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84 YEARS OF SERVICE 1931 2015
PALM RANCH IRRIGATION DISTRICT
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A PUBLIC AGENCY • ORGANIZED JULY 7, 1959
(661) 943-2469

2014 Annual Water Quality Report

Dear Customer:
This is the 2014 Annual Water Quality Report. We are committed to serving you water well within the State and Federal Quality Standards. A team of qualified Chemists, Microbiologists, and Engineers work to ensure that the water reaching your home is always safe and wholesome. We strive to keep you informed about the quality of your water, and to provide a reliable and economic supply that meets all water quality standards and requirements.

If you have any questions or concerns regarding water quality, please contact Peter Tuculet at (661) 943-2469. You can also stop by the office during regular business hours (M-F, 7-4 p.m.) at 4871 West Columbia Way or attend any of our Regular Board Meetings held during the evening of the second Wednesday of every month at 7 p.m.

About This Report Inside this report you will find a list of analysis that was conducted during the calendar year of 2014. Although we test for several dozen different chemical contaminates as prescribed by the CDPH, we only report results of what was actually detected in our water. This report may seem very technical, but we have made every effort to keep it readable. Below is an explanation of common water quality concerns and definitions.

What is the Source of the District's Water Supply?
Palm Ranch Irrigation District receives it's water from two sources, Ground Water and Surface Water. The ground water is extracted from the underlying groundwater basin by wells owned and operated by the District. The Surface water is purchased from AVEK (the Antelope Valley East Kern Water Agency) Quartz Hill treatment plant, which gets its Water Supply from the California Aqueduct.

Palm Ranch primarily uses Ground Water except for periods of very high demand during 2-3 summer months or, a scheduled shut down of our Distribution System for repair and/or upgrade.

Is my drinking water treated? If so how?
Two of our wells are not treated except for Disinfection. Chlorine is added in controlled amounts to well water to kill any disease causing microbes (germs) that could grow in and on the pipes that carry drinking water to residences.

Two of our wells are treated using coagulation, and filtration to reduce unacceptable levels of arsenic to standard, and all surface water is treated using coagulation, flocculation and filtration to purify the water. Filtration and disinfection makes the water clear and kills germs to make the water safe for the public to drink.

What does the Water District's Staff do to monitor the quality of our drinking water?
To ensure water is safe to drink, the United States Environmental Protection Agency (USEPA) and the California Department of Public Health, prescribe regulations that limit the amount of certain chemical contaminates in water provided by public water systems.

To meet these standards, the Water District uses a State Certified Laboratory to conduct all water analyses. Analyses were performed on water samples taken weekly from the District's wells and distribution system. The District's wells are tested for Chemical, Physical, Radioactive and Bacteriological parameters as required by the State and Federal Regulations. We also test for additional Organic and Inorganic Chemicals that are required but not yet regulated. In addition to the District's analyses, AVEK also analysis their raw and treated water samples.

Besides source testing, we monitor the water quality throughout the Distribution System. Several key locations have been selected for this purpose. Every week, each location is tested for Bacteria and Disinfectant level, and twice monthly for Color, Turbidity and Odor to assure our customers receive safe and high quality drinking water. All tests are conducted by State Certified Laboratories, using federally approved Testing Methods.

What contaminants may be present in water?

Sources of drinking water (both tap & bottled) 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, radio-active material, and can pick up substances resulting from the presence of animals or 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 a salts and metals, that can be naturally occurring or a result of urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Radioactive contaminants, which can be naturally occurring, or be the result of oil and gas production and mining activities.

Drinking water including bottled water may be reasonably expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. Organic chemical contaminants, including synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, can also come from gas stations, urban storm water run-off, agricultural application and septic systems. More information about contaminants and potential health affects can be obtained by calling the EPA's Safe Drinking Water Hotline (800) 426-4791.

Does the District test for lead and copper?

During June 2014 we conducted lead and copper sampling from 21 representative sites in our District as required by DHS. The 90th percentile result for copper was .12 mg/l and 0.0 mg/l for lead. The next round of monitoring is scheduled for June of 2017. If you would like to participate in the next round of monitoring, please contact the office.
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. Palm Ranch Irrigation District 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 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

What is Cryptosporidium? Should I be concerned about it?

Cryptosporidium is a microscopic organism that causes a gastrointestinal called cryptosporidiosis, which may cause diarrhea, headache, abdominal cramps, nausea, and vomiting and low-grade fever. The infectious microorganism can be transmitted through ingestion of contaminated food, drinking water, or by direct contact with the fecal matter of infected persons or animals.

The chance of its presence in the water supply is extremely small because it is being monitored on a regular basis. Cryptosporidium exists only in surface water, and the treatment techniques that AVEK provides, greatly minimizes the chance of its presence in finished water.

While the general public is at very low risk of contracting Cryptosporidium, immuno-compro-mised 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. USEPA / Centers for disease control (CDC) guidelines on appropriate means to lessen the risks of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800) 426-4791.

Definitions of Water Quality Terms

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected health risk. PHG's are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water, which there are, no known or expected health risk. The EPA sets MCLG's.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's and PHG's as is economically or technologically feasible.

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

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

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

mg/L = milligrams per liter (same as ppm)
ppm = parts per million (same as mg/L)
ug/L or ppb = parts per billion
pci/L = picoCuries per liter
NTU = Nephelometric Turbidity Units
MFL = Million fibers per liter (fibers longer than 10 microns)
< = Less than
> = Greater than
umho/cm = micromhos per centimeter
N/D = None Detected
N/S = No Standard
N/A = Not Available

PALM RANCH IRRIGATION DISTRICT System # 1910103 Test Results

Coliform Bacteria Test Method Presence-Absence		No. of Violations None		No. of Samples Taken 190	No. of Samples Positive None		Typical Source of Contamination naturally occurring in the environment
General Mineral-Physical	**Unit measurement**	**MCL**	**PHG-MCLG**	**Palm Ranch Average**	**Range of Detection**	**Violation**	**Typical Source of Contamination**
Total Hardness	(mg/L)	N/S	N/S	**210**	140-310	None	naturally occurring in the environment
Calcium	(mg/L)	N/S	N/S	**67**	51-84	None	naturally occurring in the environment
Magnesium	(mg/L)	N/S	N/S	**10**	2.3-13	None	naturally occurring in the environment
Sodium	(mg/L)	N/S	N/S	**67**	56-85	None	naturally occurring in the environment
Potassium	(mg/L)	N/S	N/S	**1.7**	1.6-2.5	None	naturally occurring in the environment
Alkalinity	(mg/L)	N/S	N/S	**140**	130-150	None	naturally occurring in the environment
Bicarbonate	(mg/L)	N/S	N/S	**180**	160-180	None	naturally occurring in the environment
Sulfate	(mg/L)	500	N/	**86**	30-100	None	naturally occurring in the environment
Chloride	(mg/L)	500	N/S	**68**	33-110	None	naturally occurring in the environment
PH	0-7-14	N/S	N/S	**7.6**	7.3-8.0	None	ions in water
Specific Conductance	(umhos/cm)	1600	N/S	**720**	550-880	None	naturally occurring in the environment
Total Disolved Solids	(mg/L)	1000	N/S	**460**	370-580	None	naturally occurring in the environment
Odor	TON	3	N/S	**1**	0-1	None	naturally occurring in the environment
Turbidity	NTU	5	N/S	**0**	0-0.20	None	particulates in water
Color	(ug/L)	15	N/S	**0**	0-<3	None	naturally occurring in the environment
Inorganics	**Unit measurement**	**MCL**	**PHG-MCLG**	**Palm Ranch Average**	**Range of Detection**	**Violation**	**Typical Source of Contamination**
Arsenic	(ug/L)	10	4	**4.2**	0-8.0	None	naturally occurring in the environment
Flouride	(mg/L)	2	1	**0.48**	0.34-0.70	None	naturally occurring in the environment
Nitrates as NO3	(mg/L)	45	45	**30**	14-45	None	naturally occurring in the environment
Chromium	(ug/L)	50	NS	**0**	0-14	None	naturally occurring in the environment
Nitrate/Nitrite as N	(ug/L)	10000	NS	**6300**	2900-4200	None	naturally occurring in the environment
Radiological	**Unit measurement**	**MCL**	**PHG-MCLG**	**Palm Ranch Average**	**Range of Detection**	**Violation**	**Typical Source of Contamination**
Gross Alpha	(pci/L	15	0	**7.4**	0-5.6	None	naturally occurring in the environment
Uranium	(pci/L)	20	0.43	**4.9**	0-6	None	naturally occurring in the environment
Disinfection Byproducts	**Unit measurement**	**MCL**	**PHG-MCLG**	**Palm Ranch Average**	**Range of Detection**	**Violation**	**Typical Source of Contamination**
Trihalomethane	(ug/L)	80	N/S	**6.3**	0-2	None	by product of disinfection
Haloacetic Acids	(ug/L)	60	N/S	**.9**	0	None	by product of disinfection
Unregulated Chemicals	**Unit measurement**	**MCL**	**PHG-MCLG**	**Palm Ranch Average**	**Range of Detection**	**Violation**	**Typical Source of Contamination**
Vanadium	(ug/L)	NS	NS	9.2	19-25	None	naturally occurring in the environment

A note about Nitrate:

Nitrate in drinking water at levels above 45 mg/L or parts per million, is a health risk for infants of less than six months of age. Such Nitrate levels in drinking water can interfere with the capacity of an infant's blood to carry oxygen, resulting in a serious illness. Symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L (ppm) may also affect the ability of blood to carry oxygen in other individuals, such as pregnant women and those with certain enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

A note about Arsenic:

On January 23, 2006 the US Environmental Protection Agency reduced the arsenic standard in drinking water from 50 to 10 parts per billion. Some people who drink water containing Arsenic in excess of the maximum contaminate level of 10 ug/L (ppb) over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer. Palm Ranch Irrigation District has installed a filtration system to remove the arsenic from it's drinking water supply.

The California Department of Public Health, Drinking Water Field Operations Branch, Central District, conducted source water assessments for Wells 04, 05, 07 & 08 for Palm Ranch Irrigation District in August 2001. The purpose of the assessment was to determine the vulnerability of the Wells to "possible contaminating activities".