



**Dublin San Ramon  
Services District**

*Water, wastewater, recycled water*

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.

此份有關你的食水報告，內有重要資料和訊息，請找他人為你翻譯及解釋清楚。

April 28, 2017

# Dublin San Ramon Services District 2016 Annual Water Quality Report

## CONTENTS

- We Ensure Your Drinking Water Meets Safety Standards
- Message from the General Manager
- Sources of Our Potable Water
- Safety Standards Regulate Contaminants
- Important Health Information
- How We Monitor Water Quality
- Contaminants Not Detected
- 2016 Water Quality Test Results
- Terms Used
- Sources of Contaminants
- Questions and Answers about Our Water
- DSRSD Service Area
- Contact Us



## A MESSAGE FROM THE GENERAL MANAGER

Protecting public health is an essential part of our mission. DSRSD and Zone 7 Water Agency, the District's wholesale water supplier, conduct thousands of tests annually to ensure our drinking water complies with all safety standards.

In 2016, for the first time in many years, this vigilant monitoring found more total coliform bacteria than allowed in two areas of our water distribution system. Coliforms occur naturally in the environment and are harmless to most people. However, their presence can indicate that other, potentially harmful, bacteria may be present.

The total coliform standard allows for no more than 5 percent of positive samples each month. During September, 6 of 98 samples (6.1 percent) tested positive for coliform bacteria. Again in November, 7 of 95 samples (7.4 percent) tested positive. Both times, our Field Operations staff disinfected and flushed the affected parts of the water system. Follow-up tests were negative for coliform bacteria and the problem has not reoccurred. We never found harmful bacteria in the system and the water was safe to drink at all times.

Customers have a right to know when our drinking water fails to meet a standard, even if there is no immediate risk to public health. Last fall, we notified the affected customers

*(Continued on last page)*

## WE ENSURE YOUR DRINKING WATER MEETS SAFETY STANDARDS

This report describes where our water comes from, what it contains, and how it compares to drinking water standards set by the State Water Resources Control Board (State Board) Division of Drinking Water (DDW) and the U.S. Environmental Protection Agency (USEPA). DSRSD and Zone 7 Water Agency, the District's wholesale water supplier, conduct thousands of tests annually to ensure our drinking water continues to meet these standards.



The South Bay Aqueduct connects the Tri-Valley to its primary water supply, the State Water Project.



Photos this page courtesy of CA Dept. of Water Resources

Water rushes into the diversion pool from the ravine carved out from the damaged Lake Oroville spillway. Photo taken April 26, 2017. Learn about our connection to Lake Oroville at [www.dsrds.com/oroville](http://www.dsrds.com/oroville).

## SOURCES OF OUR POTABLE WATER

DSRSD purchases all of its potable (drinkable) water from Zone 7 Water Agency (Zone 7). This water comes from three sources: imported surface water from the California State Water Project, local rain runoff that is stored in Del Valle Reservoir, and groundwater from local wells.

Normally, more than three-quarters of our water supply starts in the Sierra Nevada as rain and snowmelt. Conveyed by the State Water Project from Lake Oroville on the Feather River in northern California, it travels through the Sacramento River, the Delta, and the South Bay Aqueduct to Zone 7's Del Valle and Patterson Pass treatment plants. When State Water Project allocations are restricted, more of our water comes from local sources.

## SAFETY STANDARDS REGULATE CONTAMINANTS

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 human activities or the presence of animals.

### *Contaminants that may be in source water include:*

- Microbial contaminants, such as viruses and bacteria, that may come from upstream sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;
- Inorganic contaminants, such as salts and metals, that can occur naturally 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 storm water runoff, agricultural application, and septic systems;
- Radioactive contaminants that can occur naturally or result from oil and gas production and mining activities.

To ensure tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board (State Board) set regulations that limit the amount of certain contaminants in water provided by public water systems. 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. Additional information on bottled water is available on the California Department of Public Health website: [www.cdph.ca.gov/programs/Pages/fdbBVW.aspx](http://www.cdph.ca.gov/programs/Pages/fdbBVW.aspx)

Primary drinking water standards set maximum contaminant levels (MCL) and maximum residual disinfectant levels (MRDL) for substances that affect health, along with monitoring and reporting requirements for these substances and water treatment requirements. Secondary standards protect the odor, taste, and appearance of drinking water. Secondary standards do not have public health goals (PGH) because they are not based on health concerns.

### 2016 Water Quality Test Results

The tables on page 6-7 show the average level and range of each contaminant detected in the DSRSD water supply in 2016. Except for the total coliform exceedances described below, all water supplied during 2016 met the regulatory standards set by the state and federal governments. Additional unregulated parameters, such as sodium levels and water hardness, are included in the tables to assist customers in making health or economic decisions.

#### Total Coliform Bacteria

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. We found coliforms, indicating the need to look for potential problems in water treatment or distribution.

When this occurs, we are required to conduct assessments to identify problems and to correct any problems that were found during these assessments. During the past year we were required to conduct two Level 1 Assessments. Two Level 1 Assessments were completed. In addition, we were required to take two corrective actions and we completed two of these actions.

We found coliforms in the water system serving neighborhoods in the western-most part of Dublin (Schaefer Ranch and vicinity) in September and November (422 customers). Some neighborhoods in the Dougherty Valley area of San Ramon were affected in November (3,809 customers). We notified all of the affected customers by mail.

The water was safe to drink at all times, and at no time did we find any potentially harmful bacteria in our system. Each time, we flushed and disinfected the affected water storage reservoirs. In a second round of tests, samples showed no bacteria. In western

Dublin, where the issue occurred twice, we are continuing to drain and refill the reservoirs more frequently and use a new pumping schedule that increases water turnover in the system. These measures help maintain the proper chlorine residual (disinfectant).

### IMPORTANT HEALTH INFORMATION

Some people may be more vulnerable to contaminants in drinking water than the general population. Individuals with compromised immune systems (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. 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: (800) 426-4791.

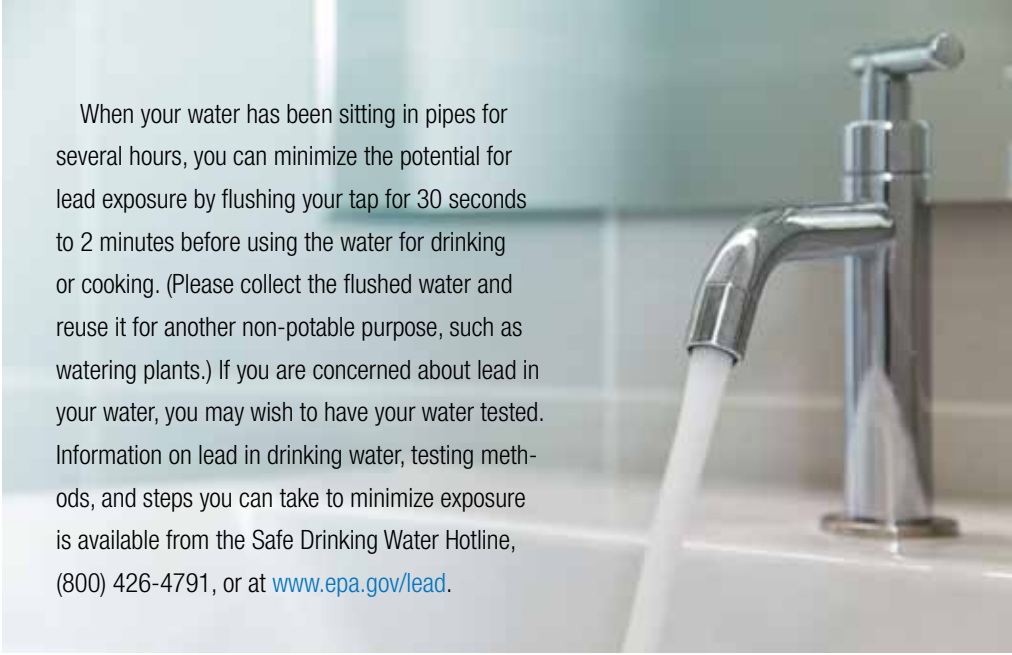
#### Minimizing Exposure to Lead

Lead was not detected above the regulatory action level in the DSRSD water supply. 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 (pipelines that deliver water) and home plumbing. DSRSD is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.

Every three years, DSRSD is required to test the indoor tap water from a sample of homes built before 1986, when plumbing fixtures like faucets and pipe solder were allowed to contain lead. The EPA requires that 90 percent of the samples be below the regulatory action level of 15 parts per billion. The District's results were much better than this standard. Only two homes were at or above the regulatory action level. While we were not required to take any action, our staff advised the homeowners about the advantages of replacing old plumbing and fixtures with new lead-free materials.



*To protect water quality, we routinely flush areas where pipes dead-end, as on many cul-de-sacs.*



When your water has been sitting in pipes for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using the water for drinking or cooking. (Please collect the flushed water and reuse it for another non-potable 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, (800) 426-4791, or at [www.epa.gov/lead](http://www.epa.gov/lead).

## HELP US PROTECT SOURCE WATER QUALITY

Protecting drinking water sources is everyone's responsibility. You can help in several ways:

- Reduce or eliminate fertilizers and pesticides; they are a primary source of pollution in creeks and the San Francisco Bay. Visit [www.Baywise.org](http://www.Baywise.org) for environmentally friendly alternatives.
- Pick up after your pets.
- Dispose of medication, chemicals, and used motor oil properly. Find disposal and recycling options at [www.dsrds.com/WhatNotToFlush](http://www.dsrds.com/WhatNotToFlush).

## HOW WE MONITOR WATER QUALITY

Many people work every day to protect the quality of our water.

### *Monitoring for Contaminants*

DSRSD employees collect representative samples from 23 locations throughout the water distribution system. These samples undergo analysis in the District's laboratory, which is certified by the State Board Division of Drinking Water's Environmental Laboratory Accreditation Program. Zone 7 monitors water quality continuously online, as well as with instantaneous, or "grab," sampling. In all, DSRSD and Zone 7 test for more than 100 water quality parameters.

### *Treatment and Disinfection*

Zone 7 disinfects and removes pollutants from surface water using a multi-barrier approach, and groundwater is chloraminated to maintain a disinfectant residual in the distribution system. After receiving treated water from Zone 7, DSRSD maintains a consistent residual level of disinfectant in its distribution system and flushes pipelines to prevent bacterial growth.

### *Assessing the Quality of Source Water*

Although most water requires some treatment before use, protecting water sources is an important part of providing safe drinking water to the public. The State Board requires water agencies to conduct a comprehensive source water assessment, or "sanitary survey," on drinking water sources.

The surface water in our drinking water supply is most vulnerable to contaminants as it travels through the Sacramento and San Joaquin watersheds and Delta. The latest sanitary survey for the Delta and the State Water Project (SWP), completed in June 2012, identified wastewater treatment plant discharges, urban runoff, recreational activities, and conversions of some agricultural Delta islands to wetlands as key vulnerabilities and sources of contaminants. The sanitary survey includes an action plan to address these issues.

In the past, the sanitary survey was conducted every five years. Sanitary surveys are now being produced on an annual basis and focus on a narrower scope.

# CONTAMINANTS NOT DETECTED IN ZONE 7 WATER SUPPLY

**None** of these contaminants were detected at or above the Detection Limit for Purposes of Reporting (DLR) in the Zone 7 water supply during 2016 monitoring.

## PRIMARY DRINKING WATER STANDARDS

### ORGANIC CHEMICALS

#### Volatile Organic Chemicals (VOCs)

Benzene  
Carbon Tetrachloride  
1,2-Dichlorobenzene  
1,4-Dichlorobenzene  
1,1-Dichloroethane  
1,2-Dichloroethane  
1,1-Dichloroethylene  
cis-1,2-Dichloroethylene  
trans-1,2-Dichloroethylene  
Dichloromethane  
1,2-Dichloropropane  
1,3-Dichloropropene  
Ethylbenzene  
Methyl-tert-butyl ether (MTBE)  
Monochlorobenzene  
Styrene  
1,1,2,2-Tetrachloroethane  
Tetrachloroethylene  
Toluene  
1,2,4-Trichlorobenzene  
1,1,1-Trichloroethane  
1,1,2-Trichloroethane  
Trichloroethylene  
Trichlorofluoromethane  
1,1,2-Trichloro-1,2,2-Trifluoroethane  
Vinyl Chloride  
Xylenes

#### Synthetic Organic Chemicals (SOCs)\*

Alachlor  
Atrazine  
Bentazon  
Benzo(a)pyrene  
Carbofuran  
Chlordane  
2,4-D  
Dalapon  
Dibromochloropropane (DBCP)  
Di(2-ethylhexyl)adipate  
Di(2-ethylhexyl)phthalate  
Dinoseb  
Diquat  
Endothall  
Endrin  
Ethylene Dibromide (EDB)

Glyphosate  
Heptachlor  
Heptachlor Epoxide  
Hexachlorobenzene  
Hexachlorocyclopentadiene  
Lindane  
Methoxychlor  
Molinate  
Oxamyl  
Pentachlorophenol  
Picloram  
Polychlorinated Biphenyls  
Simazine  
Thiobencarb  
Toxaphene  
2,3,7,8-TCDD (Dioxin)  
2,4,5-TP (Silvex)

### INORGANIC CHEMICALS

Aluminum	Cyanide
Antimony	Mercury
Arsenic	Nickel
Asbestos*	Nitrite (as nitrogen)
Beryllium	Perchlorate
Cadmium	Thallium

### RADIONUCLIDES\*\*

Radium-226, Radium-228  
Beta/photon emitters  
Gross Alpha particle activity  
Tritium, Strontium-90

## SECONDARY DRINKING WATER STANDARDS

Aluminum  
Copper  
Foaming Agents (MBAS)  
Iron  
Manganese  
Methyl-tert-butylether (MTBE)  
Odor-Threshold  
Silver  
Thiobencarb  
Zinc

\* Latest monitoring for Asbestos was conducted in 2011.

\*\* Based upon low vulnerability, CDPH (now DDW) granted reduced monitoring for radionuclides for current supply sources on January 25, 2008. Only gross alpha particle activity monitoring is required once every nine years. Latest gross alpha monitoring conducted in 2008. Uranium monitoring is conducted for supplemental information as in-house capabilities are available.



# 2016 WATER QUALITY TEST RESULTS

## Terms Used

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

**COL—Chain of Lakes**

**DLR—Detection Limit for Purposes of Reporting:** Established by the State Water Resources Control Board, Division of Drinking Water.

**Level 1 Assessment:** 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.

**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 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. Environmental Protection Agency.

**mg/L—Milligrams per liter**, or parts per million (ppm)

**µg/L—Micrograms per liter**, or parts per billion (ppb)

**µS/cm—Microsiemens per centimeter**

**MRL—Minimum Reporting Level**

**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:** Monitored for, but not detected at or above DLR or MRL. ND or value in range column indicates more than one analysis was performed during the year.

**NTU—Nephelometric Turbidity Units:** Determines size of suspended particles in a medium and visual range through the medium. Turbidity measures cloudiness and is a good indicator of the effectiveness of filtration systems.

**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 Environmental Protection Agency.

**pCi/L—Picocuries per liter**

**RAA—Running Annual Average**

**TT—Treatment Technique:** A required process intended to reduce the level of a contaminant in drinking water.

## Sources of Contaminants

The major sources of regulated contaminants are listed below and correspond to numbers in the columns labeled “Sources.”

- 1 Erosion of natural deposits
- 2 Substances that form ions (subatomic particles with positive and negative charges) when in water
- 3 Runoff or leaching from fertilizers; leaching from septic tanks
- 4 Byproduct of drinking water disinfection
- 5 Drinking water disinfectant added for treatment
- 6 Runoff or leaching from natural deposits
- 7 Added to promote strong teeth
- 8 Naturally present in the environment
- 9 Internal corrosion of household water plumbing systems
- 10 Leaching from wood preservatives
- 11 Soil runoff
- 12 Discharge from petroleum, glass, and metal refineries; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
- 13 Discharges of oil drilling wastes and from metal refineries
- 14 Discharge from fertilizer and aluminum factories
- 15 Naturally occurring organic materials
- 16 Discharges from industrial manufacturers
- 17 Discharge from steel and pulp mills and chrome plating
- 18 Seawater influence
- 19 Industrial wastes
- 20 Various natural and man-made sources
- 21 Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities
- 22 “Hardness” is the sum of polyvalent cations (subatomic particles with positive charges) present in the water, generally magnesium and calcium. Cations usually occur naturally.

## Regulated Contaminants with PRIMARY and SECONDARY DRINKING WATER STANDARDS

Established by the State Water Resources Control Board (State Board), Division of Drinking Water (DDW)

DSRSD DISTRIBUTION SYSTEM						
Sources	Contaminants (units)	MCL	DLR (MRL)	PHG, MCLG (MRDLG)	Highest percentage of monthly positive samples	
					Highest Locational Running Annual Average	Range of all samples collected in 2016
8	Total coliform bacteria*	More than 5% of monthly samples are positive		(0)	7.4%	
					Running Annual Average (RAA)	Range of monthly average
4	Total trihalomethanes (TTHMs), (µg/L)	80	0.5	NA	34	11 - 46
4	Haloacetic acids (five) (HAA), (µg/L)**	60	1	NA	14	0.0 - 28
5	Chloramines as Chlorine (mg/L)	Maximum Residual Disinfectant Level (MRDL) = 4.0		[4]	1.4	0.98 - 1.7
1, 7, 14	Fluoride (mg/L)	4	0.1	1	0.8	0.2 - 1.1

\* Total coliform: We found coliforms and were required to conduct two Level 1 Assessments and take two corrective actions. See page 3 for additional information.

\*\* HAA: each component DLR is 1µg/L, except Monochloroacetic acid, which is 2µg/L.

**Regulated Contaminants with PRIMARY and SECONDARY DRINKING WATER STANDARDS** (chart continued from previous page)

WATER SUPPLY SOURCES																	
Sources	Contaminants (units)		PRIMARY DRINKING WATER STANDARDS			Del Valle Water Treatment Plant	Patterson Pass Water Treatment Plant	Mocho Groundwater DelMin Plant		Mocho Well Field		Stoneridge Well		Hopyard Well Field		Chain of Lakes (COL) Well Field	
			MCL	DLR (MRL)	PHG, (MCLG), [MRDLG]			Avg.	Range	Avg.	Range	Avg.	Range	Avg.	Range	Avg.	Range
11	Turbidity (NTU)		TT = 1 NTU Maximum TT = 95% of samples ≤ 0.3 NTU		NA	Highest Level Found = 0.29 NTU % of samples ≤ 0.3 NTU = 100	Highest Level Found = 0.28 NTU % of samples ≤ 0.3 NTU = 100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
20	Total Organic Carbon		TT = Quarterly RAA Removal Ratio ≥ 1.0		NA	Lowest Quarterly RAA Ratio = 2.0	Lowest Quarterly RAA Ratio = 1.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Inorganic Chemicals</b>																	
1, 13	Barium (µg/L)		1000	100	2000	ND	ND	ND	ND	130	ND - 150	230	210 - 260	140	110 - 210	260	220 - 290
1, 17	Chromium Total (µg/L)		50	10	(100)	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND - 12
1, 21	Chromium 6 (Cr6) (µg/L)***		10	1	0.02	ND	NA	NA	6	5 - 8	9	9 - 10	6	5 - 7	9	8 - 12	
12	Selenium (µg/L)		50	5	30	ND	ND	ND	ND	ND	ND - 7	ND	ND	ND	ND	ND	ND
1, 7, 14	Fluoride (mg/L)		2	0.1	1	.01	ND - 0.1	ND	ND	ND	ND - 0.1	0.1	0.1	ND	ND - 0.1	0.1	ND - 0.1
1, 3	Nitrate (as N) (mg/L)		10	0.4	10	ND	ND - 0.8	1.9	1.3 - 3.1	3.3	2.0 - 5.1	3.7	3.6 - 3.9	3.2	2.9 - 3.9	4.4	3.7 - 5.8
<b>Radionuclides</b>																	
1	Uranium (pCi/L)		20	1	0.43	ND	ND	ND	ND - 1	2	1 - 3	ND	ND - 1	3	2 - 3	ND	ND
<b>REGULATED CONTAMINANTS</b>																	
15	Color		15	0	—	0.4	0 - 2.5	1	0 - 2.5	0	0	0	0	0	0	0	0
2, 18	Conductivity (µS/cm)		1600		—	578	378 - 884	533	360 - 694	621	392 - 727	731	668 - 808	976	858 - 1028	755	656 - 840
6, 18	Chloride (mg/L)		500		—	108	69 - 180	111	68 - 160	74	43 - 88	59	52 - 70	82	78 - 84	67	52 - 86
6, 19	Sulfate (mg/L)		500	0.5	—	32	14 - 49	26	13 - 40	43	23 - 56	46	43 - 49	69	44 - 81	43	39 - 53
6	Total Dissolved Solids (mg/L)		1000		—	315	205 - 478	287	191 - 360	355	212 - 416	428	400 - 455	568	522 - 602	433	369 - 492
11	Turbidity (NTU)		5	(0.05)	—	NA	NA	NA	NA	0.1	ND - 0.06	ND	ND	0.1	ND - 0.3	0.2	ND - 0.4
<b>ADDITIONAL PARAMETERS — Included to assist consumers in making health or economic decisions, i.e. low sodium diet, water softening, etc.</b>																	
22	Alkalinity as calcium carbonate (mg/L)		—		—	79	50 - 152	65	49 - 77	166	102 - 195	245	239 - 255	320	290 - 339	238	206 - 264
8	Boron (µg/L)		—	100	—	170	ND - 240	150	ND - 230	1000	680 - 1300	430	370 - 530	488	430 - 540	340	230 - 410
22	Total Hardness as calcium carbonate (mg/L)		—		—	110	69 - 170	91	64 - 116	218	113 - 274	285	264 - 314	391	378 - 405	321	288 - 362
8	Potassium (mg/L)		—		—	3	2 - 5	3	2 - 4	1	1 - 2	2	2	2	2	2	2
22	Sodium (mg/L)		—		—	67	46 - 106	69	47 - 86	44	34 - 61	49	42 - 56	60	39 - 71	35	29 - 44
	pH (Units)		—		—	8.3	7.8 - 8.8	8.4	7.8 - 9.0	7.6	7.5 - 7.7	7.5	7.4 - 7.6	7.4	7.2 - 7.4	7.3	6.9 - 7.5
8	Silica (mg/L)		—		—	9	4 - 14	10	5 - 14	13	8 - 15	27	26 - 28	24	24 - 26	25	23 - 28

**\*\*\* Chromium 6 (Cr6) MCL Compliance**

- Treatment Plants, Mocho and Hopyard Well Fields: latest data for Cr6 is from 2011.
- For MCL compliance COL 5 water is blended with other COL well(s) prior to entry into the distribution system per DDW approved blending plan. Blending sampling location is El Charro Pipeline. Monthly sample is collected whenever COL well 5 is used for supply. Blending station CR6 data from 2016: MCL 10 µg/L, PHG 0.02 µg/L, Average 9 µg/L, Range 8-10 µg/L.

**LEAD AND COPPER RULE**

Contaminant	No. of Samples Collected	90th Percentile Level Detected	Number of Sites Exceeding AL	Action Level (AL)	PHG
1, 9, 16 Lead (mg/L)	30	0.003	2	0.015	0.0002
1, 9, 10 Copper (mg/L)	30	0.37	None	1:3	0.3

This rule is applicable to DSRSD's direct customers only. Per DDW approval, compliance monitoring is conducted once every three years. Data from June-July 2016 monitoring is summarized on the left.



Every five years these smaller annual surveys are compiled into a complete survey and updated to reflect current conditions. Two additional surveys are anticipated by June 2017, one focusing on an analysis of water quality data for the Sacramento-San Joaquin River Delta and the State Water Project facilities, and the second one analyzing the impacts of the 2012-2015 drought on water quality and water treatment. These three annual surveys will be bundled together in time for the required submittal to DDW.

After leaving the Delta, water is transported to Zone 7 via the South Bay Aqueduct (SBA). SBA water quality may also be vulnerable to pollution from local cattle grazing, wildlife activities, and recreational activities in the watersheds of the Bethany and Del Valle reservoirs. Zone 7 is proactively participating in a number of activities to improve water supply reliability and water quality of the SBA.

To request copies of source water studies or for more information, contact Zone 7 Water Quality Manager Gupal Deol at (925) 447-0533.

### HOW HARD IS OUR WATER?

Naturally occurring calcium and magnesium cause water to be “hard.” We measure hardness by the amount of calcium carbonate in the water, expressed either as milligrams per liter (mg/L) or grains per gallon (gpg). Our water is moderately hard to hard, in the range of 115-324 mg/L (7-19 gpg). Because our water is a variable blend of surface and groundwater, hardness changes throughout the year and by location in the District.

During droughts, water hardness is higher than normal because the blend contains a larger proportion of groundwater. In addition, Zone 7 may not operate its demineralization plant during droughts to conserve water.

### WHAT IS BEING DONE TO IMPROVE WATER HARDNESS?

Zone 7 has a demineralization plant to slow down the buildup of salts and minerals in our groundwater basin and reduce the hardness of groundwater pumped from the Mocho Well Field in western Pleasanton.

## QUESTIONS AND ANSWERS ABOUT OUR WATER

### *Why does the taste of our tap water sometimes change?*

Many factors can affect the taste of water. DSRSD’s water is a blend of surface water and groundwater. The blend changes throughout the year and these variations can change taste and odor. Chlorine used to disinfect the water supply occasionally produces a chemical smell. Rapid algae growth in the Delta can cause an earthy or musty taste or smell. (These algae “blooms” can occur at any time but are most common from late spring through early fall.) None of these changes in taste or odor affects the safety of the water.

Rotting food in the garbage disposal or bacteria in the P-trap under the drain can also cause a foul smell. To get rid of the odor, fill the sink with hot water, add an ounce of household bleach, and allow the water to drain slowly. If you have a water filter on your faucet or refrigerator, be sure to change it as often as recommended. Otherwise it becomes a breeding ground for bacteria that not only taste or smell foul but can make you sick.

### *Why does our water taste different than EBMUD’s?*

East Bay Municipal Utility District (EBMUD) gets most of its water from the Mokelumne River watershed and channels it into an aqueduct east of the Delta. The water never passes through the Delta and that’s why it tastes different than DSRSD’s water, which is a blend of surface water that has flowed through the Delta and groundwater extracted from local wells.

### *What is being done to improve water taste and address algae?*

During warm months when algae blooms are more likely in the Delta, the Department of Water Resources (DWR) applies copper sulfate and Zone 7 adds powdered activated carbon to the water to remove some of the taste-and-odor-causing compounds released by algae.

DWR monitors for toxic compounds released by algae, including cyanotoxins produced by some blue-green algae, throughout the State Water Project. In addition, Zone 7 implemented its own algal toxins monitoring in 2016. Blue-green algae is appearing more frequently in water bodies such as the Delta and Lake Del Valle, which supply water to Zone 7.

A study of Zone 7’s source water identified ozone as the only effective treatment of such cyanotoxins. Zone 7 is currently designing improvements that will add ozone treatment to surface water provided to DSRSD and other Tri-Valley water retailers. In addition to removing algal toxins, ozonation will



reduce disinfection by-products and improve the taste and odor of our water more effectively than current treatments. Provided that Zone 7 obtains construction financing, ozonation is scheduled to begin at the Del Valle treatment plant by 2019 and at the Patterson Pass plant by 2021.

### Does our tap water contain fluoride?

Yes. Fluoride occurs naturally and is added to promote strong teeth. Voters in the District’s service area approved fluoridation in 1974 and treatment began in 1977. The District complies with the optimal level of 0.7 milligrams of fluoride per liter of water (mg/L) and control range of 0.6 to 1.2 mg/L, as required by federal and state regulations. Information about fluoridation, oral health, and current issues is available from [www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/Fluoridation.shtml](http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml).

### What do you advise about water softeners?

The District discourages customers from installing salt-regenerated water softeners because they add excess amounts of salt to our wastewater, which in turn increases the salinity of recycled water used for irrigation. The salt in recycled water seeps back into our groundwater basin where it degrades the quality of our drinking water supply. Zone 7 operates a demineralization plant to remove salt from groundwater, but this is an expensive process. The more softened water that is used in the District, the higher the costs for all customers.

If having soft water is important to you, please consider using a water softening service. The company will install portable water softening tanks at your home and replace them on a regular schedule. The company disposes of the brine in the tanks under controlled conditions so it never enters the District’s wastewater, recycled water, or groundwater basin.

### Service Area

A public agency founded in 1953, DSRSD distributes water, recycles water, and collects, treats, and disposes of wastewater for 173,000 people in Dublin, southern San Ramon, Dougherty Valley, and Pleasanton.

## CONTACT US

We encourage public interest and participation in District decisions affecting water service and other District business. Board meetings occur on the first and third Tuesday of every month at the District Office, 7051 Dublin Blvd., Dublin, at 6 p.m. The public is welcome. For agendas, minutes, and video recordings of past meetings, visit the District website.

#### District website:

[www.dsrdsd.com](http://www.dsrdsd.com)

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#### Service or bill inquiries:

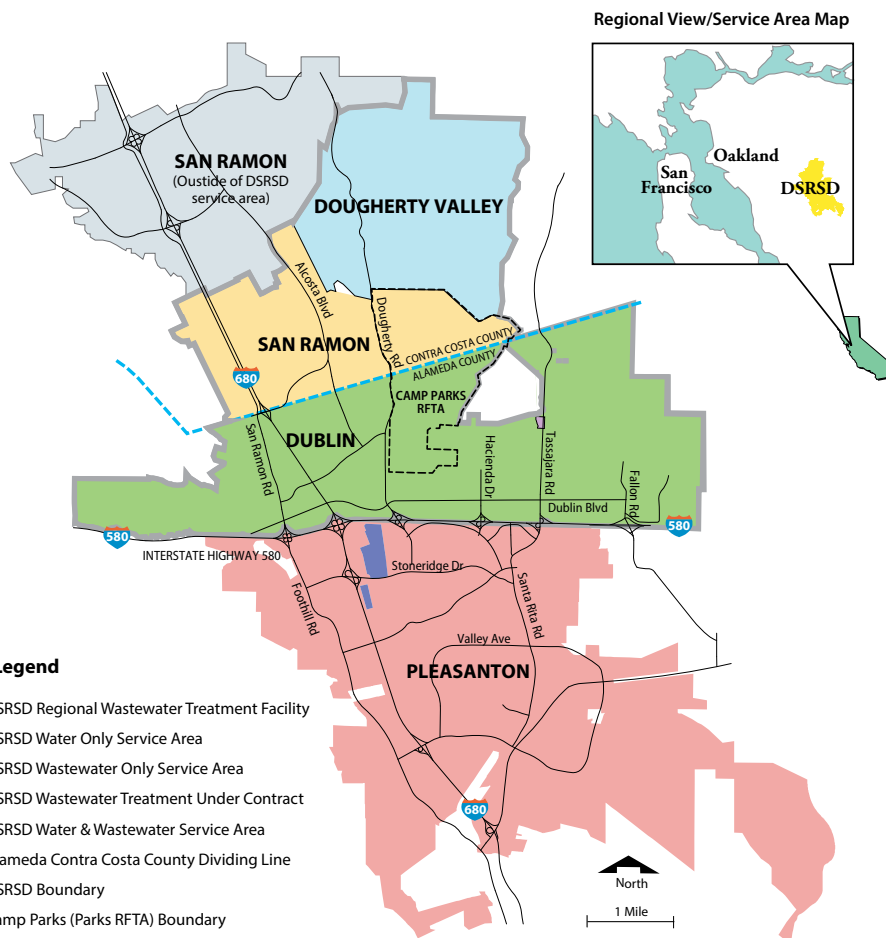
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*The State Water project uses Del Valle Reservoir (above) to store imported water for Zone 7, the Alameda County Water District (serving the Fremont area), and the Santa Clara Valley Water District. Zone 7 also uses a small portion of reservoir capacity to store rain runoff from the local watershed.*

## **A MESSAGE FROM THE GENERAL MANAGER** *(continued from front cover)*

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about the total coliform tests by mail. We also posted the notices on our website and our Nextdoor social media site, and have provided additional details on page 3 of this report.

If our tests ever uncover a situation that makes our water unsafe, be assured we will provide specific instructions to all affected customers immediately via door hangers and eNotification emails. We also broadcast such information to the general public through our website, news releases, and social media. I encourage you to subscribe to our eNotification system so we can email you in an emergency. Go to [www.dsrds.com/eNotification](http://www.dsrds.com/eNotification) and subscribe to Emergency Information under News.

### **LEAD IN DRINKING WATER**

Lead dissolves into drinking water from the corrosion of plumbing or fixtures that contain lead. Even though California now requires new household plumbing, fixtures, and solder to be lead-free, lead is still present in some older pipes and faucets and in the older solder that was used with copper pipes. These problems are most likely to occur in houses built before 1986.

Every three years, DSRSD is required to test for lead and copper in the indoor tap water from a representative sample of homes built before 1986. Of the 30 homes we tested in 2016, only one home's water contained more lead than the regulatory standard of 15 parts per billion (ppb) and another's tested right at that level.

Our test results indicated a localized problem with the homes' older plumbing, rather than a widespread problem with the water distribution system. While we were not required to take any action, our staff advised the homeowners about the advantages of replacing old plumbing with new lead-free materials.

If you live in a home built before 1986, or if members of your family have special health concerns, please carefully read the information about lead on page 3 of this report. Additional resources are available on our website, [www.dsrds.com/lead](http://www.dsrds.com/lead).

We know you depend on us to provide a safe and reliable water supply, and we work hard every day to fulfill this responsibility to the community. I welcome your input; reach me at [mcintyre@dsrds.com](mailto:mcintyre@dsrds.com) or (925) 875-2200.

Daniel McIntyre  
General Manager