

Moloa'a Irrigation Cooperative (MIC) Consumer Confidence Report 2022

Please take a moment to read this year's Annual Water Quality Report as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. During 2022, no contaminants were found in the water delivered by your Public Drinking Water System that are higher than the EPA allows.

Where does my water come from?

The source of MIC's water is groundwater from Moloa'a Well No. 1 (State Well No. 1020-02) owned by the State Department of Land and Natural Resources located in the foothills mauka of Kuhio Highway. Rain falls in the mountains above Moloa'a and filters through the ground before entering the well. The water from the well is disinfected with chlorine by our supplier, Moloa'a Water Company (MWC) prior to delivery to MIC. MIC is required to monitor the chlorine levels being delivered from MWC on a daily basis to assure that proper disinfection is occurring prior to delivering water to our customers. If monitoring reveals that additional disinfection is required, MIC does secondary disinfection. Disinfection involves the addition of chlorine or other disinfectant to kill dangerous bacteria and microorganisms that may be in the water. Disinfection is considered to be one of the major public health advances of the 20th century. The amounts of chlorine residual in your drinking water are minute, measured in the tenths of a part per million (ppm).

Additional Information for 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. Moloa'a Irrigation Cooperative is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When the water in your household plumbing 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>.

Additional Information for Copper – Copper in drinking water is usually from copper pipes or from water fixtures containing copper. Copper is an essential nutrient, required by the body in very small amounts. However, EPA has found copper to potentially cause the following health effects when people are exposed to it at levels above the action level. Short periods of exposure can cause gastrointestinal disturbance, including nausea and vomiting. Use of water that exceeds the action level over many years could cause liver or kidney damage. People with Wilson's disease may be more sensitive than others to the effect of copper contamination and should consult their health care provider.

Do I need to take special precautions? Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control

(CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

What contaminants are of concern in my drinking water? Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, 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:

Microbial contaminants, 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, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791).

Water Quality Data Tables

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. Food & Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions at the end of the tables of data.

MIC is required to test for Lead and Copper on a triennial schedule. MIC completed the most recent required testing for Lead and Copper in September of 2022.

LEAD AND COPPER TESTING 2022

The 90th percentile values for the following public water system are as follows:

Public Water System	Lead 90 th Percentile Value (ug/l)	Exceeded 15 ug/l Action Level?	Copper 90 th Percentile Value (ug/l)	Exceeded 1,300 ug/l Action Level?
437 MOLOAA IRRIGATION COOP (2022)	<2.5	No	37	No

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

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. **ppm:** one part per million. It is the same as one milligram of substance in one liter of water (mg/L). **ppb:** one part per billion. It is the same as one microgram of substance in one liter of water (ug/L). **ND:** Not detectable

MIC is also required to test for Disinfection By-Products (DBP) in our water on a triennial schedule. DBP include Trihalomethanes and Haloacetic Acids. MIC completed testing for DBP in August of 2022. The results were that our water did not exceed the Maximum contaminant Level (MCL) for these contaminants.

DISINFECTION BY-PRODUCTS TESTS 2022

Sample Results:

Test Type : Trihalomethanes - GCMS (EPA 524.2)

Lab Results Completed Date : 8/16/2022

Contaminant	Detection Limit	Non-Quantifiable Limit	MCL	Result
Chloroform	Less than 1.00 ug/L			ND ug/L
Bromodichloromethane	Less than 1.00 ug/L			ND ug/L
Dibromochloromethane	Less than 1.00 ug/L			ND ug/L
Bromoform	Less than 1.00 ug/L			ND ug/L
Total THM	Less than 1.00 ug/L		80.00 ug/L	ND ug/L

Sample Results:

Test Type : Haloacetic Acids - Disinfection Byproducts (SM6251B)

Lab Results Completed Date : 8/26/2022

Contaminant	Detection Limit	Non-Quantifiable Limit	MCL	Result
Monochloroacetic Acid	Less than 1.00 ug/L			ND ug/L
Monobromoacetic Acid	Less than 1.00 ug/L			ND ug/L
Dichloroacetic Acid	Less than 1.00 ug/L			ND ug/L
Trichloroacetic Acid	Less than 1.00 ug/L			ND ug/L
Dibromoacetic Acid	Less than 1.00 ug/L			ND ug/L
Total HAA	Less than 1.00 ug/L		60.00 ug/L	ND ug/L

MONTHLY MICROBIOLOGY TESTING

For 2022, monthly Microbiological Testing of the water resulted in **NO DETECTION** of Total Coliform.

Water System Improvement Plans and Projects

In 2022, MIC awarded the contract for installation of the well pump installation and the water transmission line from our new well to the MIC water tank. Work on the project has been delayed by supply chain issues but should be completed in the summer of 2023.

Cross Connection Program (Backflow Prevention)

All connections in the MIC system are required to have Backflow Prevention devices installed and tested annually. The 2022 Cross Connection Testing Program was completed in October of 2022.

SIGNIFICANT DEFICIENCY IN COMPLIANCE WITH SDWB REQUIREMENTS

MIC continues to have a Significant Deficiency due to the status of our water tank. This was first identified in 2016 when we became a Public Water System. The tank has been listed as a SIGNIFICANT DEFICIENCY during our November 2021 Sanitary Survey. MIC is currently working with the Safe Drinking Water Branch and Pryzm Consultants to secure a loan through the Drinking Water State Revolving Fund to cover the costs of the tank repair.

GLOSSARY OF TERMS

Important Drinking Water Definitions	
Term	Definition
MCLG	MCLG: Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MCL	MCL: Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
ND	Not Detectable
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection level goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MRDL	MRDL: Maximum residual disinfectant level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

For more information please contact:

Paul Huber, Distribution System Operator (DSO)

808-639-2768

Louisa Wooton, Distribution System Operator (DSO)

808-828-0095

Adam Neaves, Distribution System Operator (DSO)

808-769-0989

Introduction

In 1996, Congress amended the Safe Drinking Water Act. It added a provision requiring that all community water systems deliver to their customers a brief annual water quality report. In September 2015, the State Department of Health determined that the Moloaa water system, operated by the Moloaa Water Company, was a public water system. The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources. We are committed to providing you with information because informed customers are our best allies. The Moloaa Water Company (MWC) water system is owned by Jeffery Lindner and operated by Makai Water Services LLC.

Last year, MWC tested your water for microbial contaminants, volatiles, anions, lead and copper. We didn't detect any contaminants. This report is a snapshot of the quality of the water that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and State of Hawaii Department of Health (DOH) standards.

Where does my water come from?

The source of MWC's water is groundwater from Moloaa Well No. 1 (State Well No. 1020-02) owned by the State Department of Land and Natural Resources located in the foothills mauka of Kuhio Highway. Rain falls in the mountains above Moloaa and filters through the ground before entering the well. The water from the well is disinfected with chlorine and pumped into the distribution system to the surrounding areas. The water system serves approximately 64 persons through three service connections.

What kinds of contaminants are a concern to drinking water?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, 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:

- Microbial contaminants, such as viruses or bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts or metals, which 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, which 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, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring.

Information about Lead and Copper

If present, elevated levels of lead and copper can cause serious health problems, especially for pregnant women and young children. Lead and copper in drinking water is primarily from materials and components associated with service lines and home plumbing. MWC is responsible for providing high quality drinking water and uses lead-free materials in the construction of its water system. However, MWC cannot control the variety of materials used in plumbing components for home construction. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for thirty seconds to two 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 EPA's Safe Drinking Water Hotline at 1-800-426-4791, or online at <http://www.epa.gov/safewater/lead>. In the water quality section of this report there is a summary table of lead and copper data and information. Lead and copper were below concentrations requiring action for every sample in 2021.

In order to be sure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Terms & Abbreviations Used Below:

Maximum Contaminant Level Goal:	(MCLG) is 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 Contaminant Level:	(MCL) is 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.
Action Level:	(AL) is the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
ppm or mg/L:	parts per million or milligrams per liter (corresponds to one penny in \$10,000)
ppb or ug/L:	parts per billion or micrograms per liter (corresponds to one penny in \$10,000,000)
pCi/l:	picoCuries per liter (a measure of radiation)

ND: Not Detected
 TT: Treatment Technique
 NA: Not available or Not applicable

Moloaa Water Quality

In order to ensure that tap water provided by public and private water systems is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants which may be present in the water. Federal and State laws require testing of your water for many different types of contaminants, including those for which there are no drinking water standards (unregulated contaminants). In our effort to supply our customers with the safest possible product, MWC's water is disinfected and monitored daily. There have been no system violations nor any individual sampling deficiencies found in MWC's Coliform/Bacteriological monitoring programs.

The tables below list the contaminants that we are required to test for. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The state DOH requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. MWC recently collected water samples for analysis for the listed contaminants, no contaminants were detected.

<u>Microbiological</u> Total Coliform Bacteria	E.Coli Bacteria		
<u>Radiological</u> Gross Alpha	Gross Beta	Radium 228	Uranium

<u>Inorganics</u>			
Antimony	Cadmium	Fluoride	Nitrite (as Nitrogen)
Arsenic	Chromium	Lead	Selenium
Asbestos	Copper	Mercury	Sodium
Barium	Cyanide	Nitrate (as Nitrogen)	Sulfate
Beryllium		Nitrate-Nitrite	Thallium

<u>Volatile Organics</u>			
Benzene	1,1-Dichloroethylene	Styrene	1,2,3 Trichloropropane (TCP)
Carbon Tetrachloride	cis-1,2-Dichloroethylene	Tetrachloroethylene (PCE)	Toluene
Chlorobenzene	trans-1,2-Dichloroethylene	1,2,4-Trichlorobenzene	Vinyl Chloride
o-Dichlorobenzene	1,2-Dichloropropane (DCP)	1,1,1- Trichloroethane	m-Xylene
p-Dichlorobenzene	Dichloromethane	1,1,2-Trichloroethane	o-Xylene
1,2-Dichloroethane	Ethylbenzene	Trichloroethylene	p-Xylene
			x-Xylenes

<u>Synthetic Organics</u>			
2,4,5-TP	Arochlor 1254	Dibromochloropropane (DBCP)	Hexachlorobenzene
2,3,7,8-TCDD (Dioxin)	Arochlor 1260	Dieldrin	Hexachlorocyclopentadiene
2,4-D	Atrazine	Dinoseb	Lindane
Alachlor	Benzo(a)pyrene	Diquat	Methoxychlor
Aldrin	BHC-Gamma-Lindane	Endothall	Metolachlor
Arochlor 1016	Butachlor	Endrin	Metribuzin
Arochlor 1221	Carbofuran	Ethylene Dibromide (EDB)	Oxamyl (Vydate)
Arochlor 1232	Chlordane	Glyphosate	Pentachlorophenol
Arochlor 1242	Dalapon	Heptachlor	Picloram
Arochlor 1248	Di(2-ethylhexyl) adipate	Heptachlor Epoxide	Propachlor
	Di(2-ethylhexyl)phthalate		Simazine
			Toxaphene

<u>Disinfection By-Products</u>	
Haloacetic Acids (Dibromoacetic acid, Dichloroacetic acid, Monobromoacetic acid, Monochloroacetic acid and Trichloroacetic Acid)	
Total Trihalomethanes (Bromodichloromethane, Bromoform, Chloroform, and Dibromochloromethane)	

<u>UNREGULATED CONTAMINANTS</u>			
	Butachlor	3-Hydroxycarbofuran	Metribuzin
Aldicarb	Carbaryl	Methiocarb	Nickel
Aldicarb sulfone	Dicamba	Methomyl	Propachlor
Aldicarb sulfoxide	Dieldrin	Metolachlor	Propoxur
Aldrin			Sulfate

Contaminant	AL	MCLG	Your Water*	Range	# of Samples Exceeding AL	Violation	Typical Source
Lead (ppb)	15	0	NO<2.5	ND-ND	0	NO	Corrosion of household plumbing and erosion of natural deposits
Copper (ppm)	1.3	1.3	NO <25	ND-0.05	0	NO	

*: It is the 90th Percentile Value. Tests were conducted in 2021

Contaminants	MCL	MCLG	Your Water	Range	Sample Date	Violation	Typical Source
Chromium (ppb)	100	100	2.17	NA	2020	No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

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/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).

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 your water poses a health risk. More information about contaminants and potential health affects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

Information on Violations of National Primary Drinking Water Rule (NPDWR)

EPA's brochure, "Water on Tap", a consumer's guide to the nation's drinking water, provides answers to frequently asked questions and also stresses the need for all of us to be responsible for water quality and protecting the resource from potential contamination. The U.S. Environmental Protection Agency and the Hawaii State DOH encourages consumers to become involved citizens and participate in maintaining high quality drinking water. For more information on how to become more involved with water protection, call EPA's hotline at (800) 426-4791.

Sanitary Survey for MWS

Sanitary surveys are onsite review of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water. Sanitary surveys are conducted by the State DOH every three or five years. During a sanitary survey the State DOH identifies significant deficiencies that a water system must correct. On September 7, 2021, a sanitary survey inspection was conducted on the Moloaa water system. The following significant deficiencies were identified:

- 1- The cap at the wellhead is very rusted, to the point that it is difficult to determine if there are openings. Clean up rust. Reseal and repaint, as needed.
- 2- Install reduced pressure backflow protection at the new dairy fill station site near the tank. Note: fill hose should not be submerged into any tanker truck while filling.
- 3- DOH was unable to thoroughly inspect the tank at the time of the survey. Provide photos of the roof, and anywhere there are connections to the tank (overflow lines, influent line, and sensors) to ensure there are no openings. Provide photo verification of appearance and clarity of water inside the tank;
- 4- The old backflow preventer between the Moloaa Water System and the Moloaa Irrigation Cooperative Water System was not removed in 2021. It is scheduled to be removed in 2022.
- 5- Opening at end of the pipe should be capped.

Correction of Items 1 and 5 was made and needs to be verified by DOH. Items 2 to 4 are schedule to be corrected in 2023. We will inform our customers the 2023's CCR until the state determines all of significant deficiencies are corrected.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly. You can do this by posting this notice in a public place or distributing copies as you choose.

If you have questions about your water system or water quality, please contact Jeffery Lindner, MWC Manager, at (808)822-0033.