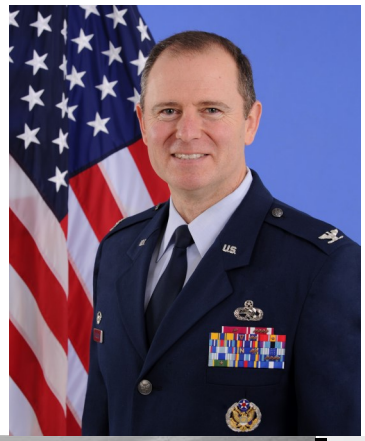
Dear Valued Drinking Water Customer:

Kirtland Air Force Base is pleased to present the annual summary of your drinking water quality. This report is designed to help you better understand the quality of your drinking water supply. Kirtland is fortunate to have an excellent groundwater source and to have the distribution system monitored and maintained in top condition.

Within this report, you will find health information that relates to contaminants for which we test, in accordance with state and federal regulations. A table is also included to show the specific contaminants that have been detected in Kirtland's drinking water. In 2016, there were no primary drinking water contaminants exceeding state or federal standards.

Please be aware of the efforts continually made by Kirtland staff members to maintain the high quality of drinking water by improving the treatment process and protecting the groundwater source. Kirtland is committed to supplying you with the best quality drinking water possible.

ERIC H. FROEHLICH, Colonel, USAF
377th Air Base Wing Commander



We are pleased to present you with the Consumer Confidence Report (CCR) for 2016. This is the annual report on the quality of water delivered by Kirtland AFB during the calendar year 2016. Under the "Consumer Confidence Reporting Rule" of the federal Safe Drinking Water Act, community water systems are required to report water quality information to the consuming public. As required by regulations, results reported in 2016 are based upon samples collected and analyzed in 2016 or earlier.

This report details where our water comes from, what it contains, and the health risks our water testing and treatment are designed to prevent.

On 24 October 2016, Kirtland Air Force Base received a Notice of Violation (NOV) from the New Mexico Environmental Department-Drinking Water Bureau (NMED-DWB) because it did not complete all required Stage-2 Disinfection/Disinfectant Byproduct Rule (DBP2) monitoring for Total Trihalomethane (TTHM) and Halo acetic Acid (HAA5) during the 4th quarter of 2013. Subsequent sampling for DBP2 constituents since 2014 indicates the drinking water on Kirtland Air Force Base continues to meet Safe Drinking Water Standards. By mutual agreement, Kirtland is including this mandatory NOV public notification in this year's CCR.

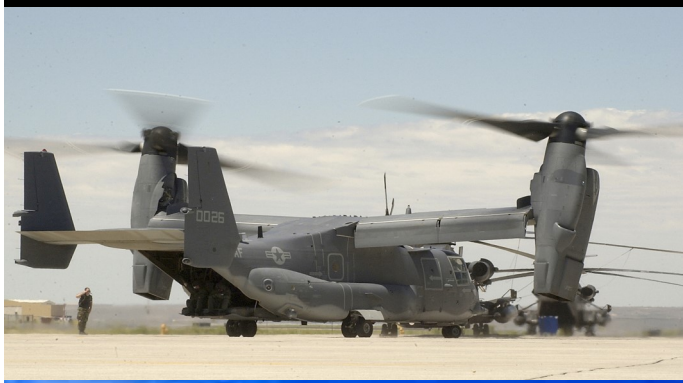
For any questions or concerns about this report or the water quality at Kirtland AFB, please feel free to call Mr. Paul Hagarty from the 377 AMDS Bioenvironmental Engineering Flight at 505-846-4259 or email amds.beenv@us.af.mil. The 2016 Kirtland AFB CCR can be found on the internet at www.kirtland.af.mil

Kirtland Air Force Base
Bioenvironmental Engineering
Albuquerque, NM 87117
505-846-4259

Kirtland Air Force Base

A guide to understanding drinking water supplied to you in…

2016



Annual Consumer Confidence Report On Drinking Water Quality

June 2017






Where does Kirtland AFB's drinking 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 2016, a total of 737,305,000 gallons of water were pumped from these wells. The waters from the wells are mixed together, chlorinated, stored, and distributed. Chlorination is the treatment process used to prevent bacteria growth 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 alternate water supply needs. Kirtland did not purchase any water from ABCWUA during the 2016 compliance period; however, information on the water quality distributed to Kirtland Family Housing residents can be found in the ABCWUA Consumer Confidence Report. You can access the report on the ABCWUA website at www.abcwua.org/Water_Report.aspx

Kirtland Family Housing

Since May 2006, the ABCWUA has been providing drinking water and most maintenance responsibilities of the potable water distribution system in the majority of the Kirtland family 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. Kirtland family housing areas that receive drinking water from ABCWUA do not receive Kirtland CCRs. For more information on water provided to Kirtland family housing by the ABCWUA, call the ABCWUA Information Line at 505-857-8260 or go to its website: www.abcwua.org. For emergency water system repairs, **call the 24-hour ABCWUA Emergency Repair Hotline at 505-857-8250.**

Kirtland AFB is proud to report our drinking water met all Safe Drinking Water Standards.

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 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 conducted site visits, collected information on Kirtland's production wells, and identified materials used or stored in the areas around Kirtland 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 wells range from moderate to moderately low. 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, and are all moderate to moderately low, 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 #NM3567701." The 2002 report remained applicable to the Kirtland water supply system in 2016.

The Kirtland 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 water supply wells, these potential sources of contamination are closely managed and monitored under the Kirtland 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 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 Environmental Management office at 505-846-2306.

Bulk Fuel Facility Jet Fuel Release

Water consumers may be aware of the jet fuel leak. No fuel contaminants from the leak have been detected in Kirtland's drinking water. The leak site is closely monitored and managed to make sure that Kirtland's drinking water wells remain safe for use.

Definition: Source Water Susceptibility

A water system's susceptibility is a combination of **1)** the sensitivity of the water source to contamination due to the characteristics of the source area and of the wells, and **2)** the vulnerability of the water source to contamination due to prevalence and proximity of possible contaminants in the areas around the wells. As a result of industrial operations and materials in a well area, the well's vulnerability may be somewhat higher.

Information on Water Contaminants

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. However, Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health. This Consumer Confidence Report (CCR) does not identify or address the quality of bottled drinking water.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling:
EPA's Safe Drinking Water Hotline at 800-426-4791.

The sources of drinking water (both tap 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 and human activity. Contaminants that may be present in source water include:

- Microbial contamination 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, 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 that are byproducts of industrial processes and petroleum production. Organic chemical contaminants also can come from urban storm water runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

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, persons 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. The EPA/Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from: **Safe Drinking Water Hotline at 800-426-4791**.

Information on Coliform Bacteria

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria may be present. Coliform bacteria are generally not harmful themselves. During 2016 Kirtland had no coliform detections in monthly drinking water samples.

Information on Arsenic, Lead, Copper, Iron and Fluoride

Kirtland water does not exceed regulatory levels for arsenic, lead, copper, 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. The EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. The EPA continues to research the 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.

Lead and copper rarely occur naturally in drinking water at levels above national standards; however, elevated levels of these compounds can cause serious health problems, especially for pregnant women and young children. Too much lead in the human body can cause negative health effects including serious damage to the brain, kidneys, nervous system, and red blood cells. Long-term exposure to high levels of copper can result in stomach and intestinal problems. Lead and copper are most commonly found in household drinking water when the plumbing system has corroded. This is not usually a concern in older homes (built before 1982), because a protective mineral layer has built up inside the pipes. A significant source of lead in household water is from lead solder used to join pipes. The use of lead solder was discontinued in New Mexico in 1987. Kirtland sampling for lead and copper has not indicated levels exceeding the applicable maximum contaminant levels. Kirtland 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 the 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 EPA's Safe Drinking Water Hotline at 800-426-4791 or at www.epa.gov/safewater/lead

In 2015, lead and copper compliance samples were required to be collected from residences within the Maxwell housing area. Lead and copper results from this 2015 sampling were within federal standards. Given the current national interest surrounding lead in drinking water, if residents have concerns, the most effective way to reduce lead in drinking water is by flushing lines before use. Kirtland does not conduct lead and copper 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 to 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. The most likely cause of the slightly elevated levels of iron is "from natural geologic sources and corroding distribution systems and household pipes" according to the EPA.

Kirtland does not fluoridate its drinking water. The average naturally occurring fluoride levels at Kirtland range from approximately 0.47-0.47 parts per million (ppm) compared to the EPA's standard of 4 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 System Improvements

There were two significant changes made to the Kirtland drinking water system in 2016. First, well No. 15 was brought back on-line with the approval of the NMED-DWB. Well No. 15 was undergoing repairs and renovations for the last several years. Secondly, Sandia Elementary School on Kirtland had intermittent periods where no residual levels of chlorine were detected. In order to correct this problem, base Distribution Shop personnel installed a loop from Sandia Elementary to the Mountain View Club (building 22000). Previously, the potable water lines supplying water to Sandia Elementary, dead-ended at the school. Drinking water now flows continuously through the new loop, preventing reduced levels of chlorine at Sandia Elementary.

Baseline water quality sampling parameters include nitrates, inorganic compounds, volatile organic compounds, synthetic organic chemicals, and radionuclides. , Wells 14, 4, 3, 15 & 20 provide drinking water to Kirtland. Well No. 20 supplements the other 4 wells that pump groundwater from the Albuquerque Basin Aquifer into a 2-million gallon blending tank. The blending tank was connected to the water distribution system in 2006 to assist in the long-term solution of maintaining compliance with the new arsenic MCL of 10 ppb. These improvements continue to support Kirtland's compliance with the drinking water standard for arsenic.

Water Quality Table of Detected Compounds

Kirtland AFB staff use EPA-approved sampling and laboratory methods to monitor your drinking water. Bioenvironmental Engineering staff collect water samples from the entry points of the water distribution system, from the residents' taps, and from other representative points throughout the distribution system. These samples are provided to a certified laboratory where all the required water quality analysis is performed.
The table below provides information about those contaminants that were detected in Kirtland AFB's water supply in 2016. The table lists only those compounds that were detected at levels equal to or greater than laboratory method detection limits. All detected compounds were at concentrations below any primary Maximum Contaminant Level (MCL). Many other compounds were analyzed in 2015, but were not present, or were below the detection limits of laboratory equipment.

KEYS TO TABLE DEFINITIONS

- AL: Action Level. The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a system must follow.
- MCL: Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are as close as possible to the MCLG.
- MCLG: Maximum Contaminant Level Goal. The level of contaminant of drinking water below which there is no known or expected risk to health. MCLGs have a built-in margin of safety.
- 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.
- MRDLG: Maximum residual disinfection level goal. The level of 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.
- NA: Not Applicable. MCL, AL, or MCLG has not been established for his contaminant.
- ND: Not Detected. The compound is not present at a level above the detection limit of laboratory instruments.
- *LRAA: Locational Running Annual Average (LRAA) over previous 4 quarters

- pCi/L: Picocuries per liter. A measure of radioactivity in water.
- ppb: Parts per billion. A unit of measure equivalent to a single penny in $10,000,000.
- ppm: Parts per million. A unit of measure equivalent to a single penny in $10,000.
- Range: The range represents the actual detected concentrations of a contaminant from the lowest to the highest analytical values reported during the sampling period. No range is reported for contaminants where one sampling event is required per year for compliance reporting.

TABLE NOTES

(1) This value represents the most recent round of sampling.
(2) This value represents the 90th percentile value used for compliance reporting. Ninety percent of results in the test set were below this level.
(3) The EPA considers 50 pCi/L to be the level of concern for beta particles.
(4) This represents the annual average of monthly test results, the value used for compliance reporting.
(5) 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.
(6) National secondary drinking water regulations are non-enforceable guidelines regulating contaminants that may cause cosmetic or aesthetic effects.
(7) Not applicable. The EPA does not have an MCLG.

Primary Regulated Contaminant	Unit	MCL (or AL)	MCLG	Highest Level Detected	Range of Level	Sample Dates	Violation	Likely Source of Contamination
Lead and Copper								
Copper	ppm	1.3 (AL)	1.3	0.032 (90th %)	0 sites over AL	2015	No	Erosion from natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead	ppb	15 (AL)	0	0.74 (90th%)	0 sites over AL	2015	No	Corrosion of household plumbing systems; Erosion from natural deposits
Disinfectants and Disinfection By-Products								
Chlorine	ppm	MRDL=4	MRDLG=4	1.2	0.9-1.2	2016	No	Water additive to control microbes
Haloacetic Acids (HAA5s)*	ppb	60	No goal for total	2.3*	0-2.98	2016	No	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)*	ppb	80	No goal for total	33*	0-37.1	2016	No	By-product of drinking water disinfection
Inorganic Chemicals								
Arsenic	ppb	10	0	2.4	2.4-2.4	2015	No	Erosion from natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium	ppm	2	2	0.12	0.12-0.12	2015	No	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	ppm	4	4	0.47	0.47-0.47	2016	No	Erosion of natural deposits; water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Selenium	ppb	50	50	3.8	3.8-3.8	2015	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Radioactive Contaminants								
Uranium	ug/L	30	0	1.5	1.5-1.5	2015	No	Erosion from natural deposits.