



# Marine Corps Base Camp Pendleton

## ~ 2011 Consumer Confidence Report ~

This report provides information on the quality of the water provided to residents and personnel who lived and worked aboard Camp Pendleton during 2011. Included are details about where your 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 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 prepared by this off-Base water purveyor.

### Northern Water System

- Service Area: all areas north of Las Pulgas Road except the 43 Area and San Mateo Point housing.
- Water Source: groundwater from wells located in the San Onofre and San Mateo River basins.

### Southern Water System

- Service Area: the 43 Area (Las Pulgas) and all areas south of Las Pulgas Road.
- Water Source: groundwater from wells located in the Las Pulgas and Santa Margarita River basins.

### Water Service Areas

As depicted below, Camp Pendleton provides water to the Base through one of the following two drinking water systems:



### Water Quality and Treatment

Camp Pendleton's water is naturally hard and contains trace amounts of minerals and other natural substances. While the Base currently does not treat to reduce water hardness, treatment processes in both water systems disinfect the water prior to distribution, and additional treatment processes in Camp Pendleton's southern water system remove naturally occurring iron and manganese from the source water. Planned or in-progress treatment upgrades in both water systems include projects to install membrane filtration, which will reduce water hardness and further improve drinking water quality.

### Water Quality Monitoring

Camp Pendleton's Water Department 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 California

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ENVIRONMENTAL SECURITY  
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Department of Public Health determine where certain contaminants occur and whether such contaminants require regulation.

Last year Camp Pendleton performed over 19,000 water quality tests to evaluate compliance for over 200 different drinking water contaminants. While most contaminants registered below detectable levels, some occasionally exceeded a drinking water standard or other reporting threshold. The table provided in the center of this report depicts these contaminants, along with sodium and hardness which also require reporting. Note that the table contains separate columns to distinguish between the water quality measured in Camp Pendleton's northern and southern drinking water systems.

### Drinking Water Considerations

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 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).

### Lead in Drinking Water

Although sampling of residential taps during 2011 complied with standards for lead in drinking water, the USEPA requires water systems 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. 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/safewater/lead>."*

### 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, that 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, 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 the California Department of Public Health prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

### Terms Used in This Report

**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. *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.

**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 Standard (PDWS):** MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

**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.

**Notification Levels (NL):** Health-based advisory levels established by the California Department of Public Health 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.

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

### A Note on Fluoride

Camp Pendleton 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:

California Department of Public Health (CDPH)  
<http://www.cdph.ca.gov/certlic/drinkingwater/Pages/Fluoridation.aspx>

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

# 2011 Water Quality Monitoring Results

SOURCE WATER MONITORING (DRINKING WATER WELLS)									
PARAMETER	Units	NL	PHG	DLR	NORTH SYSTEM		SOUTH SYSTEM		Typical Source
					Average	Range	Average	Range	
<b>State Unregulated Contaminants Monitoring</b>									
Boron (a)	ppb	1000	N/A	100	149	137 - 165	134	ND - 245	Runoff/leaching from natural deposits; industrial waste
Vanadium (a)	ppb	50	N/A	3	ND	ND - 3.4	5.5	ND - 7.9	Naturally-occurring; industrial waste discharge
Hexavalent Chromium (a)	ppb	N/A	0.02	1	ND	ND	ND	ND - 1.28	Naturally-occurring; industrial waste discharge

DISTRIBUTION SYSTEM MONITORING									
PARAMETER	Units	MCL (SMCL) [MRDL] <NL>	PHG (MCLG) [MRDLG]	DLR	NORTH SYSTEM		SOUTH SYSTEM		Typical Source
					Average {Detects}	Range {Violations}	Average {Detects}	Range {Violations}	
<b>Detection of Contaminants with a Primary Drinking Water Standard</b>									
Arsenic	ppb	10	0.004	2	ND	ND - 2	ND	ND - 3	Erosion of natural deposits
Barium	ppm	1	2	0.1	ND	ND	ND	ND - 0.11	Erosion of natural deposits
Fluoride (Natural-Source)	ppm	2	1	0.1	0.29	ND - 0.39	0.42	0.33 - 0.51	Erosion of natural deposits
Nitrate as NO <sub>3</sub>	ppm	45	45	2	6.3	5.0 - 9.0	2.0	ND - 2.8	Runoff and fertilizer use; erosion of natural deposits
Total Coliform Bacteria	(b)	(c)	(0)	N/A	{0}	{0}	{2.3%}	{0}	Naturally present in the environment
Haloacetic Acids	ppb	60	N/A	N/A	3.4	ND - 9.2	8.6	ND - 20	By-product of drinking water disinfection
Total Trihalomethanes	ppb	80	N/A	N/A	16.0	1.3 - 45	45.4	4.4 - 100(d)	By-product of drinking water disinfection
Total Chlorine Residual	ppm	[4]	[4]	N/A	1.22	1.10 - 1.37	1.58	1.47 - 1.64	Drinking water disinfectant added for treatment
Gross Alpha (e)	pCi/L	15	(0)	3	ND	ND - 3.2	ND	ND	Erosion of natural deposits
Radium 228	pCi/L	N/A	0.019	1	ND	ND - 1.72	ND	ND - 2.25	Erosion of natural deposits
Uranium	pCi/L	20	0.43	1	1.8	ND - 3.0	2.7	1.0 - 4.2	Erosion of natural deposits
<b>Detection of Contaminants with a Secondary Drinking Water Standard</b>									
Color	Units	(15)	N/A	N/A	ND	ND - 10	ND	ND - 15	Naturally occurring organic materials
Odor	Units	(3)	N/A	1	1	ND - 1	1	ND - 2	Naturally occurring organic materials
Turbidity	NTU	(5)	N/A	N/A	0.34	ND - 4.7	0.21	0.06 - 3.5	Soil Runoff
Sulfate	ppm	(500)	N/A	0.5	102	70 - 140	150	88 - 220	Runoff/leaching from natural deposits; industrial waste
<b>Sodium and Hardness</b>									
Sodium	ppm	N/A	N/A	N/A	68.1	63 - 74	130	110 - 150	Leaching from natural deposits
Total Hardness	ppm	N/A	N/A	N/A	232	200 - 260	379	350 - 390	Naturally occurring mineral
<b>Unregulated Contaminants</b>									
1,2,3-Trichloropropane	ppb	<0.005>	0.0007	0.01	ND	ND	ND	ND - 0.0059(f)	Industrial waste discharge and pesticide use

TAP WATER MONITORING									
PARAMETER	Units	AL	PHG	DLR	NORTH SYSTEM		SOUTH SYSTEM		Typical Source
					90 <sup>th</sup> percentile	# samples over AL	90 <sup>th</sup> percentile	# samples over AL	
<b>Lead and Copper</b>									
Copper (g)	ppm	1.3	0.3	0.05	0.616	0 of 30	0.775	0 of 30	Internal corrosion of household plumbing systems
Lead (g)	ppb	15	0.2	5	ND	0 of 30	ND	0 of 30	Internal corrosion of household plumbing systems

This table depicts contaminants that exceeded a drinking water standard or reporting threshold during 2011 along with sodium and hardness which also require reporting. The table contains separate columns to distinguish between water served in Camp Pendleton's northern or southern drinking water systems. Contaminant detections over a regulatory standard are depicted in bold.

**Footnotes:**

- (a) Values shown for unregulated contaminant monitoring reflect 2008 monitoring results. State regulations require reporting of these results for five years from the last date sampled or until the State establishes drinking water standards for these contaminants.
- (b) Highest number or percentage of positive samples collected in any one month.
- (c) The MCL for total coliform bacteria varies by water system size. The northern water system complies when no more than one monthly sample tests positive. The southern water system complies when no more than 5% of monthly samples test positive.
- (d) Although one individual sample exceeded the MCL for total trihalomethanes, compliance is based on the running annual average of all samples collected. Overall, the southern water system was in compliance for 2011.
- (e) In accordance with reporting regulations, the values shown exclude the radon and uranium contribution to the overall gross alpha particle analytical results.
- (f) One distribution monitoring result exceeded the notification level for 1,2,3-TCP in the southern water system. All 13 follow-up distribution monitoring results were non-detect.
- (g) Compliance is based on the 90th percentile of all samples collected, which must be less than the regulatory AL. The system is out of compliance when more than 10% of samples collected exceed the AL.

**Abbreviations:**

- AL = Action Level
- DLR = Detection Level for the 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
- NTU = Nephelometric Turbidity Units: A measure of clarity
- 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

## Source Water Assessment

The California Department of Public Health 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 the areas where we live and work, our activities have the potential to introduce contaminants to 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 and indoor appliances for leaks.
- Wash your car on the grass or take your car to the carwash instead of washing it in the driveway.
- Pick up after your pet.
- Use fertilizers and herbicides sparingly.
- Sweep driveways and sidewalks instead of using the hose.
- Dispose of chemicals properly; never dispose of waste, trash or any materials down the storm drains.

For more information about stormwater management, or to report illegal discharges into the storm drain system, call Environmental Security at (760) 725-9760.

## Disposal of Household Hazardous Waste

Another way you can help us to protect our source water is to properly dispose of household hazardous waste. Household hazardous wastes and materials are products that contain corrosive, toxic, ignitable, or reactive ingredients, such as paints, cleaners, oils, batteries, and pesticides. The Housing District Offices provide a free program for disposal of household hazardous waste. This program provides Base residents with a convenient, safe, and environmentally friendly way to dispose of household hazardous waste.

Never discard unwanted quantities of hazardous waste into the trash as this may injure sanitation workers and contaminate the environment. Similarly, never pour household hazardous waste liquids down your drains, as this also provides an easy pathway for hazardous waste to enter the environment. If you have questions or need information on household hazardous waste drop off points, call the managers of the following Housing District Offices at:

<i>Mesa</i>	<i>(760) 385-5318</i>
<i>Del Mar</i>	<i>(760) 430-0040</i>
<i>Mountain</i>	<i>(760) 430-8476</i>
<i>San Onofre</i>	<i>(949) 940-9178</i>
<i>Stuart Mesa</i>	<i>(760) 430-0694</i>
<i>DeLuz</i>	<i>(760) 385-4835</i>

## Bottle vs. Tap

Many people prefer bottled to tap water for taste and perceived health considerations. 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 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.

## Water Conservation

Camp Pendleton relies on finite groundwater resources to provide water service to the Base. Our groundwater resources are vulnerable to wasteful water-use activities.



In order to help conserve our groundwater supplies, we ask that you consider your water consumption and use only the water that you need. Some simple water conservation measures you can implement include:

- Reporting leaking or broken faucets, toilets and irrigation systems to your Housing District Office.
- Irrigating after sunset or before sunrise for no more than 15 minutes three times per week.

- Washing full loads of laundry and dishes.
- Not leaving water running unattended.
- Sweeping driveways and sidewalks instead of hosing them off.
- Using a spray nozzle that allows you to adjust or stop flow.
- Taking short five minute showers.
- Running water only when using it, not while brushing teeth, shaving or washing counters.

For more information about water conservation call the Office of Water Resources at (760) 763-1969 or visit [www.epa.gov/watersense](http://www.epa.gov/watersense).

## Community Council Meetings

Camp Pendleton hosts quarterly Community Council meetings and welcomes public participation at these events. You can address drinking water quality concerns at these venues in person or alternatively through your local housing area representative. For information about meeting locations, dates and times, contact the housing Liaison Manager at (760) 725-1462.

## Questions?

For questions or additional information regarding this report, please contact Linda Teason, Environmental Security at (760) 725-9741.

## Additional Sources of Water Quality Information

California Department of Public Health	<a href="http://www.cdph.ca.gov/programs/Pages/DWP.aspx">www.cdph.ca.gov/programs/Pages/DWP.aspx</a>
California Office of Environmental Health Hazard Assessment	<a href="http://www.oehha.ca.gov/water.html">www.oehha.ca.gov/water.html</a>
U.S Environmental Protection Agency (USEPA) USEPA Safe Drinking Water Hotline	<a href="http://water.epa.gov/drink">http://water.epa.gov/drink</a> 1-800-426-4791