

A tall waterfall cascading down a rocky cliff in a lush, green forest. The water is white and frothy as it falls, surrounded by dense tropical vegetation. The scene is captured from a low angle, looking up at the waterfall.

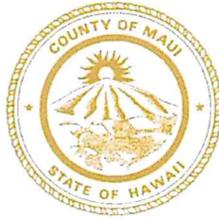
**County of Maui
Department of Water Supply
2019 Drinking Water
Quality Report**

“By Water All Things Find Life”

MICHAEL P. VICTORINO
Mayor

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Director

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DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
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WAILUKU, MAUI, HAWAII 96793
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May 31, 2020

Dear Customer:

I am proud to present to you the 22nd Annual Water Quality Report for the Department of Water Supply (DWS). We strive to provide a highly valuable service to the people of Maui County with the reliable delivery of clean and safe drinking water, while also seeking to preserve this precious resource for future generations.

The Water Quality Report is a review of the data that we have compiled in 2019 for more than 90 potential contaminants. Included in the report are details about your water source, what is in your water, how your water is compared to EPA and Hawaii State Department of Health standards; as well as a list of resources and phone numbers where you can learn more about your water.

In 2019, the DWS took over 22,000 chemical and bacteriological tests to insure the safety and quality of your water. We want our customers to know that water supplied by DWS is safe to drink and meets or exceeds all Federal and State standards.

The DWS mission is to "Provide Clean Water Efficiently." This report reflects the continued dedication of our 199 employees to fulfill our mission. Should you have any questions for our Water Quality Laboratory, please call (808) 270-7550. For all other inquiries, please call (808) 270-8046.

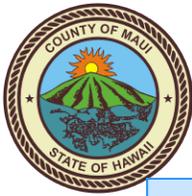
I trust you will find this report informative and thank you for taking the time to learn the facts about your water.

Sincerely,

A handwritten signature in black ink, appearing to read "J.T. Pearson".

JEFFREY T. PEARSON, P.E.
Director

"By Water All Things Find Life"



County of Maui Department of Water Supply

What Is This Report About?

The Water Quality Report is sent to all customers every summer. The federal Safe Drinking Water Act (SDWA) requires that public water systems provide customers with a water quality report that summarizes water quality information for the previous calendar year. We are committed to providing our customers with this information because informed customers are our best allies.

Why are there contaminants in my drinking water?

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 at **800-426-4791** or at www.epa.gov/safewater.

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs 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 drinking water sources include:

Microbial Contaminants - such as virus, protozoa and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic Contaminants - such as salts and metals, which may 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 - may come from a variety of sources such as agriculture 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 - are naturally occurring.

In order to ensure that tap water is safe to drink, the EPA has regulations that limit the amount of certain contaminants in water provided by public water systems and require monitoring for these contaminants. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must

How to Contact Us

Questions on water quality: Maui DWS Laboratory: **808-270-7550**

Questions about : DWS Administration: **808-270-7816**

All other DWS inquiries: **808-270-8046**

Drinking water in Hawaii - DOH Safe Drinking Water Branch :
1-800-468-4644
ext. 6-4258

EPA Safe Drinking Water Hotline: **1-800-426-4791**



Photo Credit: Rowena Kellough

Lead and Copper in your drinking water. Are you at risk?

Lead is not detectable in the Maui DWS systems. 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. The Maui DWS 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 that your home tap water may contain lead, contact the County of Maui Water Supply Lab **808-270-7550** for information about free lead-in-water testing. For further information on lead in drinking water, testing methods, and steps you can take to minimize exposure please call the Safe Drinking Water Hotline at **1-800-426-4791** or visit <http://www.epa.gov/safewater/lead>.

Chloramines

Water distributed in the Upper Kula system contains chloramines, a combination of chlorine and ammonia, as a drinking water disinfectant. Chloramines effectively kill bacteria and other microorganisms that may cause disease as well as produce fewer disinfection by-products such as trihalomethanes. Chloramines have no odor when used properly. **People who use kidney dialysis machines may want to take special precautions and consult their physician for the appropriate type of water treatment.**

Customers who maintain fish ponds, tanks, or aquariums should also make necessary adjustments in water quality treatment, as these disinfectants are toxic to fish. For further information or if you have any questions about chloramines call **808-270-7550**.

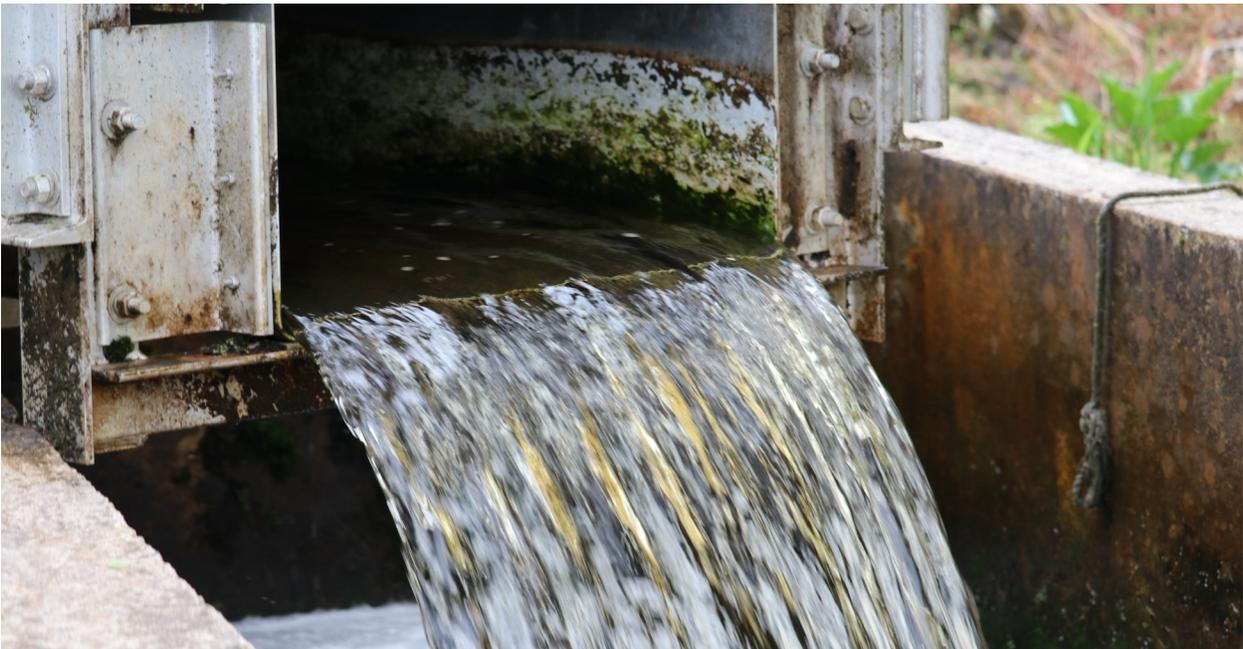


Photo Credit: Rowena Kellough

Sodium in drinking water

There is no State or Federal maximum contaminant level for sodium. Although required, monitoring for sodium is performed primarily to gather information for the consumers, the Safe Drinking Water Branch, and the Department of Water Supply. The EPA Drinking Water Advisory recommends that the sodium concentration in drinking water not exceed a range of 30 to 60 ppm because of the possible adverse effects on taste at higher concentrations. For persons on a sodium-restricted diet, sodium concentrations greater than 120 ppm could be problematic. If you are on a sodium-restricted diet, you should consult your physician about the level of sodium in the drinking water.

How is water quality maintained in the distribution system?

Flushing Program In the Upcountry Area to Improve Water

The Maui DWS is flushing waterlines in the Upcountry area to improve water quality in its dead-end distribution lines. The purpose of this program is to comply with the Lead and Copper rule of the federal Safe Drinking Water Act. Flushing a waterline involves turning on the water at a fire hydrant or standpipe at full force to rid the pipeline of any buildup in the pipe. This process can take up to 20 minutes at any one point. Staff also take residual chlorine samples of the water before and after the flushing to ensure that water delivered to consumers meets the requirements of the Safe Drinking Water Act.

Residents should not be out of water during flushing. However, some residents in the immediate vicinity of the work may experience a temporary discoloration of their water as well as a drop in pressure. This discoloration does not pose a health risk; however residents should check their water before washing any laundry. If a flushing crew is in your neighborhood, please do not run water in your home unless it's necessary. If you experience some discoloration in your water turn on each cold water faucet in your home and allow it to run for several minutes or until the water is clear. If you experience any ongoing water quality problems please call the *Field Operations Office* at **808-270-7633**

Automatic Flushing Devices

Automatic flushing device (AFD) allow water to be flushed from a hydrant or stand pipe several times a day. This automatic flushing will help keep the water flowing through the pipes which will prevent water quality problems that can happen when the water does not move enough. You will be seeing these devices more frequently as the Water Department installs these devices in our various water systems. If you experience any ongoing water quality problems please call the *Field Operations Office* at **808-270-7633**



How can consumers maintain water quality?

Backflow Protection

A simple, but important component in plumbing that safeguards the drinking water supply. Higher water pressures elsewhere can cause a reversal in the normal flow of water. This may allow contaminated water to enter the water distribution system. Backflow prevention devices allow the water to flow in only one direction. The air gap between a faucet and water in the sink is the most common form of backflow prevention. Never leave a running hose in a bucket of water. The contents of the bucket could be "sucked back" into your home plumbing and potentially contaminate the water. Businesses in Maui County that are required to have backflow prevention devices should check them annually to ensure that they are working properly.



Immuno-Compromised People

Some people may be more vulnerable to drinking water contaminants 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Guidelines from the EPA and CDC on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the *Safe Drinking Water Hotline* at **1-800-426-4791**.

ABBREVIATIONS/EXPLANATION OF TERMS

AL – Action Level

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

CFU - Colony Forming Units

A measurement used to count the number of bacteria colonies found in water.

EPA-Environmental Protection Agency

LRAA-Locational Running Annual Average

The average of 4 consecutive quarterly results at each monitored sample location. The LRAA should not exceed 80 ug/L for TTHM and 60 ug/L for HAA5

MCL - Maximum Contaminant Level

The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG – Maximum Contaminant Level Goal

The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

N/A – Not applicable

N/D – Not detected

ppb - parts per billion or micrograms per liter (ug/L)

One part per billion corresponds to approximately 1 second in 31.7 years.

ppm - parts per million or milligrams per liter (mg/L)

One part per million corresponds to 1 second in 11.5 years.

ppt – parts per trillion or nanogram per liter (ng/L)

One part per million corresponds to 1 second in 32,000 years.

pCi/L – picocuries per liter

A measurement of radioactivity

SMCL-Secondary Maximum Contaminant Level

Non-mandatory water quality standards for contaminants. EPA does not enforce these "secondary maximum contaminant levels" or "SMCLs." They are established only as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color and odor. These contaminants are not considered to present a risk to human health at the SMCL.

Photo Credit: Rowena Kellough

< - less than

90th Percentile

Represents the highest value found out of 90 percent of the samples taken in a representative group. If the 90th percentile is greater than the action level, it will trigger a treatment or other requirements that a water system must follow.



Source Water Assessment

A Source Water Assessment document was completed in 2004 by the University of Hawaii Water Resources Research Center in conjunction with the Department of Health Safe Drinking Water Branch. The assessment provides technical assistance to public water systems to develop protection programs for drinking water sources. The document includes: (1) delineation of the area around a drinking water source through which contaminants may travel to the drinking water supply, (2) inventory of activities that may lead to the release of contaminants within the delineated area, and (3) determination of the susceptibility of the water source experiencing a future contamination. The Department of Water Supply is working with advisory committees to develop a well-head protection program for our drinking water wells. Should you wish to review the source water assessment document, or learn about the well-head protection program, please contact the Water Resources and Planning Division at 808-463-3110.

Your Comments Are Welcome!

We welcome your questions, concerns and observations. We also encourage our customers to attend and participate at our meetings regarding our water utility. The Board of Water Supply usually meets on the 3rd Thursday of the month at 9:00 a.m. Please call 270-7304 for meeting locations or check out our web site for details.



Photo Credit: Rowena Kellough

2019 WATER QUALITY MONITORING RESULTS FOR THE: WAILUKU SYSTEM

This water has been tested and meets all Federal and State Standards. Testing was conducted and compiled in 2019 for reporting by July 2020. The following data is about **your** drinking water. Data listed are from the most recent testing and monitoring done in accordance with the regulations of the State of Hawaii Department of Health.

This water serves: Kahului, Kihei, Maalaea, Makena, Paia, Wailea, Waihee, Waiehu, and Wailuku

Source Name	Origin	Treatment	Source Name	Origin	Treatment	Source Name	Origin	Treatment
Iao Ditch	Surface	Microfiltration/ Chlorination	Waihee Wells	Ground	Chlorination	North Waihee Wells	Ground	Chlorination
Kepaniwai Well	Ground	Chlorination	Iao Tunnel	Ground	Chlorination	Waiehu Heights Well	Ground	Chlorination
Kanoa Wells	Ground	Chlorination	Mokuhau Wells	Ground	Chlorination	Maui Lani Wells	Ground	Chlorination
Iao Well	Ground	Chlorination	Kupaa Well	Ground	Chlorination	Waikapu Well	Ground	Chlorination
Wailuku Wells	Ground	Chlorination						

If a contaminant is NOT SHOWN, IT WAS NOT DETECTED

Source Water Monitoring Regulated Contaminants ¹	Unit of Measure	Highest Detected Level ²	Range ³	EPA's Allowable Limits MCL ⁴	EPA's Allowable Limits MCLG ⁵	Typical Source of Contamination ⁷	Is Your Water Safe? Compliance Met?
Barium	ppm	0.003	ND – 0.003	2	2	Erosion of natural deposits	✓ Yes
Di (2-Ethylhexyl)-phthalate	Ppb	1.5 ⁹	ND-1.5	6	0	Artifact of field sampling and lab processing	✓ Yes
Fluoride	ppm	0.16	ND – 0.16	4	4	Erosion of natural deposits	✓ Yes
Nitrate	ppm	2.85	ND – 2.85	10	10	Erosion of natural deposits, runoff from fertilizer use; leaching from septic tanks, sewage	✓ Yes
Distribution System Monitoring (Disinfection By-Products) ¹	Unit of Measure	System Wide Highest LRAA ⁶	System Wide Range ³	EPA's Allowable Limits MCL ⁴	EPA's Allowable Limits MCLG ⁵	Typical Source of Contamination ⁷	Is Your Water Safe? Compliance Met?
TTHMs (Total Trihalomethanes)	ppb	27.5	5 – 31	80	N/A	Disinfection by-product	✓ Yes
HAAs (Haloacetic Acids)	ppb	4.6	ND – 5.8	60	N/A	Disinfection by-product	✓ Yes

¹ Detected contaminant

² Highest detected level or highest average level found

³ Range of levels found

⁴ Highest Level allowed by EPA

⁵ EPA's goal

⁶ LRAA-Locational Running Annual Average

⁷ Possible source of contamination

⁸ Action Level

⁹ The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

2019 WATER QUALITY MONITORING RESULTS FOR THE: WAILUKU SYSTEM

Lead/Copper Rule Compliance Monitoring

Contaminant ¹	Sample Date	Unit of Measure	90 th Percentile Reading	Action Level	# of Samples Above Action Level	Is Your Water Safe? Compliance Met?
Lead	2018	ppb	ND	15	0	✓ Yes
Copper	2018	ppm	0.11	1.3	0	✓ Yes

The next round of testing for the Wailuku System is June-Sept 2021.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at homes in the community as a result of material used in your home's plumbing. If you are concerned about elevated Lead levels in your home's water, you may wish to have your water tested. **As a general practice, you should flush your tap for 30 seconds to 2 minutes before using the tap water, if you have not used it for 4-6 hours.** Additional information is available from the Safe Drinking water Hotline at 1-800-426-4791.

Unregulated Contaminants

Contaminant ¹	Sample Date	Unit of Measure	Highest Detected Level ²	Range ³	SMCL ⁴
Sodium	2019	ppm	11	11	*
Sulfate	2019	ppm	26.8	2.78-26.8	250**

* No designated maximum limits but monitoring is required by Safe Drinking Water Branch

** Secondary Maximum Contaminant Level (SMCLs) Standards established as guidelines to assist public water systems in managing the aesthetic quality (taste, odor and color) of drinking water. EPA does not enforce SMCLs.

Unregulated Contaminant Monitoring Rule (UCMR)-Not regulated by State or Federal Government

The 1996 amendments to the Safe Drinking Water Act (SDWA) require that once every five years, the U.S. Environmental Protection Agency (EPA) issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWS).

The first Unregulated Contaminant Monitoring Rule (UCMR 1) was published on September 17, 1999, the second (UCMR 2) was published on January 4, 2007, the third (UCMR 3) was published on May 2, 2012 and the fourth (UCMR4) was published on December 20, 2016. These contaminants do not have health-based standards, MCLs, or MCLGs set under the SDWA. The Unregulated Contaminant Monitoring Rule (UCMR) provides EPA and other interested parties with scientifically valid data on the occurrence of contaminants in drinking water. This national survey is one of the primary sources of information on occurrence and levels of exposure that the Agency uses to develop regulatory decisions for contaminants in the public drinking water supply.

UCMR 4 monitoring will occur from 2018-2020 and includes monitoring for a total of 30 chemical contaminants: 10 cyanotoxins (nine cyanotoxins and one cyanotoxin group) and 20 additional contaminants (two metals, eight pesticides plus one pesticide manufacturing byproduct, three brominated haloacetic acid [HAA] disinfection byproducts groups, three alcohols, and three semivolatle organic chemicals [SVOCs]).

In 2018, Maui DWS tested your water system for the following contaminants:

UCMR4 List

Germanium	Manganese
Alpha-hexachlorocyclohexane	Profenofos
Chlorpyrifos	Tebuconazole
Dimethipin	Total Permethrin (cis-& trans-)
Ethoprop	Tribufos
Oxyfluorfen	HAA5 ¹
HAA6Br ¹	HAA9 ¹
1-butanol	2-propen-1-ol
2-methoxyethanol	Butylated hydroxyanisole
o-toluidine	Quinoline

2019 WATER QUALITY MONITORING RESULTS FOR THE: WAILUKU SYSTEM

1. HAA5 (dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, trichloroacetic acid); HAA6Br (bromochloroacetic acid, bromodichloroacetic acid, dibromoacetic acid, chlorodibromoacetic acid, monobromoacetic acid, tribromoacetic acid); HAA9 (bromochloroacetic acid, bromodichloroacetic acid, chlorodibromoacetic acid, dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, tribromoacetic acid, and trichloroacetic acid)

Unregulated Contaminants ¹	Unit Of Measure	Sample Year	System Average	Range ³	Use or Environmental Source ⁷	
Manganese	ppb	2018	0.12	ND – 2.10	Naturally occurring element; commercially available in combination with other elements and minerals; used in steel production, fertilizer, batteries and fireworks; drinking water and wastewater chemical; essential nutrient	<i>EPA uses the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants suspected to be present in drinking water but do not have health-based standards set under the Safe Drinking Water Act. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should be regulated.</i>
Haloacetic Acids – Brominated (HAA6Br)	ppb	2018	3.20	0.53 - 8.30	Disinfection by-product	
Haloacetic Acids (HAA9)	ppb	2018	3.20	0.53 – 8.30	Disinfection by-product	

The Department of Health, Safe Drinking Water Branch identified significant deficiencies in an October 23, 2019 report following a sanitary survey inspection of the Wailuku water system. DWS is required to report to our customers the significant deficiencies that were not corrected before 12/31/2019 and the actions we have taken to resolve them. :

1. Waiehu Heights Well No. 1
 Significant Deficiency: This well is not being operated due to rising chlorides. Evaluate if this well will be used in the future. If not, physically disconnect the well from the distribution system with blind flanges.
 Resolved on 1/27/20: DWS does not have current plans to operate this well. Blind flanges were installed and well physically disconnected from system.
2. Waiale Tank Booster Pump Station
 Significant Deficiency: Screen 2 square pop-off outlets.
 Resolved on 2/18/20: Pop-off outlets screened
3. Wailuku Heights Tank #31 Booster pump station
 Significant Deficiency: Screen 3 Cla-Valve bleed lines
 Resolved on 2/13/20: bleed lines screened
 Significant Deficiency: Plug 2 openings on discharge piping.
 Resolved on 2/13/20: 2 openings plugged
4. Wailuku Heights Tank #30 (old Booster pump station)
 Significant Deficiency: Screen 2 hoses on old BPS.
 Resolved on 2/18/20: Old pump station equipment removed.
5. Wailuku Heights Tank #30 (new Booster pump station under construction)
 Significant Deficiency: Screen the ClaVal bleed lines at the new BPS.
 Resolved on 1/17/20: Screened ClaVal bleed lines.
 Significant Deficiency: Install flapper valve or duckbill check valve or insect screen on end of drain PVC line for the pop off at the new BPS.
 Resolved on 2/18/20: Insect screen installed at end of drain PVC line.

2019 WATER QUALITY MONITORING RESULTS FOR THE: WAILUKU SYSTEM

6. Wailuku Well No. 1
Significant Deficiency: Screen Cla-Valve bleed line.
Resolved on 1/17/20: Cla-Valve bleed line screened
Significant Deficiency: Install vacuum breaker on hose bibb at control building.
Resolved on and vacuum breaker installed
7. Wailuku Well No. 2
Significant Deficiency: Plug opening on well discharge piping, after chlorine injection point and below ARV.
Resolved on 1/17/20: Plugged opening.
8. Maui Lani Well No. 6
Significant Deficiency: Screen Cla-Valve bleed line.
Resolved on 2/13/20: Cla-Valve bleed line screened
9. Iao Well (Iao Tank Site Well)
Significant Deficiency: Screen Cla-Valve bleed line.
Resolved on 2/13/20: Cla-Valve bleed line screened
Significant Deficiency: Plug opening on well discharge piping below the ARV.
Resolved on 2/13/20: Opening plugged
10. Wailea Tank #43
Significant Deficiency: Screen Cla-Valve bleed line on tank inlet piping.
Resolved on 2/13/20: Cla-Valve bleed line screened
11. Kihei-Kamaole Tank #38
Significant Deficiency: A mobile slaughterhouse was located just outside the site fence line with a metered water connection and backflow prevention device. To minimize vectors at or near drinking water facilities, DWS shall work with the surrounding property owner to relocate the mobile slaughterhouse away from drinking water facilities.
Resolved on 2/20/20: Neighbor Rancher moved mobile slaughterhouse.