



Marine Corps Base Camp Pendleton

2015 Consumer Confidence Report

J U N E 2 0 1 6

SPECIAL POINTS OF INTEREST:

- Find out where your drinking water comes from
- Understand your drinking water quality
- Learn how you can protect your drinking water sources
- Get tips on water conservation
- Find contact information and additional resources

INSIDE THIS REPORT:

- p. 2 Water Quality Monitoring
Fluoridation
Lead in Drinking Water
- p. 3 Bottled Water vs. Tap
Terms Used in This Report
- p. 4-5 Water Quality Monitoring Results
- p. 6 Source Water Assessment & Protection
Household Hazardous Waste & Disposal
Water Conservation
- p. 7 General Information about Drinking Water
Drinking Water Considerations
Questions?

This report provides information on the quality of the water provided to residents and personnel who lived and worked aboard Camp Pendleton during 2015. Included are details about where the water comes from, what it contains, and how it compares to established drinking water standards.

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

Drinking Water Sources

Unlike most of Southern California, which relies on imported water supplies, nearly all of Camp Pendleton's drinking water comes from local groundwater sources. Wells located on the base supply water to all portions of Camp Pendleton except for San Mateo Point Housing, which receives water from the South Coast Water District. Residents of San Mateo Point Housing should receive a consumer confidence report from this off-base water purveyor.

Water Service Areas

Camp Pendleton provides water to the base through one of two drinking water systems:

The Northern Water System services all areas north of Las Pulgas Road except the 43 Area and San Mateo Point housing. Wells located in the San Onofre and San Mateo River basins supply water to this water system.

The Southern Water System services the 43 Area and all areas south of Las Pulgas Road except Building 21153, which receives water from the City of Oceanside. Wells located in the Las Pulgas and Santa Margarita River basins supply water to this water system.



Camp Pendleton water service areas

Water Quality Monitoring



Camp Pendleton routinely tests the water to ensure that it meets safe drinking water standards. In addition to monitoring for contaminants with established drinking water standards, the base also monitors for unregulated contaminants, which helps the U.S. Environmental Protection Agency (USEPA) and the California State Water Resources Control Board (SWRCB) determine where certain contaminants occur and whether such contaminants require regulation. Last year, Marine Corps Installations West—Marine Corps Base Camp Pendleton performed over 20,000 water quality tests to evaluate compliance for over 200 different drinking water contaminants. While most contaminants registered below detectable levels, some occasionally did not achieve a drinking water standard. The tables on pages 4-5 depict these contaminants, along with a few others that also require reporting. The tables contain separate columns to distinguish between the water quality measured in the Northern and Southern Water Systems.

A Note on Fluoride

Camp Pendleton currently does not add fluoride to the drinking water. However, the presence of naturally-occurring fluoride in our source water may help to prevent tooth decay. General information on the oral health benefits of fluoride in drinking water is available at the following web links:

SWRCB, Division of Drinking Water

http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml



Department of Health and Human Services Center for Disease Control and Prevention (CDC)
<http://www.cdc.gov/fluoridation/index.htm>.

Lead in Drinking Water

Although sampling of residential taps during 2015 achieved standards for lead in drinking water, federal regulations require us to communicate the following health advisory concerning lead in drinking water:

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. Marine Corps Installations West—Marine Corps Base Camp Pendleton is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you 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/lead>.

Bottled vs. Tap Water

Many people prefer bottled water to tap water for taste and perceived health considerations. However, both bottled water and tap water must meet strict regulatory standards. Varying factors, such as residence time in the water distribution system, natural mineral content and residual chlorine from the water disinfection process can impart an unpleasant taste to tap water. Flushing water from the tap for a couple of seconds, allowing it to air for a period of time and/or chilling it prior to consumption may help to improve the taste of tap water.



Tap water is not only one of the best bargains Camp Pendleton drinking water consumers can find, but it also alleviates the cost and environmental burden associated with the manufacture, transport, and recycling or disposal of plastic water bottles. Go ahead and give our drinking water a try!

Terms Used in This Report

- ◆ **Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- ◆ **Detection Level for Purposes of Reporting (DLR):** The level above which a drinking water system must report contaminant detections to regulatory agencies.
- ◆ **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. A Secondary MCL (SMCL) is a standard 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.
- ◆ **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.
- ◆ **Notification Levels (NL):** Health-based advisory levels established by the Division of Drinking Water for chemicals in drinking water that lack MCLs. When chemicals are found at concentrations greater than their notification levels, certain regulatory requirements and recommendations apply.
- ◆ **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.

2015 Water Quality Monitoring Results

The following tables depict contaminant detections above a reporting limit along with other contaminants that, absent a reporting limit, require mandatory reporting (e.g., sodium, hardness, and certain unregulated contaminants). Contaminants detected over a regulatory standard are depicted in bold and underlined.

Water System Monitoring								
Parameter	Northern System	Southern System	MCL (SMCL) [MRDL]	PHG (MCLG) [MRDLG]	DLR	Units	Typical Source	
Inorganics								
Barium	Range	ND	ND - 0.11	1	2	0.1	ppm	Leaching from natural deposits; industrial waste
	Average	ND	ND					
Fluoride (Natural-Source)	Range	0.24 - 0.28	0.11 - 0.49	2	1	0.1	ppm	Erosion of natural deposits
	Average	0.27	0.31					
Nitrate as NO ₃	Range	2.5 - 6.7	ND - 3.0	45	45	2	ppm	Runoff and fertilizer use; erosion of natural deposits
	Average	4.8	ND					
Radionuclides								
Gross Alpha	Range	ND - 6.0	ND - 12	15	(0)	3	pCi/L	Erosion of natural deposits
	Average	ND	3.4					
Uranium	Range	1.1 - 1.4	4.0 - 4.3	20	0.43	1	pCi/L	Erosion of natural deposits
	Average	1.3	4.2					
Bacteriological								
Total Coliform Bacteria	Coliform Positive	<u>2</u>	0 - 2.3%	Varies – see note	(0)	N/A	P/A	Naturally present in the environment
Note: The MCL for total coliform bacteria is based on the number of total coliform positive samples per month. The Northern System complies with the MCL when no more than one monthly sample tests positive. The Southern System complies with the MCL when no more than 5% of monthly samples test positive. During October 2015, 2 samples in the Northern System tested positive for total coliform. Mandatory public notification for this event occurred on November 9.								
Disinfectants and Disinfection Byproducts								
Total Chlorine Residual	Range	0.20 - 1.8	0.40 - 3.0	[4]	[4]	N/A	ppm	Drinking water disinfectant added for treatment
	Average	1.3	1.7					
Haloacetic Acids	Range	ND - 4.6	ND - 9.4	60	N/A	N/A	ppb	By-product of drinking water disinfection
	Average	4.0	9.0					
Total Trihalomethanes	Range	5 - 25	12 - 72	80	N/A	N/A	ppb	By-product of drinking water disinfection
	Average	20	67					
Detection of Contaminants with Secondary Drinking Water Standards								
Odor	Range	1 - 2	1 - 3	(3)	N/A	1	units	Naturally-occurring organic materials
	Average	1.75	2					
Sulfate	Range	71 - 95	66 - 242	(500)	N/A	0.5	ppm	Runoff/leaching from natural deposits; industrial waste
	Average	86	131					
Sodium and Hardness								
Sodium	Range	61 - 72	64 - 150	N/A	N/A	N/A	ppm	Leaching from natural deposits
	Average	70	109					
Total Hardness	Range	210 - 236	120 - 430	N/A	N/A	N/A	ppm	Naturally occurring minerals
	Average	224	300					

2015 Water Quality Monitoring Results (cont.)

Water System Monitoring (cont.)							
Parameter	Northern System	Southern System	NL	PHG	DLR	Units	Typical Source
Unregulated Contaminants							
Chlorate ¹	Range	120 - 220	97 - 560	800	N/A	N/A	ppb
	Average	187	320				
Molybdenum ¹	Range	3.0 - 3.8	1.7 - 7.6	N/A	N/A	N/A	ppb
	Average	3.3	4.4				
Perfluorohexane-sulfonic Acid ¹	Range	ND	ND - 0.06	N/A	N/A	N/A	ppb
	Average	ND	0.02				
Perfluorooctanoic Acid ¹	Range	ND	ND - 0.02	N/A	N/A	N/A	ppb
	Average	ND	ND				
Strontium ¹	Range	270 - 450	130 - 590	N/A	N/A	N/A	ppb
	Average	320	365				
Vanadium ¹	Range	2.2 - 3.0	0.24 - 7.4	50	N/A	N/A	ppb
	Average	2.7	3.0				
1,4-Dioxane ²	Range	N/A	ND - 1.2	1	N/A	N/A	ppb
	Average	N/A	ND				

¹Testing for these contaminants was performed in accordance with the USEPA's Unregulated Contaminant Monitoring Rule (UCMR 3). The Southern System was sampled during 2013 and 2014. The Northern System was sampled during 2014 and 2015.
²Monitoring for 1,4-Dioxane was performed independently of the UCMR 3 sampling.

Tap Water Monitoring							
Parameter	Northern System	Southern System	AL	PHG	DLR	Units	Typical Source
Lead and Copper							
Copper	samples > AL	0 of 30	0 of 30	1.3	0.3	0.05	ppm
	90 th percentile	0.67	0.18				
Lead	samples > AL	0 of 30	0 of 30	15	0.2	5	ppb
	90 th percentile	ND	ND				

Note: Compliance for lead and copper is monitored at consumer taps. Compliance is based on the 90th percentile of all samples collected, which must be less than the regulatory Action Level (AL). The system is out of compliance when more than 10% of samples exceed the AL.

Abbreviations:

AL = Action Level

DLR = Detection Level for Purposes of Reporting

MCL = Maximum Contaminant Level

MCLG = Maximum Contaminant Level Goal

MRDL = Maximum Residual Disinfection Level

MRDLG = Maximum Residual Disinfection Level Goal

N/A = Not applicable

ND = Non-detect

NL = Notification Level

P/A = Presence/Absence

pCi/L = picoCuries per liter: A measure of radioactivity

PHG = Public Health Goal

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

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

SMCL = Secondary Maximum Contaminant Level

USEPA = U.S. Environmental Protection Agency

Source Water Assessment

The SWRCB's Division of Drinking Water conducted an assessment of the Base's drinking water sources during July 2002. The assessment evaluated whether Camp Pendleton's groundwater supplies are vulnerable to contamination from activities that occur, or have occurred, on Base. The assessment determined that wells in both water systems are most vulnerable to contamination commonly associated with military installations; chemical or petroleum processing or storage; historic and operational waste dumps and landfills; and airport maintenance and fueling areas. You may request a summary of this assessment by contacting Environmental Security at 760-725-9741. The complete assessment is also available for viewing at Environmental Security, Building 22165.

Source Water Protection



Because Camp Pendleton's groundwater resources are located near areas where we live and work, our activities have the potential to introduce contaminants into our drinking water supplies.

Water runoff from storm and non-stormwater related events can pickup and deposit contaminants into the rivers and streams that recharge our aquifers. Surface water contamination can also harm aquatic life and pollute our beaches. Below are some simple ways you can help us to reduce water pollution, safeguard our drinking water resources and protect the environment:

- ◆ Check your car for leaks.
- ◆ Wash your car on the grass or take your car to a carwash instead of washing it in the driveway.
- ◆ Pick up after your pet.
- ◆ Use fertilizers and herbicides sparingly.
- ◆ Sweep driveways and sidewalks instead of hosing.
- ◆ Dispose of chemicals properly; never dispose of waste, trash or any materials down storm drains.

For more information on stormwater, or to report illegal discharges into the storm drain system, call Environmental Security at 760-763-7880.

Disposal of Household Hazardous Waste

Another way to help protect our source water is to properly dispose of household hazardous waste. These are products that are typically corrosive, toxic, ignitable, or reactive, such as paints, cleaners, oils, batteries, and pesticides. The Housing District Offices provide a free program for the disposal of household hazardous waste. Never throw unwanted hazardous waste into the trash; this may injure sanitation workers and contaminate the environment. Similarly, never dispose of household hazardous waste liquids down your drains, as this also provides an easy pathway for hazardous waste to enter the environment. For questions or for more information on household hazardous waste drop-off points, call the following Housing District Offices at:

Del Mar	760-430-0040
Wire Mountain	760-430-8476
San Onofre	949-940-9178
Stuart Mesa	760-430-0694
DeLuz	760-385-4835
Mesa	760-385-5318



Water Conservation

Camp Pendleton's limited groundwater resources are vulnerable to wasteful water-use activities. In order to help conserve our groundwater supplies, please consider your water consumption, and use only the water you need. Some simple water conservation measures you can implement include:

- ◆ Report leaking faucets, toilets and irrigation systems.
- ◆ Wash only full loads of laundry and dishes.
- ◆ Do not leave water running unattended.
- ◆ Sweep driveways and sidewalks instead of hosing.
- ◆ Use a spray nozzle that allows you to adjust or stop flow.
- ◆ Take short, five-minute showers.
- ◆ Run water only when using it, not while brushing teeth, shaving, or washing counters.

For more information, please visit www.epa.gov/watersense.

General Information about Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- ◆ Microbial contaminants, such as viruses and bacteria, 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 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, which 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 the SWRCB prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. These regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Drinking Water Considerations

Drinking water, including bottled water, may reasonably be expected to contain small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.



More information about contaminants and potential health effects can be obtained by calling the USEPA'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. 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 (1-800-426-4791).

Questions?

Marine Corps Installations West—Marine Corps Base Camp Pendleton is committed to providing safe drinking water to for the Marines, families, and all who live and work aboard Camp Pendleton. We are happy to answer any questions you may have or provide you with additional information. You may also request that a hard copy of this report be mailed to you. Please contact the Environmental Security Drinking Water Section at 760-725-9741.

Additional Resources

- | California State Water Resources Control Board: http://www.waterboards.ca.gov/drinking_water/programs/index.shtml
- | California Office of Environmental Health Hazard Assessment: www.oehha.ca.gov/water.html
- | U.S. Environmental Protection Agency (USEPA): <http://water.epa.gov/drink>
- | USEPA Safe Drinking Water Hotline: 1-800-426-4791