OAKWOOD LAKE WATER DISTRICT

2018 Consumer Confidence Report

Water System Name: **Oakwood Lake Water District - Subdivision** Report Date: June, 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 - December 31, 2018 and may include earlier monitoring data in those cases where sampling and testing was not required in 2018 for a constituent.

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

Type of water source in use: The source of water for the Oakwood Lake Water District is groundwater. See below for information about the Source Water Assessment previously conducted.

Water Sources: Oakwood Lake Water District has two sources of raw (untreated) water: Well No. 3 and Well No. 4 both of which are located within the boundaries of the Oakwood Lake Water District. Raw water from these two sources is combined, treated and disinfected at the Oakwood Lake Water District arsenic/manganese removal system located within the District. The treated water is distributed to customers.

Opportunities for public participation in decisions that affect drinking water quality: Regularly-scheduled meetings of the Oakwood Lake Water District Board of Directors are held on the fourth Tuesday of each month at the community clubhouse at 1699 Bella Lago Way at 7:00 p.m. Members of the public are welcome to attend and may address the Board of Directors. For further information about Board meeting schedules and agendas or to subscribe to the email list for notifications call Jean Knight, District Secretary at (209) 543-6250. Agendas of upcoming meetings and minutes of prior meetings are posted on the District's website at www.oakwoodlakewater.com. Also posted on the website is this Consumer Confidence Report as well as those from prior years.

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: State Board permission 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)

More information: For more information about this Consumer Confidence Report, or any questions relating to your drinking water, please call Casey Wichert at (209) 483-5525 or email him at caseywichert@valleyoperators.com.

The source of the groundwater which constitutes your drinking water is ultimately precipitation which, after it falls to earth, collects naturally in rivers, lakes, streams, ponds, reservoirs, springs, and wells. As this water collects and travels over the surface of the land and as it percolates into the ground and then travels 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, which 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*, which 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, which 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*, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that your water is safe to drink, the U.S. EPA and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water systems. State Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health; Oakwood Lake Water District does not provide or distribute bottled water nor does it endorse any particular bottled water product.

Tables 1 through 8 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 the District 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 HIGHLIGHTED. ADDITIONAL INFORMATION REGARDING THE VIOLATION IS PROVIDED LATER IN THIS REPORT.

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

Microbiological Contaminants	Highest No. of Detections in a Month	No. Months in Violation	MCL	MCLG	Typical Source of Contaminant
Total coliform bacteria	2	1 (Oct., 2018)	No more than 1 positive monthly sample	0	Naturally present in the surrounding environment

TABLE 2 – SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER
Data is from most recent sampling

Lead and Copper	Sample Date	No. of Samples Collected	90th Percentile Level Detected	No. Sites Exceeding AL	AL	PHG	No. of Schools Requesting Lead Sampling[1]	Typical Source of Contaminant
Lead (ppb)	2016	5	1.3[2]	0	152[2]	0.2[3]	0	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	2016	5	0.165[2]	0	1.3[2]	0.3[3]	0	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

[1] There are no schools served by Oakwood Lake Water District
[2] At fixtures inside the home
[3] In the distribution system

TABLE 3 – SAMPLING RESULTS FOR SODIUM AND HARDNESS

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	2018	104	93 - 114	none	none	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2018	109.5	109 - 110	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

Data is provided for the most recent sampling

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Arsenic (ppb)[4]	2018	4	2 – 6	10	0.004	Erosion of natural deposits; runoff from orchards, wastes from glass and electronics production and glass disposal areas
Barium (ppm)	2017	0.24	0.20 – 0.27	1	2	Discharge from oil drilling wastes and from metal refineries; erosion of natural deposits
Fluoride[5] (ppm)	2017	0.1	0.1 – 0.1	2	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha (pCi/L)	2014	3.10	1.40 – 4.80	15	0	Erosion of natural deposits
Uranium (pCi/L)	2014	1.30	ND – 2.61	20	0.43	Erosion of natural deposits

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

Data is provided for the most recent sampling

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Chloride (ppm)	2017	106	105 – 106	500	n/a	Runoff/leaching from natural deposits; seawater influence
Manganese [4] (ppb)	2018	ND	ND - ND	50	n/a	Leaching from natural deposits
Color (Units)	2014	3	ND – 5	15	n/a	Naturally occurring organic materials
Specific Conductance (umhos/cm)	2017	704	691 – 717	1600	n/a	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2018	17.6	17.6 – 17.6	500	n/a	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2018	400	400 - 400	1000	n/a	Runoff/leaching from natural deposits
Turbidity (NTU)	2017	0.1	0.1 – 0.1	5	n/a	Soil runoff

TABLE 6 – DETECTION OF UNREGULATED CONTAMINANTS

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	Notification Level	Health Effects Language
Boron (ppm)	2018	0.3	0.3 – 0.3	1	Leaching from natural deposits. The babies of some pregnant women who drink water containing boron in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.

[4] After treatment

[5] This is naturally occurring fluoride; Oakwood Lake Water District does not fluoridate its water supply.

TABLE 7 – ADDITIONAL MONITORING Data is provided for the most recent sampling				
Chemical or Constituent (and reporting units)	**Sample Date**	**Level Detected**	**Range of Detections**	**Notification Level**
Calcium (ppm)	2018	35	35 - 35	n/a
Magnesium (ppm)	2018	7	7 – 7	n/a
pH (units)	2018	7.7	7.7 – 7.7	n/a
Alkalinity (ppm)	2018	140	140 - 140	n/a
Aggressiveness Index	2017	12	11.9 – 12.0	n/a
Langelier Index	2017	0.13	0.05 – 0.20	n/a

TABLE 8 – DETECTION OF DISINFECTANT/DISINFECTANT BYPRODUCT RULE							
Chemical or Constituent (and reporting units)	**Sample Dates**	**Level Detected**	**Range of Detections**	**MCL [MRDL]**	**PHG (MCLG)**	**Violation**	**Typical Source of Contaminant**
Total Trihalomethanes (TTHMs) (ppb)	2018	15	15.0\ – 15.0	80	n/a	No	Byproduct of drinking water disinfection
Haloacetic Acids (five) (ppb)	2018	2	2 – 2	60	n/a	No	Byproduct of drinking water disinfection
Chlorine (ppm)	2018	1.32	0.70 – 1.91	4.0	4.0	No	Drinking water disinfectant added for treatment

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).

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. Oakwood Lake Water District is responsible for providing high quality drinking water to your metered connection, 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 (1-800-426-4701) or at http://www.epa.gov/lead.

Summary Information for Violation of a MCL, MRDL, AL, TT, or Monitoring and Reporting Requirement *(Total Coliform Bacteria)*

In October, 2018 two District samples were positive for total coliform placing the District in violation of the maximum contaminant level (MCL) for total coliform which is no more than one positive test in any given month. However, evidence available from the time of the incident in the form of strong chlorine residuals, the chronology of events associated with the incident and follow-up testing conducted at the direction of the California Division of Drinking Water

suggest that this was not indicative of a contamination of the treated water supply delivered to District customers but rather the result of sample contamination.

The Incident

On October 15, 2018 the District was informed that the total coliform sample for the treated water from Well No. 4 that was collected on October 13, 2018 was positive for total coliform (MPN of 23.8) but negative for E. coli. The raw water from Well No. 4 was negative for both total coliform and E. coli. The chlorine residual at the time of sampling was 1.08 mg/L indicating a strong level of disinfectant.

In accordance with standard practice Well No. 4 was resampled on October 15, 2018; at the time the chlorine residual of the sample was 1.34 mg/l again indicating a strong level of disinfection. On October 17, 2018 the District was informed that the total coliform sample for that sample was again positive for total coliform (MPN of 1) and again negative for E. coli. This second positive total coliform in the month of October, 2018 represents the violation.

Raw and treated water from Well No. 3 was negative for total coliform on both days. The chlorine residual leaving the District's storage reservoir and entering the distribution system was 1.11 mg/l and 1.24 mg/l on each day, respectively; this is an indication that the water being distributed to District customers was properly disinfected.

Chronology of Events

On October 13, 2018 District operations staff turned on Well No. 4 from the Water Treatment Plant and then drove to the well site to check chemicals, flows and do a site check. When driving back from the well the operator observed a low cloud of dust across the road originating from farming operations across the street where the orchard was being plowed. There was no wind that morning so the cloud of dust lingered. The District's operator rinsed off the sample tap before sampling but observed that there was still significant dust in the air. It is speculated that the sample was contaminated by the dust and that total coliform (MPN = 23) in the dust was the source of the contamination.

On October 15, 2018 when the District re-sampled in response to the results received. There was no dust cloud present. However, the result of the testing for total coliform was still positive (MPN = 1). Before the California Division of Drinking Water directed sampling started on October 17, 2018 District staff scrubbed the sample tap with a brush and bleach solution. No further positive results were received.

Follow-up Testing Ordered by California Division of Drinking Water

In response to further direction from the California Division of Drinking Water on October 17 and 18, 2018 the District collected eighteen (18) samples as follows the purpose of which sampling was to ensure that the water in the District's distribution system was free of bacteriological contamination.:

- Day 1 (Wednesday 10/17/18): total 9 samples
  - One sample from Well No. 4 Raw
  - One sample from Well No. 4 Treated (filter effluent)
  - One sample from the District's storage tank effluent
  - 6 distribution system samples taken throughout the system.
- Day 2 (Thursday 10/18/18): total 9 samples
  - One sample from Well No. 3 Raw
  - One sample from Well No. 3 Treated (filter effluent)
  - One sample from the storage tank effluent
  - 6 distribution system samples taken from throughout the system.

All the samples taken on these two dates were negative for total coliform. With that information the California Division of Drinking Water concurred that the District's distribution system was not contaminated.

Conclusion

Based on the evidence of strong chorine residuals, the chronology of events described above and the results of the follow-up sampling directed by the California Division of Drinking Water it has been concluded that the water delivered to

District customers was not contaminated and that proximate cause of the high total coliform results that triggered the violation was the dust originating from farming activities that contaminated the sample as it was being collected.

Drinking Water Assessment Information

Source water assessments were conducted for Well 3 and Well 4 in October, 2005. The sources are considered most vulnerable to the following activities associated with contaminants detected in the water supply:

- Illegal activities / unauthorized dumping;
- Parks;
- Crops, irrigated; and
- Fertilizer, Pesticide / Herbicide Application.

The sources are considered most vulnerable to the following activities not associated with any detected contaminants:

- Sewer collection system;
- Housing high-density;
- Above ground storage tank;
- Wells-water supply;
- Storm drain-discharge points;
- Storm-water detention facilities; and
- Wells – agricultural/irrigation.

Discussion of Vulnerability

Arsenic has been detected above 10 parts per billion (ppb or ug/l), the maximum contaminant level (MCL) set for arsenic by the USEPA. The possible contaminating activity associated with the arsenic is that at one time the Oakwood Shores and surrounding areas were agricultural land where fertilizer was applied to crops. The District has installed an arsenic removal treatment system to remove the arsenic to below the MCL prior to entry into the distribution system.

Acquiring Information

A copy of the assessments are available by contacting the SWRCB, Division of Drinking Water, 31 East Channel St., Room 270, Stockton, CA 95202 or call (209) 948-7696.