



2022 Annual  
**WATER QUALITY  
REPORT**

**American Water Vandenberg Space  
Force Base**  
PWS ID: CA4210700

**QUALITY. ONE MORE WAY  
WE KEEP LIFE FLOWING.**



**AMERICAN WATER**

**Military Services**

**WE KEEP LIFE FLOWING™**

# What is a Consumer Confidence Report (CCR)

Once again, we proudly present our Annual Water Quality Report, also referred to as a Consumer Confidence Report (CCR). CCRs let consumers know what contaminants, if any, were detected in their drinking water as well as related potential health effects. CCRs also include details about where your water comes from and how it is treated. Additionally, they educate customers on what it takes to deliver safe drinking water and highlight the need to protect drinking water sources.

We are committed to delivering high quality drinking water service. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, environmental compliance, sustainability and community education while continuing to serve the needs of all our water users.

This report contains important information about your drinking water. Translate it, or speak with someone who understands it at 1-888-237-1333.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien al 1-888-237-1333.

Ntawm no yog ib co lus qhia tseem ceeb heev txog koj cov dej seb huv npaum li cas. Yog tias koj xav tau kev pab txhais cov lus qhia no, thov hu rau peb ntawm 1-888-237-1333.

這是關於您的水質的十分重要的資訊。如果您需要幫助翻譯此資訊請致電 **1-888-237-1333** 與我們聯繫。

आपके पानी की गुणवत्ता के बारे में यह बहुत महत्वपूर्ण सूचना है। यदि इस सूचना के अनुवाद के लिए आपको सहायता की जरूरत हो, तो कृपया **1-888-237-1333** र हमें काल करें।

**Это очень важная информация о качестве Вашей воды. Если Вам требуется перевод этой информации, позвоните нам по телефону 1-888-237-1333.**

Ito ay isang napakahalagang impormasyon tungkol sa kalidad ng iyong tubig. Kung iyong kailangan ng tulong sa pagsalin ng impormasyon na ito, mangyaring tumawag sa amin sa 1-888-237-1333.

Đây là thông tin rất quan trọng về chất lượng nước của quý vị. Nếu quý vị cần thông dịch thông tin này, xin gọi chúng tôi theo số 1-888-237-1333.

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## A message from **American Water- Military Services Group President**

American Water's Military Services Group owns and operates water and wastewater utilities under the Utilities Privatization program and proudly provides water and wastewater services to military communities around the country, including yours. Our Company's Vision – "We Keep Life Flowing" - drives everything we do for you, our customers. To reinforce our vision and maintain your trust, it's important that we share with you information about our commitment to providing high-quality water service.

I am pleased to provide you with the 2022 Annual Water Quality Report with detailed information about the source and quality of your drinking water. We have prepared this report using the data from water quality testing conducted for your local water system from January through December 2022.

With equal importance, we place a strong focus on acting as stewards of our environment. In all the communities we serve, we work closely with the local directorates of public works, civil engineering squadrons, local environmental departments, and state regulatory agencies to protect environmental quality, educate customers on how to use water wisely, and ensure the high quality of your drinking water every day.

At American Water, our values – safety, trust, environmental leadership, teamwork, and high performance – mean more than simply making water available "on-demand". It means every employee working to deliver a key resource for public health, fire protection, mission assurance, the economy, and the overall quality of life we all enjoy. For more information or for additional copies of this report, visit us online at [www.amwater.com](http://www.amwater.com).

Steve Curtis  
Military Services Group  
American Water



### **ATTENTION: Landlords and Apartment Owners**

**Please share a copy of this notice with your tenants. It includes important information about their drinking water quality.**



Mark of  
Excellence



### EVERY STEP OF THE WAY.

Our team monitors and tests your water at multiple points throughout our process of drawing it from its source, treating it to meet drinking water standards, and distributing it through our pipeline systems. **In fact, American Water performs over one million tests annually for about 100 regulated contaminants, nationwide.**



### EXPERTISE. RECOGNIZED AT THE HIGHEST LEVEL.

American Water is an expert in water quality testing, compliance and treatment and has established industry-leading water testing facilities. Our dedicated team of scientists and researchers are committed to finding solutions for water quality challenges and implementing new technologies. American Water is recognized as an industry leader in water quality and works cooperatively with the EPA so that drinking water standards and new regulations produce benefits for customers and public water suppliers. American Water has earned awards from the EPA's Partnership for Safe Water as well as awards for superior water quality from state regulators, industry organizations, individual communities, and government and environmental agencies.



### WATER QUALITY. DOWN TO A SCIENCE.

Our team also has access to American Water's Central Laboratory in Belleville, Illinois, which conducts sophisticated drinking water testing and analysis. American Water scientists refine testing procedures, innovate new methods, and set new standards for detecting potentially new contaminants—even before regulations are in place.



### MAINTAINING QUALITY FOR FUTURE GENERATIONS.

Just as American Water Vandenberg Space Force Base are investing in research and testing, we also understand the importance of investing in the infrastructure that provides high-quality water service to you. Last year alone, **we invested more than \$3.5 million to improve our water and wastewater treatment and pipeline systems.**



## About Your Drinking Water Supply

### WHERE YOUR WATER COMES FROM

American Water operates groundwater sources, potable water reservoirs, and potable water booster stations to provide potable water to about 14,971 people via 1,161 service connections. It is classified as a community water system and has operated under the authority of permit number CA4210700, issued by DDW in 2008 and most recently amended in 2016. The most recent Sanitary Survey of VSFB's water system was conducted during June of 2019.

Typically, VSFB purchases treated surface water from Central Coast Water Authority (CCWA). However, during 2022, VSFB did not purchase any water from CCWA sources and instead used ground water wells as our source. The active groundwater wells used in 2022 were constructed from unconsolidated deposits. Drinking water source assessments were completed for American Water's wells in 2001 and updated in 2012.

While operating on ground water, Free chlorine was used for disinfection. The treatment plant utilizes sedimentation and disinfection as its treatment. Plans to utilize CCWA water are set to occur in 2023.



### QUICK FACTS ABOUT THE VANDENBERG SPACE FORCE BASE SYSTEM

**Communities served:**

The Vandenberg Space Force Base water system is investor owned and serves the residents, employees, and visitors of the VSFB

**Water source:**

Central Coast Water Authority (CCWA) purchased water and four groundwater wells

**Average amount of water supplied to customers on a daily basis:**

3.1 million gallons per day



### SPECIAL HEALTH INFORMATION

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 and Prevention (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).

## What are the Sources of Contaminants?

To provide tap water that is safe to drink, EPA and the State Water Resources Control Board prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 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, aquifers and/or groundwater. 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:

<b>Microbial Contaminants</b>	such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
<b>Inorganic Contaminants</b>	such as salts and metals, which can be naturally occurring or may result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
<b>Pesticides and Herbicides</b>	which may come from a variety of sources, such as agriculture, urban storm water runoff, and residential uses.
<b>Organic Chemical Contaminants</b>	including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also, come from gas stations, urban storm water runoff, and septic systems.
<b>Radioactive Contaminants</b>	which can be naturally occurring or may be the result of oil and gas production and mining activities.



# Protecting Your Drinking Water Supply

Protecting drinking water at its source is an important part of the process to treat and deliver high quality water. It takes a community effort to protect our shared water resources. This includes utilities, businesses, residents, government agencies and organizations. Everyone who lives, works, and plays in the area has a role and stake in clean water supplies.

## WHAT CAN YOU DO?

Quality drinking water starts upstream. Everyone can help maintain and improve drinking water supplies through the following actions:

- Properly dispose of pharmaceuticals, household chemicals, oils and paints. Materials can impact water ways if poured down the drain, flushed down the toilet, or dumped on the ground.
- Check for leaks from automobiles and heating fuel tanks. Clean up any spills using an absorbent material like cat litter. Sweep up the material and put it in a sealed bag. Check with the local refuse facility for proper disposal.
- Clean up after your pets and limit the use of fertilizers and pesticides.
- Take part in watershed activities.

**Report any spills, illegal dumping or suspicious activity to California Water Boards - State Water Resources Control Board, Central Coast Division at [SanitarySewer@waterboards.ca.gov](mailto:SanitarySewer@waterboards.ca.gov) or by calling 805-549-3147.**

## WHAT ARE WE DOING?

Our priority is to provide reliable, quality drinking water service for customers. The source of supply is an important part of that mission. We work to understand and reduce potential risks to your drinking water supply. We have developed a Source Water Assessment and Wellhead Protection Program under the California State Water Resources Control Board, Department of Division of Water Quality (SWRCB-DWQ).

Under the Safe Drinking Water Act Amendments of 1996, all states were required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative susceptibility to contaminants regulated by the Act. This assessment is based on a land use inventory of the delineated protection area and sensitivity factors associated with the well and aquifer characteristics.

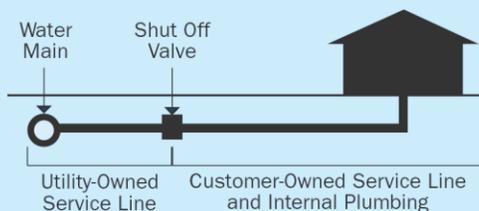
## FOR MORE INFORMATION

To learn more about your water supply and local activities, visit us online at [www.amwater.com](http://www.amwater.com)

# About Lead

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. American Water 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>.

## UTILITY-OWNED VS. CUSTOMER-OWNED PORTION OF THE SERVICE LINE



Please note: This diagram is a generic representation. Variations may apply.

## The most common source of lead in tap water is from the customer's plumbing and their service line.

Our water mains are not made of lead; however, the water service line that carries the water from the water main in the street to your home could be. Homeowners' service lines may be made of lead, copper, galvanized steel or plastic. You can assess your service line material where it enters your home, typically in your basement, crawl space or garage, near the inlet valve.

### MINIMIZING YOUR POTENTIAL EXPOSURE

You cannot see, smell or taste lead, and boiling water will not remove lead. Here are steps you can take to reduce your potential exposure if lead exists in your home plumbing.

### CHECK YOUR PLUMBING AND SERVICE LINE

If you live in an older home, consider having a licensed plumber check your plumbing for lead. If your service line is made of lead, and you're planning to replace it, be sure to contact us at 1-805-734-0043



**1. Flush your taps.** The longer the water lies dormant in your home's plumbing, the more lead it might contain. If the water in your faucet has gone unused for more than six hours, flush the tap with cold water for 30 seconds to two minutes before drinking or using it to cook. To conserve water, catch the running water and use it to water your plants.



**2. Use cold water for drinking and cooking.** Hot water has the potential to contain more lead than cold water. If hot water is needed for cooking, heat cold water on the stove or in the microwave.



**3. Routinely remove and clean all faucet aerators.**



**4. Look for the "Lead Free" label** when replacing or installing plumbing fixtures.



**5. Follow manufacturer's instructions for replacing water filters** in household appliances, such as refrigerators and ice makers, as well as home water treatment units and pitchers. Look for NSF 53 certified filters.



**6. Flush after plumbing changes.** Changes to your service line, meter, or interior plumbing may result in sediment, possibly containing lead, in your water supply. Remove the strainers from each faucet and run the water for 3 to 5 minutes.

# Important Information About **Drinking Water**

## **CHLORINE**

Water comes from a variety of sources, such as lakes and wells, which can be contaminated with germs that may make people sick. Germs can also contaminate water as it travels through miles of piping to get to a community. To prevent contamination with germs, Vandenberg Space Force Base adds Sodium Hypochlorite (chlorine) through the treatment process. Using or drinking water with small amounts of chlorine does not cause harmful health effects and provides protection against waterborne disease outbreaks.

During dialysis, large amounts of water are used to clean waste products out of a patient's blood. Dialysis centers must treat the water to remove all chemical disinfectants, including chlorine and chloramine, before the water can be used for dialysis. Home dialysis users should consult the machine manufacturer for instructions on how to properly treat their water before use.

Chlorine is toxic to fish, other aquatic animals, reptiles, and amphibians. Unlike humans and other household pets, these types of animals absorb water directly into the blood stream. Precautions should be used when utilizing water disinfected with chlorine for this purpose. Chlorine can be removed from water by letting it sit out for a few days or by buying a product at your local pet store that removes the chlorine. Ask your local pet store about methods of removing disinfectants from water for these pets.

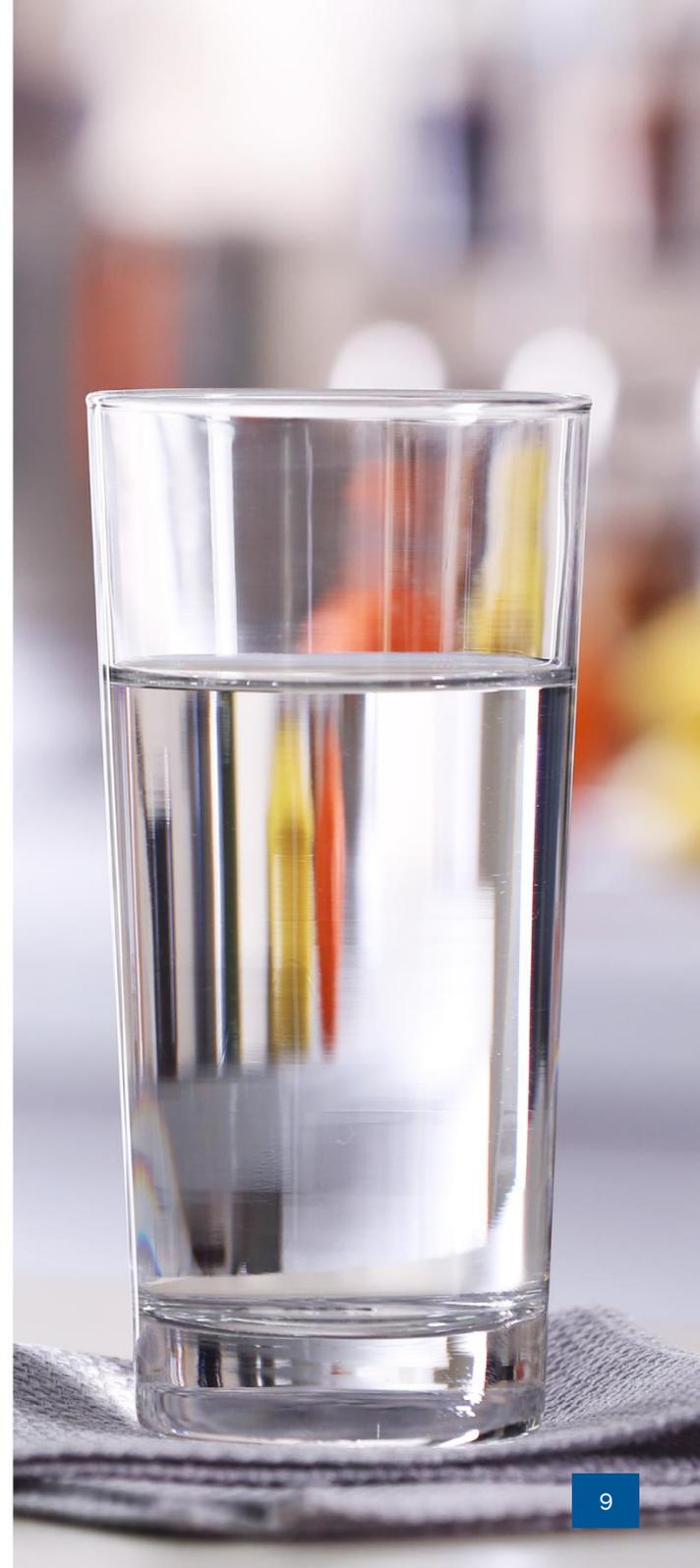
## **FLUORIDE**

Fluoride is a naturally occurring substance. It can be present in drinking water from two sources:

By nature, when groundwater comes into contact with fluoride-containing minerals naturally present in the earth; or  
By a water purveyor through addition of fluoride to the water they are providing in the distribution system.

The Vandenberg SFB System and CCWA have small amounts of naturally-occurring fluoride in the groundwater. "Fluoridation" is the process of adjusting the amount of fluoride in drinking water to a level recommended by California's Standards. Beginning each year in January the fluoride levels at the treatment plant are adjusted to achieve an optimal fluoride level of 0.7 mg/L and a control range of 0.60 mg/L to 1.2 mg/L to comply with the state's Water Fluoridation Standards. These levels are monitored daily to ensure the optimal level is achieved.

If you have any additional questions regarding Chlorine or Fluoride,  
please contact the office at 805-734-0043.





## Important Information About **Drinking Water**

### **CRYPTOSPORIDIUM**

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

### **NITRATES**

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 advice from your health care provider.

# Important Information About Drinking Water



## UNREGULATED CONTAMINANT MONITORING RULE (UCMR)

The EPA created the Unregulated Contaminants Monitoring Rule (UCMR) to assist them in determining the occurrence of unregulated contaminants in drinking water and whether new regulations are warranted. The first Unregulated Contaminants Monitoring Rule (UCMR1) testing was completed in 2003 for a list of contaminants specified by the EPA. Unregulated contaminants are those for which the EPA has not established drinking water standards. UCMR2 testing was conducted between November 2008 and August 2009, and UCMR3 assessment monitoring was conducted between January 2013 and December 2016. The fourth list of contaminants to monitor as part of the UCMR was published by the EPA in December 2016. UCMR4 testing began in 2018 and was completed in 2020. The results from the UCMR monitoring are reported directly to the EPA.

In 2023, our water system is sampling for a series of unregulated contaminants as required by EPA's Unregulated Contaminant Monitoring Rule (UCMR). Unregulated contaminants are those that do not yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. As our customers, you have a right to know that we are performing this sampling and that these data will be available. If you are interested in examining the results, please contact Luke Deras at 805-717-0666 or 339 11<sup>th</sup> Street VSF, CA 93437. More information on the UCMR process, which at this time includes monitoring for 29 PFAS analytes and lithium, is available at <https://www.epa.gov/dwucmr>.

## PFAS

Per- and polyfluoroalkyl substances (PFAS) are manufactured chemicals used in many household products including nonstick cookware (e.g., Teflon™), stain repellants (e.g., Scotchgard™), and waterproofing (e.g., GORE-TEX™). They are also used in industrial applications such as in firefighting foams and electronics production. There are thousands of PFAS chemicals, and they persist in the environment. Two well-known PFAS chemicals are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). These were phased out of production in the United States and replaced by hexafluoropropylene oxide-dimer acid (commonly known as GenX), perfluorobutane sulfonic acid (PFBS) and others.

American Water has performed voluntary sampling to better understand occurrence of certain PFAS in drinking water sources. This sampling allows us to understand how our water compares against the non-enforceable Health Advisory Level set by U.S. EPA. Sampling also allows American Water to be better prepared as U.S. EPA is currently developing drinking water standards for PFOA and PFOS.

The science and regulation of PFAS and other contaminants is always evolving, and American Water strives to be a leader in research and development. PFAS contamination is one of the most rapidly changing areas in the drinking water field. We have invested in our own independent research, as well as engaging with other experts in the field to understand PFAS occurrence in the environment. We are also actively assessing treatment technologies that can effectively remove PFAS from drinking water, because we believe that investment in research is critically important to addressing this issue.



American Water has a history of leading research to understand contaminants that can make their way through the environment. Our dedicated scientists work with leaders in the water community to develop methods to detect, sample, measure and address these contaminants. Because investment in research is critical to address PFAS, American Water actively assesses treatment technologies that can effectively remove PFAS from drinking water.

**Lauren A. Weinrich, Ph.D.**  
Principal Scientist



## Water Quality Results

### WATER QUALITY STATEMENT

We are pleased to report that during calendar year 2022, the testing results of your drinking water complied with all state and federal drinking water requirements.

For your information, we have compiled a list in the table below showing the testing of your drinking water from January 1 to December 31, 2022, and may include earlier monitoring data. The California Water Boards, Department of Drinking Water (DDW) allows us to monitor for some contaminants less than once per year because the concentration of the contaminants does not change frequently. Some of our data, though representative, are more than one year old.

# Definition of Terms

These are terms that may appear in your report.

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

**DDW:** Division of Drinking Water

**Level 1 Assessment:** A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

**Level 2 Assessment:** A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

**LRAA:** Locational Running Annual Average

**Maximum Contaminant Level (MCL):** 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. Secondary MCLs (SMCL) 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 allow for a margin of safety.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of 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.

**MFL:** Million fibers per liter.

**micromhos per centimeter ( $\mu\text{mhos/cm}$ ):** A measure of electrical conductance.

**NA:** Not applicable

**N/A:** No data available

**ND:** Not detected

**Nephelometric Turbidity Units (NTU):** Measurement of the clarity, or turbidity, of the water.

**Notification Level (NL):** The concentration of a contaminant, which, if exceeded, requires notification to DDW and the consumer. Not an enforceable standard.

**pH:** A measurement of acidity, 7.0 being neutral.

**picocuries per liter (pCi/L):** Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).

**parts per billion (ppb):** One part substance per billion parts water, or micrograms per liter.

**parts per million (ppm):** One part substance per million parts water, or

milligrams per liter.

**parts per trillion (ppt):** One part substance per trillion parts water, or nanograms per liter.

**Primary Drinking Water Standard (PDWS):** MCLs 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 EPA.

**RAA:** Running Annual Average

**Secondary Maximum Contaminant Level (SMCL):** Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

**SWRCB:** State Water Resources Control Board

**TON:** Threshold Odor Number

**Total Dissolved Solids (TDS):** An overall indicator of the amount of minerals in water.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

**Variances and Exemptions:** State or EPA permission not to meet an MCL or utilize a treatment technique under certain conditions.

%: Percent

## MEASUREMENTS

### Parts Per Million



in a 10 gallon fish tank

### Parts Per Billion



in a 10,000 gallon swimming pool

### Parts Per Trillion



in 35 junior size Olympic pools

# Water Quality Results

## REGULATED CONTAMINANTS FROM VSFB WELL #4

Substance (with units)	Year Sampled	Compliance Achieved	PHG (MCLG)	MCL	Highest Compliance Result	Typical Source
<b>SECONDARY DRINKING WATER STANDARDS (Aesthetic)</b>						
Chloride (mg/L)	2020	Yes	N/A	500	84	Runoff/leaching from natural deposits, seawater influence
Color	2020	Yes	N/A	15	3	Naturally occurring organic materials
Specific Conductance (uS/cm)	2022	Yes	N/A	1600	740	Substances that form ions when in water
Sulfate (ppm)	2020	Yes	N/A	500	75	Runoff/leaching from natural deposits, industrial wastes
Total Dissolved Solids (TDS)	2020	Yes	N/A	1000	440	Runoff/Leaching from natural deposits
<b>PRIMARY DRINKING WATER STANDARDS</b>						
Arsenic (ug/L)	2020	Yes	0.004	10	6.3	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride (mg/L)	2022	Yes		2	0.21	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nickel (ug/L)	2020	Yes	12	100	ND	Leaching from metals in contact with water source. Can also occur from dissolution from nickel ore-bearing rocks
Selenium (ug/L)	2020	Yes	30	50	9.8	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
<b>RADIOLOGICAL STANDARDS</b>						
Gross Alpha (PCI/L)	2018	Yes		15	7	Erosion of natural deposits
<b>SAMPLING RESULTS FOR SODIUM AND HARDNESS</b>						
Sodium (mg/L)	2020	Yes	None	None	66	Salt present in groundwater, generally naturally occurring
Hardness (mg/L)	2020	Yes	None	None	230	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

# Water Quality Results

## REGULATED CONTAMINANTS FROM VSFB WELL #5

Substance (with units)	Year Sampled	Compliance Achieved	PHG (MCLG)	MCL	Highest Compliance Result	Typical Source
<b>SECONDARY DRINKING WATER STANDARDS (Aesthetic)</b>						
Chloride (mg/L)	2020	Yes	N/A	500	110	Runoff/leaching from natural deposits, seawater influence
Color	2020	Yes	N/A	15	5	Naturally occurring organic materials
Specific Conductance (uS/cm)	2021	Yes	N/A	1600	830	Substances that form ions when in water
Sulfate (ppm)	2020	Yes	N/A	500	84	Runoff/leaching from natural deposits, industrial wastes
Total Dissolved Solids (TDS)	2020	Yes	N/A	1000	500	Runoff/Leaching from natural deposits
<b>PRIMARY DRINKING WATER STANDARDS</b>						
Arsenic (ug/L)	2020	Yes	0.004	10	5	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride (mg/L)	2022	Yes		2	0.36	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nickel (ug/L)	2020	Yes	12	100	11	Leaching from metals in contact with water source. Can also occur from dissolution from nickel ore-bearing rocks
Selenium (ug/L)	2020	Yes	30	50	ND	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
<b>RADIOLOGICAL STANDARDS</b>						
Gross Alpha (PCI/L)	2018	Yes		15	5.9	Erosion of natural deposits
<b>SAMPLING RESULTS FOR SODIUM AND HARDNESS</b>						
Sodium (mg/L)	2020	Yes	None	None	79	Salt present in groundwater, generally naturally occurring
Hardness (mg/L)	2020	Yes	None	None	240	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

# Water Quality Results

## REGULATED CONTAMINANTS FROM VSFB WELL #6

Substance (with units)	Year Sampled	Compliance Achieved	PHG (MCLG)	MCL	Highest Compliance Result	Typical Source
<b>SECONDARY DRINKING WATER STANDARDS (Aesthetic)</b>						
Chloride (mg/L)	2020	Yes	N/A	500	95	Runoff/leaching from natural deposits, seawater influence
Color	2020	Yes	N/A	15	5	Naturally occurring organic materials
Specific Conductance (uS/cm)	2021	Yes	N/A	1600	870	Substances that form ions when in water
Sulfate (ppm)	2020	Yes	N/A	500	110	Runoff/leaching from natural deposits, industrial wastes
Total Dissolved Solids (TDS)	2020	Yes	N/A	1000	540	Runoff/Leaching from natural deposits
<b>PRIMARY DRINKING WATER STANDARDS</b>						
Arsenic (ug/L)	2020	Yes	0.004	10	ND	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride (mg/L)	2022	Yes		2	0.28	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nickel (ug/L)	2020	Yes	12	100	ND	Leaching from metals in contact with water source. Can also occur from dissolution from nickel ore-bearing rocks
Selenium (ug/L)	2020	Yes	30	50	ND	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
<b>RADIOLOGICAL STANDARDS</b>						
Gross Alpha (PCI/L)	2018	Yes		15	ND	Erosion of natural deposits
<b>SAMPLING RESULTS FOR SODIUM AND HARDNESS</b>						
Sodium (mg/L)	2020	Yes	None	None	72	Salt present in groundwater, generally naturally occurring
Hardness (mg/L)	2020	Yes	None	None	270	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

# Water Quality Results

## REGULATED CONTAMINANTS FROM VSFB WELL #7A

Substance (with units)	Year Sampled	Compliance Achieved	PHG (MCLG)	MCL	Highest Compliance Result	Typical Source
<b>SECONDARY DRINKING WATER STANDARDS (Aesthetic)</b>						
Chloride (mg/L)	2020	Yes	N/A	500	130	Runoff/leaching from natural deposits, seawater influence
Color	2020	Yes	N/A	15	5	Naturally occurring organic materials
Specific Conductance (uS/cm)	2021	Yes	N/A	1600	860	Substances that form ions when in water
Sulfate (ppm)	2020	Yes	N/A	500	72	Runoff/leaching from natural deposits, industrial wastes
Total Dissolved Solids (TDS)	2020	Yes	N/A	1000	510	Runoff/Leaching from natural deposits
<b>PRIMARY DRINKING WATER STANDARDS</b>						
Arsenic (ug/L)	2020	Yes	0.004	10	4.2	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride (mg/L)	2022	Yes		2	0.23	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nickel (ug/L)	2020	Yes	12	100	ND	Leaching from metals in contact with water source. Can also occur from dissolution from nickel ore-bearing rocks
Selenium (ug/L)	2020	Yes	30	50	ND	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
<b>RADIOLOGICAL STANDARDS</b>						
Gross Alpha (PCI/L)	2021	Yes		15	4.4	Erosion of natural deposits
<b>SAMPLING RESULTS FOR SODIUM AND HARDNESS</b>						
Sodium (mg/L)	2020	Yes	None	None	79	Salt present in groundwater, generally naturally occurring
Hardness (mg/L)	2020	Yes	None	None	260	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

# Water Quality Results

## SECONDARY CONTAMINANTS FROM MAIN RESERVIOR EFFLUENT\*

Substance (with units)	Year Sampled	Compliance Achieved	PHG (MCLG)	MCL	Highest Compliance Result	Range	Typical Source
<b>SECONDARY STANDARDS (Aesthetic Standards)</b>							
Iron (ug/L)	2022	Yes	N/A	300	170	ND - 170	Leaching from natural deposits; industrial wastes
Manganese (ug/L)	2022	Yes	N/A	50	ND	ND	Leaching from natural deposits
Odor Threshold (TON)	2022	Yes	N/A	3	4*	2- 4	Naturally occurring organic material
Turbidity (NTU)	2022	Yes	N/A	5	1.50	0.55 - 1.50	Valve manipulation and pumping activity

\*Reported numbers are an average of the month. This number reported was the highest single sample

## PFAS

American Water has performed voluntary sampling to better understand the occurrence of certain PFAS in drinking water sources. This sampling allows us to understand how our water compares against the non-enforceable Health Advisory Level set by U.S. EPA. Sampling also allows American Water to be better prepared as U.S. EPA is currently developing drinking water standards for PFOA and PFOS.

American Water Vandenberg Space Force Base is currently performing voluntary sampling to better understand certain occurrence of PFAS levels in drinking water sources. This testing allows us to understand how our water compares against the non-enforceable Health Advisory Level set by USEPA of 0.004 and 0.02 nanograms per liter or parts per trillion for PFOA and PFOS, respectively. This will allow for us to be better prepared if the USEPA or state environmental regulator develop a drinking water standard for those PFAS for which we have USEPA approved testing methods.

## UNREGULATED PERFLUORINATED COMPOUNDS – Wells 4, 5, 6 and 7a

Parameter	Year Sampled	Units	Average Result	Range Detected	Typical Source
Perfluorooctanoic Acid (PFOA)	2021	ppt	ND	ND	Manufactured chemical(s); used in household goods for stain, grease, heat and water resistance
Perfluorooctanesulfonic Acid (PFOS)	2021	ppt	ND	ND	

In 2022, U.S. EPA set health advisory levels for four PFAS chemicals – PFOA (0.004 part per trillion (ppt)), PFOS (0.02 ppt), GenX (10 ppt), and PFBS (2,000 ppt). Based on current analytical methods, however, the health advisory levels for PFOA and PFOS are below the level of both detection (determining whether or not a substance is present) and quantitation (the ability to reliably determine how much of a substance is present). This means that it is possible for PFOA or PFOS to be present in drinking water at levels that exceed health advisories even if testing indicates no level of these chemicals. U.S. EPA is currently developing drinking water regulations for PFOA and PFOS that take these challenges into consideration and American Water will take appropriate actions to meet any new regulations. Finally, PFAS chemicals are unique, so two PFAS chemicals at the same level typically do not present the same risk. Therefore, you should not compare the results for one PFAS chemical against the results of another. For more information on PFAS, please visit <https://www.epa.gov/pfas>.

# Water Quality Results

## REGULATED CONTAMINANTS FROM THE VANDENBERG SFB DISTRIBUTION SYSTEM

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Number of Months in Violation	Typical Source
<b>MICROBIOLOGICAL CONTAMINANTS - TOTAL COLIFORM RULE – at least 16 samples collected each month in the distribution system</b>						
<b>Total Coliform</b>	2022	Yes	NA	*MCL = Less than 5% <b>OR</b> MCL = No more than 1 positive monthly sample	0	Naturally present in the environment.
<b>E. Coli</b>	2022	Yes	NA	TT = No confirmed samples	0	Human and animal fecal waste.

NOTE: Coliforms are bacteria that are naturally present in the environment and are used as an indicator of the general bacteriological quality of the water. We are reporting the highest percentage of positive samples / highest number of positive samples in any month.

## LEAD AND COPPER MONITORING PROGRAM - At least 30 tap water samples collected at customers' taps every 3 years

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	Action Level (AL)	90 <sup>th</sup> Percentile	No. of Homes Sampled	Homes Above Action Level	Typical Source
<b>Lead (ppb)</b>	2020	Yes	NA	15	ND	30	0	Corrosion of household plumbing systems.
<b>Copper (ppm)</b>	2020	Yes	NA	1.3	0.095	30	0	Corrosion of household plumbing systems.

## DISINFECTANT- Collected in the Distribution System

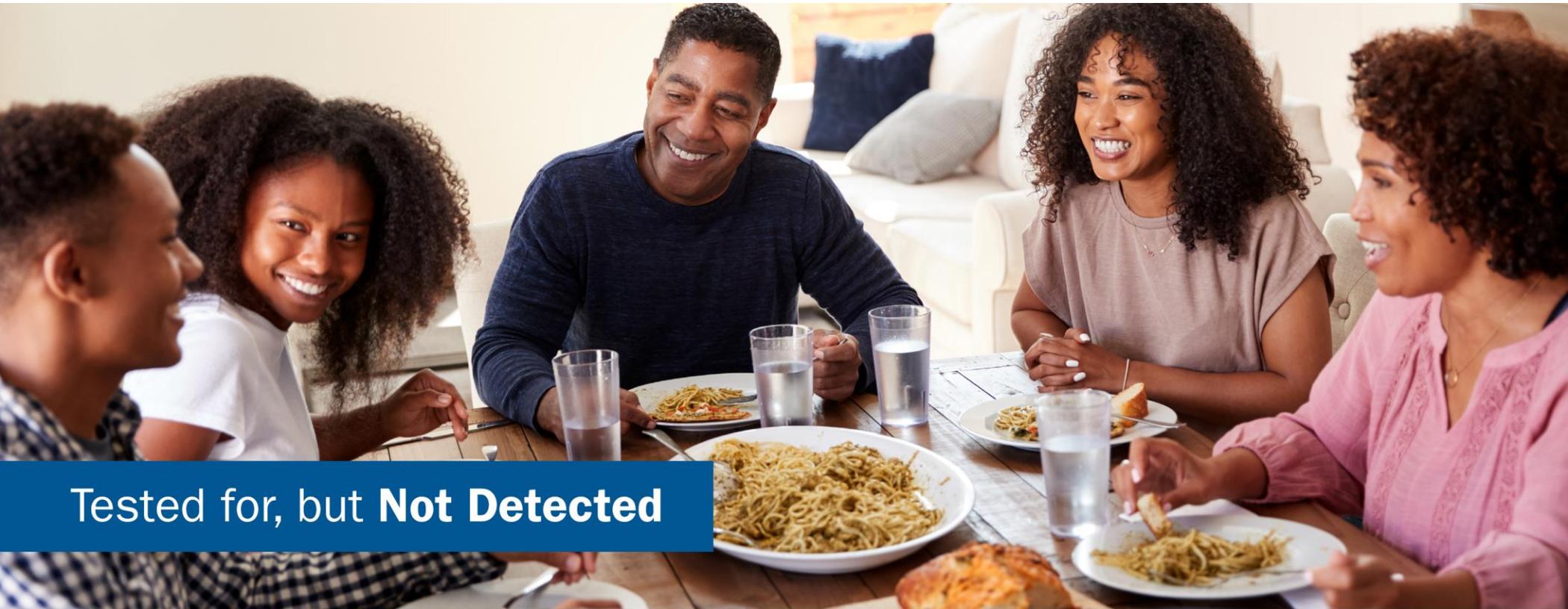
Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest Compliance Result	Range Detected	Typical Source
<b>Total Chlorine (ppm)</b>	2022	Yes	MRDLG = 4	4	1.44 <sup>1</sup>	0.68 to 1.44	Water additive used to control microbes.

1 - Data represents the highest monthly average of chlorine residuals measured throughout our distribution system.

## DISINFECTION BYPRODUCTS - Collected in the Distribution System

Substance (with units)	Year Sampled	Compliance Achieved	MCLG	MCL	Highest LRAA	Range Detected	Typical Source
<b>Total Trihalomethanes (TTHMs) (ppb)</b>	2022	Yes	NA	80	63.6	41.90 to 75.40	By-product of drinking water disinfection.
<b>Haloacetic Acids (HAAs) (ppb)</b>	2022	Yes	NA	60	7.5	4.20 to 11.20	By-product of drinking water disinfection.

NOTE: Compliance is based on the running annual average at each location (LRAA). The Highest LRAA reflects the highest average at any location and the Range Detected reflects all samples used to calculate the running annual averages.



## Tested for, but Not Detected

### Regulated VOC

1,1,1-TRICHLOROETHANE  
 1,1,2,2-TETRACHLOROETHANE  
 1,1,2-TRICHLOROETHANE  
 1,1-DICHLOROETHANE  
 1,1-DICHLOROPROPENE  
 1,1-DICHLOROETHYLENE  
 1,2,4-TRICHLOROBENZENE  
 1,2,4 - TRIMETHYLBENZENE  
 O-DICHLOROBENZENE  
 1,2-DICHLOROETHANE  
 1,2-DICHLOROPROPANE  
 1,2-DICHLOROBENZENE  
 1,2,3-TRICHLOROBENZENE  
 1,2,3 -TRICHLOROPROPANE  
 1,3-DICHLOROPROPENE  
 1,3-DICHLOROBENZENE  
 1,3,5-TRIMETHYLBENZENE  
 1,4-DICHLOROBENZENE  
 2,2-DICHLOROPROPANE  
 2-BUTANONE  
 2-CHLOROTOLUENE  
 4-METHYL-2-PENTANONE  
 P-DICHLOROBENZENE  
 BENZENE  
 BROMOBENZENE  
 BROMOCHLOROMETHANE  
 BROMOMETHANE  
 CARBON DISULFIDE  
 CARBON TETRACHLORIDE  
 CHLOROBENZENE

### Regulated VOC – (cont.)

CHLOROETHANE  
 CHLOROMETHANE  
 CIS-1,2-DICHLOROETHYLENE  
 CIS-1,3-DICHLOROPROPENE  
 DIBROMOMETHANE  
 DIISOPROPYL ETHER  
 TERT-Butyl ethyl ether  
 DICHLOROMETHANE  
 ETHYLBENZENE  
 HEXACHLOROBUTADIENE  
 ISOPROPYLBENZENE  
 1,2-DICHLOROBENZENE  
 M,P-XYLENES  
 NAPHTHALENE  
 N-BUTYLBENZENE  
 N-PROPYLBENZENE  
 O-XYLENE  
 P-CHLOROTOLUENE  
 P-ISOPROPYLTOLUENE  
 SEC-BUTYLBENZENE  
 STYRENE  
 TERT-AMYL METHYL ETHER  
 TERT-BUTYLBENZENE  
 TETRACHLOROETHYLENE  
 TOLUENE  
 TRANS-1,2-DICHLOROETHYLENE  
 TRICHLOROETHYLENE  
 TRICHLOROFLUOROMETHANE  
 TRICHLOROTRIFLUOROETHANE  
 VINYL CHLORIDE  
 XYLENES, TOTAL

### Organochlorine

ALACHLOR  
 ALDRIN  
 CHLORDANE  
 DIELDRIN  
 ENDRIN  
 HEPTACHLOR  
 HEPTACHLOR EPOXIDE  
 LINDANE  
 METHOXYCHLOR  
 PCB 1016 AROCLOR  
 PCB1221 AROCLOR  
 PCB1232 AROCLOR  
 PCB 1242 AROCLOR  
 PCB 1248 AROCLOR  
 PCB 1254 AROCLOR  
 PCB 1260 AROCLOR  
 PCB'S TOTAL  
 TOXAPHENE

### Aldicarb

3-HYDROXYCARBOFURAN  
 ALDICARB  
 ALDICARB SULFONE  
 ALDICARB SULFOXIDE  
 BAYGON  
 CARBARYL  
 CARBOFURAN  
 METHIOCARB  
 METHOMYL  
 OXAMYL

### Chlorophenoxy

#### Herbicides

2,4,5 -T  
 2,4,5 - TP  
 2,4 - DICHLOROPHENOX-  
 YACETIC ACID  
 2, 4 - DB  
 3, 5 DICHLOROBENZOIC ACID  
 ACIFLUORFEN  
 BENZATON  
 DALAPON  
 DICAMBA  
 DICHLORPROP  
 DINOSEB  
 PENTACHLOROPHENOL  
 PICLORAM  
 DCPA

### Other Synthetic

#### Organics

DIOXIN  
 ENDOTHALL  
 GLYPHOSATE  
 DIQUAT  
 PARAQUAT  
 DIBROMOCHLOROPROPANE  
 ETHYLENE DIBROMIDE

### Regulated SOC

1,2,3-TRICHLOROPROPANE  
 2, 4 - DINITROTOLUENE  
 ACENAPHTHYLENE  
 ALPA-CHLODANE  
 ANTHRACENE  
 ATRAZINE  
 BENZO ANTHRACENE  
 BENZOPYRENE  
 BENZO FLUORANTHENE  
 BENZO PERYLENE  
 BROMACIL  
 BUTACHLOR  
 BUTYLBENZYLPHALATE  
 CAFFEINE  
 CHRYSENE  
 DI-PHTHALATE  
 DI-ADIPATE  
 DI-N-BUTYLPHTHALATE  
 DIAZINON  
 DIBENZ ANTHRACENE  
 DIETHYLPHTHALATE  
 DIMETHOATE  
 DIMETHYLPHTHALATE  
 FLUORANTHENE  
 FLUORENE  
 GAMMA-CHLORDANE  
 HEXACHLOROBENZENE  
 HEXACHLOROCYCLOPENTADIENE  
 INDENO PYRENE  
 ISOPHORONE  
 METOLACHLOR

### Regulated SOC – (cont.)

METRIBUZIN  
 MOLINATE  
 PHENANTHRENE  
 PROPACHLOR  
 PYRENE  
 SIMAZINE  
 THIOBENCARB  
 TRANS-NONACHLOR  
 TRIFLURALIN

### Secondary/ GP

ALKALINITY, CARBONATE  
 COPPER, FREE  
 FOAMING AGENTS (SURFACTANTS)  
 HYDROXIDE AS CALCIUM CARBONATE  
 SILVER  
 ZINC

### Disinfection Byproducts

DICHLOROACETIC ACID  
 MONOBROMOACETIC ACID  
 MONOCHLOROACETIC ACID  
 TRICHLOROACETIC ACID

### Inorganic

ALUMINUM  
 ANTIMONY, TOTAL  
 ASBESTOS  
 BARIUM  
 BERYLLIUM, TOTAL  
 CADMIUM  
 CHROMIUM  
 COPPER  
 CYANIDE  
 HYDROXIDE AS OH  
 LEAD  
 MERCURY  
 NICKEL  
 NITRATE AS NO3  
 NITRITE NITROGEN  
 PERCHLORATE  
 SELENIUM  
 SILVER  
 THALLIUM  
 ZINC

# How to Contact Us

If you have any questions about this report, your drinking water, or service, please contact American Water Vandenberg Space Force Base Monday to Friday, 7:30 a.m. to 4:00 p.m. at 805-734-0043



## WATER INFORMATION SOURCES

United States Environmental Protection Agency (USEPA): [www.epa.gov/safewater](http://www.epa.gov/safewater)

Safe Drinking Water Hotline: (800) 426-4791

Centers for Disease Control and Prevention: [www.cdc.gov](http://www.cdc.gov)

American Water Works Association: [www.awwa.org](http://www.awwa.org)

Water Quality Association: [www.wqa.org](http://www.wqa.org)

National Library of Medicine/National Institute of Health: [www.nlm.nih.gov/medlineplus/drinkingwater.html](http://www.nlm.nih.gov/medlineplus/drinkingwater.html)

**This report contains important information about your drinking water. Translate it or speak with someone who understands it at 805-734-0043.**

This report contains important information about your drinking water. Translate it, or speak with someone who understands it at 1-888-237-1333.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien al 1-888-237-1333.

Ntawm no yog ib co lus qhia tseem ceeb heev txog koj cov dej seb huv npaum li cas. Yog tias koj xav tau kev pab txhais cov lus qhia no, thov hu rau peb ntawm 1-888-237-1333.

這是關於您的水質的十分重要的資訊。如果您需要幫助翻譯此資訊，請致電 1-888-237-1333 與我們聯繫。

आपके पानी की गुणवत्ता के बारे में यह बहुत महत्वपूर्ण सूचना है। यदि इस सूचना के अनुवाद के लिए आपको सहायता की जरूरत हो, तो कृपया 1-888-237-1333 र हमें काल करें।

Это очень важная информация о качестве Вашей воды. Если Вам требуется перевод этой информации, позвоните нам по телефону 1-888-237-1333.

Ito ay isang napakahalagang impormasyon tungkol sa kalidad ng iyong tubig. Kung iyong kailangan ng tulong sa pagsalin ng impormasyon na ito, mangyaring tumawag sa amin sa 1-888-237-1333.

Đây là thông tin rất quan trọng về chất lượng nước của quý vị. Nếu quý vị cần thông dịch thông tin này, xin gọi chúng tôi theo số 1-888-237-1333.