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 2019, 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.

DAVID S. MILLER, Colonel, USAF
Commander, 377th Air Base Wing

We are pleased to present you with the Consumer Confidence Report (CCR) for 2019. This is the annual report on the quality of water delivered by Kirtland AFB during the calendar year 2019. Under the "Consumer Confidence Reporting Rule" of the federal Safe Drinking Water Act (SDWA), community water systems are required to report water quality information to the consuming public. As required by regulations, results reported in 2019 are based upon samples collected and analyzed in 2019 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 July 17, 2019, Kirtland Air Force Base received a Notice of Violation (NOV) from the New Mexico Environmental Department-Drinking Water Bureau (NMED-DWB) because we did not collect water samples required by the Stage 2 Disinfectants/Disinfection Byproducts Rule on time, due to a shortage of state certified technicians. Subsequent sampling results indicate the drinking water on Kirtland Air Force Base continues to meet SDWA standards. The water monitoring schedule has been updated to prevent this issue from occurring in the future. By mutual agreement with NMED-DWB, Kirtland is including the mandatory NOV public notification in this year's CCR. Please reference the attached public notification for additional information.

For any questions or concerns about this report or the water quality at Kirtland AFB, please feel free to contact TSgt Andrew Brandsma from the 377 OMRS Bioenvironmental Engineering Flight at 505-846-4259 or by email at andrew.d.brandsma.mil@mail.mil. The 2019 Kirtland AFB CCR can also be found online at www.kirtland.af.mil.

Kirtland Air Force Base
Bioenvironmental Engineering
505-846-4259

Kirtland Air Force Base

A guide to understanding drinking water supplied to you in…

2019

Annual Consumer Confidence Report On Drinking Water Quality

June 2020






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 2019, a total of ***783,117,000*** 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 purchased 98,000 gallons of water from ABCWUA during the 2019 compliance period. Information on this water quality 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 and maintenance services from Kirtland AFB. Kirtland family housing areas that receive drinking water from ABCWUA do not receive the Kirtland AFB CCR. 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 Act Standards.

Kirtland AFB's Source Water Protection

Through the 1996 reauthorization of the Safe Drinking Water Act, 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 (NMED-DWB) 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 2019.

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. Environmental restoration activities including investigations, monitoring and cleanup are performed by the Air Force Civil Engineering Center/Environmental Management (AFCEC/CZ). Even though potential sources of contaminants exist around Kirtland water supply wells, these potential sources of contamination are closely managed and monitored under AFCEC/CZ.

The Safe Drinking Water Act 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 through the Kirtland website at http://kirtland.af.mil/Home/Environment/.

Bulk Fuel Facility Jet Fuel Release

Water consumers may be aware of the jet fuel leak from the 1980's. No fuel contaminants from the leak have ever 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 2019, Kirtland did not detect any coliforms during 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 drinking water 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 2018, lead and copper compliance samples were required to be collected from residences within the Maxwell housing area. Lead and copper results from this 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 Albuquerque Bernalillo County Water Utility Authority.

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 level at Kirtland is approximately 0.47 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 was a significant change made to the Kirtland drinking water system in 2017. Well No. 16 was brought back on-line with the approval of the NMED-DWB. Well No. 16 was undergoing repairs and renovations for the last several years. While drinking water samples from Well No. 16 showed elevated levels of arsenic, this source water is blended with water from the other 5 drinking water wells. The results of this blending means the drinking water provided to you, the consumer, contains levels of arsenic well below the Maximum Contaminant Level (MCL).

Baseline water quality sampling parameters include nitrates, inorganic compounds, volatile organic compounds, synthetic organic chemicals, and radionuclides. Wells 3, 4, 14, 15, 16 & 20 provide drinking water to Kirtland AFB. Well No. 20 supplements the other 5 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 2019. 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 2017, 2018, and 2019, 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 over the previous four 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.

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[1, 2]	0 sites over AL	2018	**No**	Erosion from natural deposits; Corrosion of plumbing systems; Leaching from wood preservatives.
Lead	ppb	15 (AL)	0	0.76[1, 2]	0 sites over AL	2018	**No**	Erosion from natural deposits; Corrosion of plumbing systems.
Disinfectants and Disinfection By-Products								
Chlorine	ppm	MRDL=4	MRDLG=4	1.3	0.2-2.1	2019	**No**	Water additive to control microbes.
Haloacetic Acids (HAA5s)	ppb	60	N/A[5]	4.0[4]	ND-4.25	2019	**No**	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	ppb	80	N/A[5]	35.0[4]	ND-38.5	2019	**No**	By-product of drinking water disinfection.
Inorganic Chemicals								
Arsenic	ppb	10	0	3.7[1]	3.7-3.7	2018	**No**	Erosion from natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	ppm	2	2	0.12[1]	0.12-0.12	2018	**No**	Discharge from drilling wastes or metal refineries; Erosion of natural deposits.
Fluoride	ppm	4	4	0.44[1]	0.44-0.44	2018	**No**	Erosion of natural deposits; water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Selenium	ppb	50	50	2.5[1]	2.5-2.5	2018	**No**	Erosion of natural deposits; Discharge from mines or metal refineries and petroleum refineries.
Radioactive Contaminants								
Uranium	ppb	30	0	3[1]	3-3	2018	**No**	Erosion from natural deposits.
Gross Alpha (Excluding Radon and Uranium)	pCi/L	15	0	5.2[1]	3-5.2	2018	**No**	Erosion from natural deposits.
Beta/Photon Emitters	pCi/L	50[3]	0	4.52[1]	4.52	2018	**No**	Erosion from natural and man-made deposits.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monitoring Requirements Not Met for Kirtland Air Force Base

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

On July 17, 2019, we became aware that our system failed to collect monitoring samples required by the Stage 2 Disinfectants/Disinfection Byproducts Rule. Although this incident was not an emergency, as our customers, you have a right to know what happened, and what we are doing to correct the situation.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. Table 1 list the contaminants and the compliance periods for which we did not monitor correctly. Because these samples were not collected, we cannot be sure of the quality of our drinking water during the compliance periods listed below.

Table 1

Contaminants	Sample Name (Address)	Sampling Frequency	Compliance Period(s)
Total Trihalomethanes & Total Haloacidic Acids	DBP-1 (Entry Point 08)	Quarterly	2Q2019
Total Trihalomethanes & Total Haloacidic Acids	HAA5-1 (Starfire Optical Range)	Quarterly	2Q2019
Total Trihalomethanes & Total Haloacidic Acids	TTHM-1 (Lovelace Facility Bldg 9202)	Quarterly	2Q2019
Total Trihalomethanes & Total Haloacidic Acids	TTHM-2 (Fire Station 4 Bldg 90002)	Quarterly	2Q2019

What should you do?
There is nothing you need to do. You do not need to boil your water or take other corrective actions. You may continue to drink the water. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What happened and what is being done?
In April of 2019, we were unable to collect these samples due to a shortage of state certified technicians. Three personnel were certified in May 2019. Since July 2019 we have not missed any samples and have not exceeded any SDWA limits.

For any questions or concerns about this issue or the water quality at Kirtland AFB, please feel free to contact TSgt Andrew Brandsma from the 377 OMRS Bioenvironmental Engineering Flight at 505-846-4259 or by email at andrew.d.brandsma.mil@mail.mil.