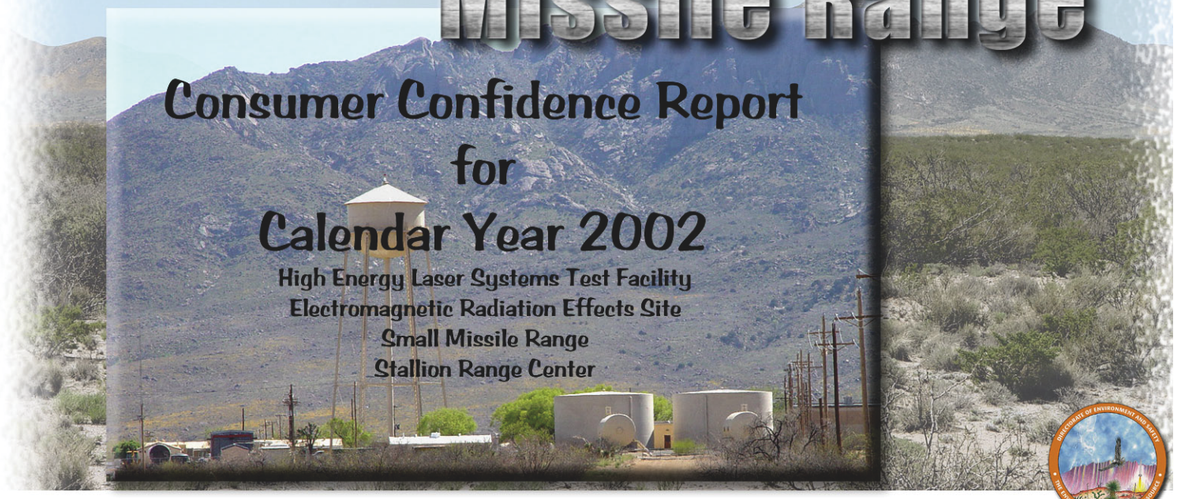
White Sands Missile Range

Consumer Confidence Report for Calendar Year 2002

High Energy Laser Systems Test Facility
Electromagnetic Radiation Effects Site
Small Missile Range
Stallion Range Center



For more information specific to White Sands Water Supply System contact:

White Sands Main Post
Attn: WS-ES-EC
Building 126
WSMR, NM 88002
Phone: 505-678-1007
Fax: 505-678-1199

The following web sites provide valuable information concerning drinking water:

National Drinking Water Clearing House
www.nesc.wvu.edu/ndwc

EPA Office of Ground Water and Drinking Water
www.epa.gov/safewater/

New Mexico Environment Department Drinking Water Bureau
www.nmenv.state.nm.us/dwb/dwbtop.html

The Safe Drinking Water Act . . .

. . . helping to improve the quality of life at White Sands

The purpose of the Safe Drinking Water Act (SDWA) is to ensure that water supply systems meet the national standards for the protection of public health. The national standards set forth by the Environmental Protection Agency (EPA) limit the amount of certain contaminants in drinking water. All drinking water can reasonably be expected to contain small amounts of contaminants. However, the presence of small amounts of contaminants does not necessarily indicate that the water poses a health risk.

Protecting Our Water Supply

There are several things that you as an individual can do to help protect our water supply. The first is to eliminate hazardous chemicals that might eventually find their way into our water supply. Don't dispose of insecticides, cleaners, solvents, or other such chemicals by pouring them out on the ground or down the drain. These chemicals should be taken to the HAZMIN Center, Building 1870, for proper disposal.

Another way you can help to protect the water supply is through the proper application of fertilizer to lawns. Use only minimum recommended amounts. With excessive applications some components from fertilizers can be leached downward with irrigation water applied to the lawns. If overused, these chemicals will eventually pollute our drinking water.

Water Conservation is Everyone's Responsibility

Water conservation is a very necessary part of our lives. There are really two parts to this issue, an economic issue, and ensuring that we have an adequate supply for the future. We use large electric motors to power the pumps that deliver water to our homes and offices. We must pay that electric bill. The second is the issue of good stewardship and wise use of our natural resources. Water is a precious natural resource that we all need to conserve. Lowering water use extends the life of this limited resource and reduces operating costs for the present and the future.

Source water assessment and its availability. . .

A Source Water Assessment will be performed by the State to determine our water system's susceptibility to contaminants. When the assessment is completed and becomes available, we will make it available to users.

Notice to Reader:

In 1998, the EPA published a rule requiring every community supplying water to customers to issue a report card on the quality of the water. This is the fifth report we have issued and covers the Calendar Year 2002. This report shows that the water provided by the various up-range water supply systems meets or exceeds requirements.

Note to users of infrequently used facilities:

Some of our facilities have low and infrequent water use. To ensure that the drinking water in these low use facilities maintains proper chlorination, allow fixtures to flow for at least 30 minutes before using. If you require assistance about infrequently used facilities, please call the Directorate of Installation Support, Water and Wastewater Section at 678-1917.

Terms and Definitions

AL	Action Level - the concentration of a contaminant which triggers treatment or other requirement which a water system must follow
CDC	Center for Disease Control
EPA	Environmental Protection Agency
FDA	Food and Drug Administration
MCL	Maximum Contaminant Level - the highest amount of a contaminant that is allowed in drinking water
MCLG	Maximum Contaminant Level Goal - the level of a contaminant in drinking water below which there is no known or expected risk to health
pCi/l	picocuries per liter - a measure of radioactivity
ppm	parts per million or milligrams per liter (mg/l)
ppb	parts per billion or micrograms per liter (µg/l)
SDWA	Safe Drinking Water Act
TDS	Total Dissolved Solids
TT	Treatment Technique - a required process intended to reduce the level of a contaminant in drinking water

Questions about Drinking Water

Is my water safe?

Our tap water met all EPA and State drinking water health standards in 2002. However, during 2002, water produced by the water system serving the Electromagnetic Radiation Effects (EMRE) site at the Hazardous Test Area (HTA) exceeded the EPA and State standard for gross alpha which is naturally present in groundwater of that area. The water supplied by the EMRE site system is not used for drinking. Potable drinking water for workers at this site is provided via bottled water. Potable water for lavatories is hauled from the Main Post supply system.

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 and the Center 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 (800-426-4791).

Where does my water come from?

Potable water used by our personnel is comprised entirely of groundwater. No surface water enters the drinking water system. Most of the drinking water used is pumped from an underground aquifer located adjacent to the mountains bordering the western side of White Sands Missile Range. The aquifer is recharged mainly with downward percolation of rainwater through unconsolidated deposits of alluvial and Upper Bolson Deposits. This report addresses water systems north of Highway 70. The three sites described in this report are:

HELSTF - Water at HELSTF is obtained from three supply wells that draw potable water from alluvial and Upper Bolson Deposits of the Tularosa Basin along the eastern flank of the San Andres Mountains.

SMR - Water at Small Missile Range is obtained from one well that draws potable water from alluvial and Upper Bolson Deposits of the Tularosa Basin along the eastern flank of the San Andres Mountains.

SRC - Water at Stallion Range Center is obtained from two supply wells that draw brackish water from alluvial and Upper Bolson Deposits of the Jornada del Muerto Basin. The brackish water is processed through a desalinization plant prior to distribution.

Why are there contaminants in my drinking water?

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 human activity. Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. Inorganic contaminants, such as salts and metals, 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 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, may come from gas stations, urban stormwater runoff, and septic systems. Radioactive contaminants, 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 that must provide the same protection for public health.

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Drinking Water Monitoring

The following constituents are monitored in drinking water in accordance with State and Federal regulations. The EPA and/or the State require WSMR to monitor for certain contaminants less than once per year because the concentrations of those contaminants do not change frequently.

Bacteriological monitoring. . .

Bacteriological monitoring is performed monthly at Main Post, HELSTF, EMRE Site, SMR, and SRC by McAfee Health Clinic to test for the presence of coliform bacteria including fecal coliform and E. coli. Sample results for 2002 indicate no bacteriological contamination.

Lead and copper monitoring. . .

Tap-water from the older buildings at the HELSTF, SMR, and SRC has been sampled for lead and copper on a regular basis. Our sample results for lead and copper have historically been below State and Federal permitted levels.

Chemical Monitoring. . .

Note to users: The HELSTF, EMRE Site, SMR, and SRC are non-community water systems with less stringent requirements than residential water systems.

We meet State and Federal permitted levels for the following chemicals.

Volatile Organic Chemicals (VOC)

The State requires the analysis of 21 regulated and 18 unregulated VOCs. VOCs are sampled every three years. The most recent sampling event in which VOCs were analyzed was during Calendar Year 2002 and no VOCs were detected. Trihalomethanes, total xylenes, and naphthalene (unregulated contaminant) were detected at some up-range systems below maxium contaminant levels during 2002. WSMR began quarterly VOC monitoring at SRC in 2003 to ensure that total xylenes is reliably below its MCL. To comply with regulations, VOCs will be sampled and analyzed again during Calendar Year 2005.

Synthetic Organic Chemicals (SOC)

The State requires the analysis of 30 regulated and 9 unregulated SOCs. SOCs are sampled every three years. The most recent sampling event in which SOCs were analyzed was during Calendar Year 2002 and no SOCs were detected. To comply with regulations, SOCs will be sampled and analyzed again during Calendar Year 2005.

Inorganic Chemicals (IOC)

IOCs include heavy metals, fluoride, cyanide, and nitrate. With the exception of nitrate, IOCs are sampled every three years. Nitrate is sampled annually. The most recent sampling event in which all IOCs, with the exception of lead and copper, were analyzed was during Calendar Year 2002. Barium, chromium, fluoride, nickel, nitrate, selenium and perchlorate [unregulated contaminant] (HTA only) were detected below their maxium contaminant levels during 2002. To comply with regulations, all IOCs will be sampled and analyzed again during Calendar Year 2005.

Radiological Contaminants (RAD)

RADs, including gross alpha and gross beta, are sampled every four years. The most recent sampling event in which RADs were analyzed was during Calendar Year 2002. With the exception of EMRE/HTA, gross alpha and gross beta were detected below their maximum contaminant levels. Potable drinking water is provided at EMRE/HTA via bottled water. To comply with regulations, RADs will be sampled and analyzed again during Calendar Year 2006.

TABLE EXPLANATION

1 - Analytical results from Calendar Year 2002.
2 - Analytical results from Calendar Year 2000.

* 80 ppb is the combined MCL for all trihalomethanes
** Water from the Supply Well at HTA is not used by personnel for drinking water. Bottled water is provided.
^ EPA considers 50 pCi/l to be the level of concern for beta particles

NA Not Applicable.
ND Not Detected.
ppb parts per billion or micrograms per liter (µg/l).
ppm parts per million or milligrams per liter (mg/l).
pCi/l picocuries per liter.
MCL Maximum Contaminant Level.
MCLG Maximum Contaminant Level Goal.

Did You Know?

- Water produced at HELSTF, SMR, and SRC is chlorinated prior to distribution to eliminate coliform bacteria. Drinking water at SRC is processed through a desalinization plant because of the high TDS water produced from its supply wells. Water produced at HELSTF and the SMR is considered high quality and does not require desalinization.

- Drinking water may reasonably be expected to contain at least small amounts of some contaminants. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

- Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider. Nitrate levels in our water are consistently below levels of regulatory concern.

- 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. Additionally, the FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Water Quality Data Table

The table below lists all of the drinking water contaminants that were detected in our drinking water. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. During calendar year 2002, we conducted IOC, VOC, SOC, RAD, and bacteriological monitoring.

Inorganic Chemicals (units)	MCLG	MCL	HELSTF	EMRE/ HTA**	SMR	SRC	Typical Source
Barium (ppb)[1]	2000	2000	30	38	32	5.2	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits.
Chromium (ppb)[1]	100	100	21	11	26	ND	Discharge from steel and pulp mills, erosion of natural deposits.
Fluoride (ppm)[1]	4	4	0.4	3.7	1.0	0.7	Erosion of natural deposits, water additive for prevention of tooth decay, discharge from fertilizer and aluminum factories.
Nickel (ppb)[1]	100	100	5.5	6.5	5.1	8.4	Erosion of natural deposits, leaching.
Nitrate (ppm)[1]	10	10	2.2	4.2	1.7	1.9	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits.
Selenium (ppb)[1]	50	50	2.5	2.2	3.0	3.4	Erosion of natural deposits, discharge from mines.
Perchlorate (ppb)[1] (Unregulated Contaminant)	NE	NE	ND	5.6	ND	ND	This is an unregulated contaminant possibly resulting as contamination from explosives.
Volatile Organic Chemicals (units)	**MCLG**	**MCL**	**HELSTF**	**EMRE/ HTA****	**SMR**	**SRC**	**Typical Source**
Trihalomethanes							
Bromodichloromethane (ppb)[1]	NE	80*	1.5	ND	0.9	1.0	Commonly formed as a by-product of chlorination.
Bromoform (ppb)[1]			ND	ND	ND	6.2	Commonly formed as a by-product of chlorination.
Chloroform (ppb)[1]			1.9	ND	0.6	0.6	Commonly formed as a by-product of chlorination.
Dibromochloromethane (ppb)[1]			0.8	ND	0.8	3.4	Commonly formed as a by-product of chlorination.
Total Xylenes (ppb)[1]	10,000	10,000	ND	ND	ND	2.0	Petroleum products.
Naphthalene (ppb)[1] (Unregulated Contaminant)	NE	NE	1.4	ND	ND	ND	This is an unregulated contaminant possibly resulting from petroleum products.
Lead and Copper (units)	**MCLG**	**Action Level**	**HELSTF**	**EMRE/ HTA****	**SMR**	**SRC**	**Typical Source**
Lead (ppb)[2]	0	15	4.5	NA	11.0	6.0	Corrosion of household plumbing systems, erosion of natural deposits.
Copper (ppm)[2]	1.3	1.3	0.265	NA	0.135	0.105	Corrosion of household plumbing systems, erosion of natural deposits.
Radiological Contaminants (units)	**MCLG**	**MCL**	**HELSTF**	**EMRE/ HTA****	**SMR**	**SRC**	**Typical Source**
Gross Alpha (pCi/l)[1]	0	15	1.6±3.7	23±6	7.8±3.9	0.9±5.6	Erosion of natural deposits.
Gross Beta (pCi/l)[1]	0	50^	3.2±2.9	9.7±3.3	3.3±3.1	8.1±7.4	Decay of natural and man made deposits.
Radium-226[1]	NE	5	NA	0.7±0.3	0.3±0.2	NA	Erosion of natural deposits.