

Kirtland AFB 2011 Consumer Confidence Report

Is my water safe?

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. Kirtland AFB is proud to report that our drinking water met Safe Drinking Water Standards. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies.

Do I need to take special precautions?

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. 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 Water Drinking Hotline (800-426-4791).

Where does my water come from?

The drinking water distributed to you is pumped from a groundwater source known as the Albuquerque Basin Regional Aquifer within the Santa Fe Formation. Kirtland AFB is capable of drawing its water from six different wells within the Albuquerque Basin Regional Aquifer.

In 2011, a total of 755,717,000 gallons of water were pumped from these wells. The water from the wells is mixed together, chlorinated, stored, and distributed. Chlorination is the treatment process used to prevent bacteria from growing while the water is stored and distributed through the system.

Additionally, water pumped and treated by the Albuquerque Bernalillo County Water Utility Authority (ABCWUA) can be distributed throughout the base during high water demands or during alternated water supply needs. Kirtland AFB purchased 0.167 million gallons during the 2011 compliance period and any contaminants that may have been detected can be found in the ABCWUA Consumer Confidence Report (CCR). You can also access the report on the ABCWUA website at www.abcwua.org/content/view/36/31/.

Kirtland AFB's Source Water Protection

Through the 1996 reauthorization of the Safe Drinking Water Act (SDWA), Congress authorized the U.S. Environmental Protection Agency (EPA) to require each state to develop and implement a Source Water Assessment and Protection Program. The New Mexico Source Water Assessment and Protection Program is part of a national effort to gather information on public drinking water source areas and to inform water consumers about any risks to their water supply posed by potential sources of contamination.

The Source Water Assessments of public water systems throughout New Mexico include the following four basic steps:

1. Determining the source water protection area for the community's water system;
2. Taking inventory of potential contaminant sources within the source water protection area;
3. Determining the susceptibility of the water supply to potential sources of contamination; and
4. Making the assessment available to the public.

During 2002, the New Mexico Environment Department – Drinking Water Bureau (NMED-DWB) conducted site visits, collected information on Kirtland AFB's production wells, and identified materials used or stored in the areas around Kirtland AFB wells that could be potential contaminants. As part of the assessment, wells were ranked on a susceptibility scale (see definition below). The susceptibilities of Kirtland AFB wells range from moderate to moderately high. These rankings are largely influenced by the presence of possible contaminants that exist on an active U.S. Air Force installation as part of normal operations (i.e., sensitivity), and are all moderately low to moderate, meaning the wells are not likely to become contaminated.

The NMED-DWB evaluation is presented in an August 22, 2002 report titled, "Source Water Assessment of Kirtland Air Force Base Water System- Public Water supply System #NM 35 677 01." The 2002 report remained applicable to the Kirtland AFB water supply system in 2011.

The Kirtland AFB Environmental Management Section manages a comprehensive program to ensure that base facilities comply with environmental laws and regulations. The program includes air, water, petroleum storage tank, hazardous material/waste, and solid waste compliance activities, as well as site investigation and restoration activities. Even though potential sources of contaminants exist around Kirtland AFB water supply wells, these potential sources of contamination are closely managed and monitored under the Kirtland AFB Environmental Management Program.

The SDWA requires the results of the source water assessment to be available to water consumers. To meet this requirement, NMED-DWB will provide copies of this report to the public upon request. To obtain a copy of Kirtland AFB Source Water Assessment, contact the NMED-DWB in Santa Fe, New Mexico, toll free at 877-654-8720. Copies of this report are also available to consumers who contact the Kirtland AFB Environmental Management office at 505-853-5443

Base Housing

Since May 2006, the ABCWUA has been providing drinking water and most maintenance responsibilities for the potable water distribution system in the majority of the base housing areas. The Maxwell housing area is the only housing site that continues to receive drinking water, monitoring, reporting (this CCR) and maintenance services from Kirtland AFB. Base housing areas that receive drinking water from ABCWUA do not receive Kirtland AFB CCRs. For more information on water provided to base housing by the ABCWUA, call the ABCWUA information line at 505-857-8260 or go its website: www.abcwua.org. For emergency water system repairs, call the 24-hour ABCWUA Emergency Repair Hotline at 505-857-8250.

Information on Water Contaminants

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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791).

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, naturally-occurring radioactive material, and can pick up substances resulting from the presence of animals or from human activity: 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, which 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 by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and radioactive contaminants, which 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, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Bulk Fuel Facility Jet Fuel Release and 2010 Consumer Confidence Report (CCR) Notice of Violation

Water consumers may be aware of the jet fuel leak. That leak site is closely monitored and managed to make sure that Kirtland AFB's drinking water wells remain safe for use. There have been no monitoring violations to date of the Safe Drinking Water Act in the drinking water system, and close monitoring of the wells is continuing. Information on this issue can be found on the Kirtland AFB webpage at <http://www.kirtland.af.mil/environment.asp>.

On July 14 2011 the State of New Mexico Environment Department Field Operations Division Drinking Water Bureau issued a Notice of Violation (NOV) to Kirtland Air Force Base for failing to provide a Consumer Confidence Report to the State by the July 1st deadline. The CCR was delivered soon after the NOV and the required certification confirming that the system had: 1) distributed the CCR to its customers; and 2) the reported information is correct and consistent with the compliance monitoring data previously submitted to the State.

Information on Arsenic, Lead, Copper, Nitrate, Iron, and Fluoride

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. Kirtland Air Force Base 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>.

Kirtland AFB water does not exceed regulatory levels for arsenic, lead, copper, nitrate, or fluoride. However, consumers often inquire about these compounds so some information is provided in the following paragraphs.

While your drinking water meets the EPA's standard for arsenic, it does contain low levels of arsenic. Arsenic in drinking water at Kirtland AFB primarily comes from the natural deposits of the Albuquerque Basin Regional Aquifer. EPA's standard balances the current understanding of arsenic's possible health effects of low-level arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

In 2010, copper and lead compliance samples were collected from residences within the Maxwell housing area, and are reported in this CCR. Kirtland AFB does not conduct copper and lead sampling in those military housing areas where the drinking water is supplied by the ABCWUA.

Baseline sampling of Well 20 in 2009 exceeded the secondary drinking water standard for iron. The detected iron concentration was 325 ppb compared the EPA’s secondary standard of 300 ppb. The iron standard is set as a non-enforceable guideline for contaminants with cosmetic or aesthetic effects such as color, taste, and odor.

Kirtland AFB does not fluoridate its drinking water. The average naturally occurring fluoride levels at Kirtland AFB range from approximately 0.3-0.7 parts per million (ppm). The Centers for Disease Control and Prevention recommends that children 3-16 years of age who drink community water with fluoride levels between 0.3 ppm and 0.6 ppm receive fluoride supplements. If you have questions about whether you or your dependents may need fluoride supplements, you should call your pediatric caregiver.

Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table. Table notes: 1. This value represents the 90th percentile value used for compliance reporting. Ninety percent of results in this test were below this level. 2. This represents the annual average of monthly test results, the value used for compliance reporting. 3. Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants that make up the contaminant group. The lowest individual MCLG within the group is zero.

<u>Contaminants</u>	<u>MCLG</u> or <u>MRDLG</u>	<u>MCL,</u> <u>TT, or</u> <u>MRDL</u>	<u>Your</u> <u>Water</u>	<u>Range</u>		<u>Sample</u> <u>Date</u>	<u>Violation</u>	<u>Typical Source</u>
				<u>Low</u>	<u>High</u>			
Disinfectants & Disinfectant By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Haloacetic Acids (HAA5) (ppb)	NA	60	1.10	ND	1.10	2011	No	By-product of drinking water chlorination
Chlorine (as Cl ₂) (ppm)	4	4	0.86 ⁽²⁾	0.61	1.12	2011	No	Water additive used to control microbes

Inorganic Contaminants								
Arsenic (ppb)	0	10	4.8	2.14	4.8	2009	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.135	0.124	0.135	2009	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	100	100	4.8	1.14	4.8	2009	No	Discharge from steel and pulp mills; Erosion of natural deposits
Nitrate (As N) + Nitrite (As N)	10	10	0.30	ND	0.30	2011	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	50	50	2.53	ND	2.53	2009	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Fluoride (ppm)	4	4	0.57	ND	0.57	2009	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Radioactive Contaminants								
Alpha emitters (pCi/L)	0	15	ND	NA	NA	2011	No	Erosion of natural deposits
Beta/photon emitters (pCi/L)	0	50	2.1	ND	2.1	2011	No	Decay of natural and man-made deposits. The EPA considers 50 pCi/L to be the level of concern for Beta particles.
Radium (combined 226/228) (pCi/L)	0	5	ND	NA	NA	2011	No	Erosion of natural deposits
Uranium (ug/L)	0	30	1.40	1.40	1.40	2011	No	Erosion of natural deposits
Volatile Organic Contaminants								
Xylenes (ppm)	10	10	0.59	ND	0.59	2009	No	Discharge from petroleum factories; Discharge from chemical factories

<u>Contaminants</u>	<u>MCLG</u>	<u>AL</u>	<u>Your Water</u>	<u>Sample Date</u>	<u># Samples Exceeding AL</u>	<u>Exceeds AL</u>	<u>Typical Source</u>
Inorganic Contaminants							
Copper – action level at consumer taps (ppm)	1.3	1.3	0.0656 ⁽¹⁾	2010	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead – action level at consumer taps (ppb)	0	15	0.0025 ⁽¹⁾	2010	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Nickel (ppm)	NA	NA	0.00126	2009	0	No	Erosion of natural deposits

Additional Contaminants

In an effort to insure the safest water possible the State has required us to monitor some contaminants not required by Federal regulations. Of those contaminants, only the ones listed below were found in your water.

<u>Contaminants</u>	<u>State MCL</u>	<u>Your Water</u>	<u>Violation</u>	<u>Explanation and Comment</u>
Chloride (ppm)	250	12.2	No	Drinking water disinfectant
Fluoride (ppm)	4	0.57	No	Erosion of natural deposits
Iron (ppb)	300	325	Yes	Corrosion of household plumbing systems
Manganese (ppb)	50	1.17	No	Erosion of Natural Deposits
Sulfate (ppm)	250	23.3	No	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	500	192	No	Erosion of Natural Deposits
Zinc (ppm)	5	0.0156	No	Deterioration of galvanized iron pipes
Foaming Agents (ppb)	500	40	No	Byproduct of drinking water disinfectant

Unit Descriptions	
Term	Definition
ug/L	ug/L : Number of micrograms of substance in one liter of water
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

Important Drinking Water Definitions	
Term	Definition
MCLG	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 allow for a margin of safety.
MCL	MCL: Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection 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.
MRDL	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.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

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