.

Metropolitan Water District of Southern California Treated Surface Water Quality Results for 2016

| Chemical | MCL | PHG (MCLG) | Average Amount | Range of Detections | MCL Violation? | Typical Source of Chemical |
|--|--|------------|------------------------|---------------------|----------------|---|
| Radiologicals - Tested in 2014 | | | | | | |
| Alpha Radiation (pCi/L) | 15 | (0) | ND | ND - 4 | No | Erosion of Natural Deposits |
| Beta Radiation (pCi/L) | 50 | (0) | 5 | 4 - 6 | No | Decay of Man-made or Natural Deposits |
| Uranium (pCi/l) | 20 | 0.43 | 3 | 2 - 3 | No | Erosion of Natural Deposits |
| Inorganic Chemicals - Tested in 2016 | | | | | | |
| Aluminum (ppm) | 1 | 0.6 | 0.168 | 0.012 - 0.24 | No | Treatment Process Residue, Natural Deposits |
| Barium (ppb) | 1,000 | 2,000 | 138 | 138 | No | Refinery Discharge, Erosion of Natural Deposits |
| Fluoride (ppm) treatment-related | Control Range 0.6 - 1.2 ppm Optimal Level 0.7 ppm | | 0.7 | 0.6 - 0.9 | No | Water Additive for Dental Health |
| Secondary Standards* - Tested in 2016 | | | | | | |
| Aluminum (ppb) | 200* | 600 | 168 | 120 - 240 | No | Treatment Process Residue, Natural Deposits |
| Chloride (ppm) | 500* | n/a | 103 | 102 - 103 | No | Runoff or Leaching from Natural Deposits |
| Color (color units) | 15* | n/a | 1 | 1 | No | Naturally-occurring Organic Materials |
| Odor (threshold odor number) | 3* | n/a | 3 | 3 | No | Naturally-occurring Organic Materials |
| Specific Conductance (µmho/cm) | 1,600* | n/a | 1,040 | 1,030 - 1050 | No | Substances that Form Ions in Water |
| Sulfate (ppm) | 500* | n/a | 260 | 257 - 262 | No | Runoff or Leaching from Natural Deposits |
| Total Dissolved Solids (ppm) | 1,000* | n/a | 654 | 650 - 658 | No | Runoff or Leaching from Natural Deposits |
| Unregulated Chemicals - Tested in 2016 | | | | | | |
| Alkalinity, total as CaCO ₃ (ppm) | Not Regulated | n/a | 120 | 115 - 124 | n/a | Runoff or Leaching from Natural Deposits |
| Boron (ppb) | NL=1,000 | n/a | 150 | 150 | n/a | Runoff or Leaching from Natural Deposits |
| Calcium (ppm) | Not Regulated | n/a | 76 | 75 - 76 | n/a | Runoff or Leaching from Natural Deposits |
| Hardness, total as CaCO ₃ (ppm) | Not Regulated | n/a | 296 | 292 - 300 | n/a | Runoff or Leaching from Natural Deposits |
| Hardness, total (grains/gallon) | Not Regulated | n/a | 17 | 17 | n/a | Runoff or Leaching from Natural Deposits |
| Magnesium (ppm) | Not Regulated | n/a | 27 | 26 - 27 | n/a | Runoff or Leaching from Natural Deposits |
| pH (pH units) | Not Regulated | n/a | 8.1 | 8.1 | n/a | Hydrogen Ion Concentration |
| Potassium (ppm) | Not Regulated | n/a | 5.1 | 5.0 - 5.1 | n/a | Runoff or Leaching from Natural Deposits |
| Sodium (ppm) | Not Regulated | n/a | 103 | 99 - 107 | n/a | Runoff or Leaching from Natural Deposits |
| Total Organic Carbon (ppm) | TT | n/a | 2.5 | 2.1 - 2.6 | n/a | Various Natural and Man-made Sources |
| <p>ppb = parts-per-billion; ppm = parts-per-million; pCi/L = picoCuries per liter; µmho/cm = micromhos per centimeter; ND = not detected; MCL = Maximum Contaminant Level; (MCLG) = federal MCL Goal; PHG = California Public Health Goal NL = Notification Level; n/a = not applicable; TT = treatment technique * Chemical is regulated by a secondary standard. Radiologicals - Tested in 2014: Data are from samples collected (triennially) during four consecutive quarters of monitoring in 2014 and reported for three years until the next samples are collected.</p> | | | | | | |
| Turbidity - Combined Filter Effluent Metropolitan Water District Diemer Filtration Plant | | | | | | |
| | Treatment Technique | | Turbidity Measurements | | TT Violation? | Typical Source of Chemical |
| 1. Highest single turbidity measurement | 0.3 NTU | | 0.07 | | No | Soil Runoff |
| 2. Percentage of samples less than 0.3 NTU | 95% | | 100% | | No | Soil Runoff |
| <p>Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. Low turbidity in Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TT). A treatment technique is a required process intended to reduce the level of chemicals in drinking water that are difficult and sometimes impossible to measure directly. NTU = nephelometric turbidity units</p> | | | | | | |

Moulton Niguel Water District Distribution System Water Quality Results for 2016

| Parameter | Unit of Measure | MCL (MRDL/MRDLG) | Average Amount | Range of Detections | MCL Violation? | Typical Sources in Drinking Water | |
|---|-----------------|-------------------|--------------------|-----------------------|--------------------------------------|-------------------------------------|-----------------------------------|
| Disinfection Byproducts | | | | | | | |
| Total Trihalomethanes | ppb | 80 | 38 | 22.1 - 45.1 | No | Byproducts of Chlorine Disinfection | |
| Haloacetic Acids | ppb | 60 | 19 | 8.2 - 23.8 | No | Byproducts of Chlorine Disinfection | |
| Disinfectant Residual (chloramines) | mg/L | 4.0 | 2.05 | 0.5 - 6.4 | No | Disinfection Added for Treatment | |
| Aesthetic Quality | | | | | | | |
| Turbidity | NTU | 5 | 0.21 | 0.10 - 1.0 | No | Erosion of Natural Deposits | |
| Color | cu | 15 | <5 | ND - <5 | No | Erosion of Natural Deposits | |
| Odor | ton | 3 | 0.9 | 0.5 - 2.0 | No | Erosion of Natural Deposits | |
| Conductivity | µmho/cm | n/a | 1041 | 780 - 1187 | No | Erosion of Natural Deposits | |
| <p>Eight (8) locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids; 52 samples are tested monthly for color and odor, and weekly for chlorine residual and turbidity. MRDL: Maximum Residual Disinfectant Level; MRDLG: Maximum Residual Disinfectant Level Goal *Contaminant is regulated by a secondary standard</p> | | | | | | | |
| Bacterial Quality | | | | | | | |
| | MCL | MCLG | Highest Monthly % | MCL Violation? | Typical Sources in Drinking Water | | |
| Total Coliform Bacteria | 5.00% | 0.00% | 0.79% | No | Naturally Present in the Environment | | |
| <p>No more than 5% of the monthly samples may be positive for total coliform bacteria. the occurrence of 2 consecutive total coliform positive samples, one of which contains fecal coliform/E.coli, constitutes an acute MCL violation.</p> | | | | | | | |
| Parameter | Unit of Measure | Action Level (AL) | Public Health Goal | 90th Percentile Value | Sites exceeding AL/ Number of Sites | AL Violation | Typical Sources in Drinking Water |
| Copper | ppm | 1.3 | 0.3 | 0.2 | 0/50 | No | Corrosion of House-hold Plumbing |
| Lead | ppb | 15 | 0.2 | 3.4 | 0/50 | No | Corrosion of House-hold Plumbing |
| <p>The most recent Lead and Copper at the tap samples were collected in 2015. Zero samples exceeded the Regulatory Action Level (AL). A Regulatory Action level is the concentration of a contaminant which, if exceeded in more than 10% of samples, triggers treatment or other requirements that a water system must follow.</p> | | | | | | | |



Unregulated Contaminants Report for 2013

| Chemical | Unit of Measure | Average Amount | Range of Detections |
|--|-----------------|----------------|---------------------|
| Unregulated Contaminants - 2013 | | | |
| Chromium | ppb | 0.25 | 0.24 - 0.26 |
| Molybdenum | ppb | 4.4 | 4.1 - 4.7 |
| Strontium | ppb | 864 | 750 - 960 |
| Vanadium | ppb | 3.2 | 2.5 - 4.2 |
| Chromium - 6 (Hexavalent Chromium) | ppb | 0.075 | 0.041 - 0.1 |
| Chlorate | ppb | 116 | 40 - 310 |
| <p>In 2012, the EPA revised the Unregulated Contaminant Monitoring Rule to establish a new set of unregulated contaminants. Unregulated contaminants are those that don't yet have a drinking water standard set by the USEPA. The purpose of monitoring for these contaminants is to help the EPA decide whether the contaminants should have a standard.</p> <p>As drinking water standards are reviewed and updated, MNWD will continue to ensure that all drinking water meets those defined water quality standards. For more information, please visit the EPA's website at http://water.epa.gov/lawsregs/sdwa/ucmr/ucmr3/basicinformation.cfm.</p> | | | |

CHART LEGEND

What are Water Quality Standards?

Drinking water standards established by USEPA and DDW set limits for substances that may affect consumer health or aesthetic qualities of drinking water. The tables in the report show the following types of water quality standards:

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 are economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

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.

Secondary MCLs: Set to protect the odor, taste, and appearance of drinking water.

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

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

What is a Water Quality Goal?

In addition to mandatory water quality standards, the USEPA and the DDW have set voluntary water quality goals for some contaminants. Water quality goals are often set at such low levels that they are not achievable in practice and are not directly measurable. Nevertheless, these goals provide useful guidelines and direction for water management practices. The tables in this report include three types of water quality goals:

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 USEPA.

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.

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.

How are Contaminants Measured?

Water is sampled and tested throughout the year. Contaminants are measured in:

- Parts per million (ppm) or milligrams per liter (mg/L)
- Parts per billion (ppb) or micrograms per liter (µg/L)
- Parts per trillion (ppt) or nanograms per liter (ng/L)