

**BOARD OF WATER SUPPLY
KA 'OIHANA WAI
CITY AND COUNTY OF HONOLULU**

630 SOUTH BERETANIA STREET • HONOLULU, HAWAII 96843
Phone: (808) 748-5000 • www.boardofwatersupply.com

RICK BLANGIARDI
MAYOR
MEIA

ERNEST Y. W. LAU, P.E.
MANAGER AND CHIEF ENGINEER
MANAKIA A ME KAHU WILIKI

ERWIN KAWATA
DEPUTY MANAGER
HOPE MANAKIA



NĀ'ĀLEHU ANTHONY, Chair
KAPUA SPROAT, Vice Chair
BRYAN P. ANDAYA
JONATHAN KANESHIRO
EDWIN H. SNIFFEN, Ex-Officio
GENE C. ALBANO, P.E., Ex-Officio

January 16, 2024

NOTICE

The Board of Water Supply, City and County of Honolulu, Regular Meeting will be held on Monday, January 22, 2024, at 2:00 p.m. in the Boardroom, Public Service Building, 630 South Beretania Street, Honolulu, HI 96843.

Limited seating will be available for in-person testifiers in the Boardroom. The public may also view the livestream of the meeting from the lobby of the Board of Water Supply, Public Service Building, 630 S. Beretania St., Honolulu, HI 96843.

TESTIMONY

Testimony may be submitted as follows:

- **Written testimony** should include the submitter's address, email address, and phone number. Testimony should be received by Monday, January 22, 2024, at noon. Submit written testimony by:
 - Email to board@hbws.org
 - Online at boardofwatersupply.com/testimony
 - Mail to Board of Water Supply, 630 S. Beretania St., Honolulu, HI 96843
 - Fax to (808) 748-5079
- **Oral testimony** will be accepted remotely and in person during the meeting. Pre-registration is encouraged to facilitate as much remote and in-person testimony as reasonably possible during the time allotted. Testifiers should also consider submitting a written version of their oral testimony.
 - To testify remotely by phone or video using the Zoom videoconferencing platform, please submit your request by:
 - Email to board@hbws.org
 - Online at boardofwatersupply.com/testimony

Zoom registration instructions, as well as participant guidelines, will be sent to the contact information provided. Once confirmed as registered, testifiers will receive an email containing the links and instructions to join the Zoom session. Submit your request to testify remotely by Friday, January 19, 2024, at noon.

- To testify in person at the Board of Water Supply, Public Service Building, 630 S. Beretania St., Honolulu, HI 96843, please pre-register by submitting your request by Monday, January 22, 2024:
 - Email to board@hbws.org
 - Online at boardofwatersupply.com/testimony

In-person testifiers should check-in with building security and then with testimony staff located in the lobby. Testifiers will be escorted to and from the Board Room. On-site registration will be available for walk-in requests.

Testimony is limited to two (2) minutes and shall be presented by the registered speaker only. Testimony submitted in writing or orally, electronically or in person, for use in the meeting process is public information. All testimony will be included as part of the approved meeting minutes at boardofwatersupply.com/boardmeetings.

MATERIALS AVAILABLE FOR INSPECTION

Meeting materials ("board packet" under HRS §92-7.5) are accessible at www.boardofwatersupply.com/boardmeetings.

VIEWING THE MEETING

The meeting will be viewable via live streaming on the BWS website: www.boardofwatersupply.com/live. Video will appear on screen. You may have to click the arrow on video to start it. You may have to unmute audio as muted audio tends to be the default setting.

SPECIAL REQUESTS AND ACCOMMODATIONS

If you require special assistance, an auxiliary aid or service, and/or an accommodation due to a disability to participate in this meeting (i.e., sign language interpreter, interpreter for language other than English, or wheelchair accessibility), please call Joy at (808) 748-5172 or email your request to board@hbws.org **at least three business days prior to the meeting date**. If a response is received after the requested three business days before the meeting date deadline, we will try to obtain the auxiliary aid/service or accommodation, but we cannot guarantee that the request will be filled.

Upon request, this notice is available in alternate formats such as large print, Braille, or electronic copy.

The agenda for January 22, 2024 Regular Meeting of the Board of Water Supply is as follows:

ITEMS REQUIRING BOARD ACTION

1. Approval of the Minutes of the Regular Meeting Held on December 18, 2023
2. Adoption of Resolution No. 978, 2024, Acceptance of Gifts to the Board of Water Supply from Various Donors in Support of the 2024 Water Conservation Week Program

ITEMS FOR INFORMATION

1. Update on the Board of Water Supply's Response to the Potential Impacts of the Red Hill Fuel Contamination
2. Recruitment Status
3. Status Update of Groundwater Levels at All Index Stations
4. Water Main Repair Report for December 2023

MINUTES

To watch the recording of this meeting, please click on the following link:
<https://vimeo.com/bwshonolulu/jan-22-2024>. Closed captioning is available.

THE REGULAR MEETING OF THE BOARD OF WATER SUPPLY

January 22, 2024

At 2:00 PM on January 22, 2024, in the Public Service Building Board Room at 630 South Beretania Street, Honolulu, Hawaii, Board Chair Nā'ālehu Anthony called to order the Regular Meeting.

Present: Nā'ālehu Anthony, Chair
Bryan P. Andaya, Board Member via Zoom
Jonathan Kaneshiro, Board Member
Gene C. Albano, Ex-Officio via Zoom

Also Present: Erwin Kawata, Deputy Manager
Jadine Urasaki, Assistant Program Administrator,
Capital Projects Division
Kathleen Elliott-Pahinui, Information Officer,
Communications Office
Raelynn Nakabayashi, Executive Assistant I,
Executive Support Office via Vimeo
Jason Nikaido, Program Administrator,
Field Operations Division
Kaliko Lum Kee, Assistant Waterworks Controller,
Finance Division
Michele Thomas, Executive Assistant I,
Human Resources Office via Zoom
Henderson Nuuhiwa, Program Administrator,
Information Technology Division
Via Vimeo
Michael Matsuo, Land Administrator, Land Division
Roland Fenstermacher,
Water Quality Laboratory Director,
Water Quality Division
Barry Usagawa, Program Administrator,
Water Resources Division
Joyce Lin, Civil Engineer IV,
Office of the Managers and
Chief Engineer
Kathy Mitchell, Administrative Services Officer
via Vimeo
Kimberly Kuwaye, Manager Secretary
Joy Cruz-Achiu, Board Secretary
Steven Norstrom, Information Specialist II,
Communications Office

Stella Bernardo, Information Specialist II,
Communications Office via Zoom
Michele Harman, Community Relations Specialist I,
Communications Office via Zoom
Wayne Maria, Information Specialist II,
Communications Office

Others Present: Jeff Lau, Deputy Corporation Counsel
via Zoom
Jessica Wong, Deputy Corporation Counsel
via Zoom

Absent: Kapua Sproat, Vice Chair
Edwin H. Sniffen, Ex-Officio
Ernest Lau, Manager and Chief Engineer

Chair Nā'ālehu Anthony opened the Board meeting with an 'olelo no'eau:

Aloha mai kākou e nā hoa makamaka mai ka lā hiki a ka lā kau. Welina nui me ke aloha! Mahalo nui no kēia 'ākoakoa 'ana o kākou no ka pono o ka lāhui, no ka pono o ka 'āina, a no ka pono o ka wai nō ho'i. Eia he 'ōlelo no'eau e kālele ana i ke ko'iko'i o ka wai.

'A'ohe loa'a i ka noho wale.

Chair Anthony translated the 'olelo no'eau: Thank you all for coming together today for the people, the land, and the water. Here is a short Hawaiian Proverb that helps us remember the importance of fresh water. No'eau #173: Nothing is gained by idleness.

Chair Anthony welcomed everyone to the January 22, 2024, Regular Meeting of the Board of Water Supply (BWS). He stated that the Board of Water Supply is dedicated to providing safe, dependable, and affordable supply of water now and into the future.

Before continuing the meeting, Chair Anthony stated that a recording would play to share reminders for public participation and virtual meeting regulations required by law.

The recording played: Goals for this meeting under Hawaii Revised Statutes, Section 92-7.5 are accessible at www.boardofwatersupply.com/boardmeeting. The public may attend this meeting in person at the Public Service building located at 630 South Beretania Street. The public may also view a live stream of today's meeting on our website at www.boardofwatersupply.com/live. We have been accepting written or oral testimony for today's meeting. Instructions and an online submittal form are available at boardofwatersupply.com/testimony. The deadline to submit advance written testimony has passed. Testimony received by noon today has been distributed to the board members. We will continue to accept written testimony today through our online form. Oral testimony in person or remotely will be accepted during today's meeting. To facilitate as much in-person and remote testimony as reasonably possible during the time allotted, preregistration and submittal of a written version of testimony at boardofwatersupply.com/testimony is strongly encouraged. To testify in person, please register using our online form or come to the public service building at 630 South Beretania Street. We have a representative in the lobby to provide intake and further instructions. To request to testify remotely, please complete the online form at boardofwatersupply.com/testimony. Requestors will receive an email containing links and instructions to join the Zoom session. Testifiers will have two minutes to state their position. A timekeeper will alert testifiers when there is one minute remaining. Once the two minutes are up, please summarize to allow time for questions from the Board. Then, make room for the next testifier. Board members attending any board meeting remotely must be visible to the public to be considered, present, and meet quorum guidelines. Board members participating remotely must also disclose their location and anyone present at their location during roll call. Meeting participants who are calling or video conferencing in, please mute your microphone when you're not speaking. If you have a question, comment, or wish to enter or second a motion on an action item, please unmute your microphone and identify yourself before continuing to speak. If you encounter technical issues during today's meeting, please use the Zoom chat to send a direct message to our support team. Their names are listed in the message to all participants. To open the chat window, please click the text Bubble icon on the Zoom Toolbar.

Chair Anthony requested a roll call for the Regular Meeting. He asked those participating remotely to give the appropriate disclosures up responding.

Board Member Jonathan Kaneshiro responded aye and was present in the Board room; Board Member Bryan Andaya joined via Zoom, responded aye, and disclosed that he was alone at his location; and Board Member Gene Albano responded aye and was present in the Board room. Chair Anthony joined via Zoom and disclosed that he was alone at his location. Vice Chair Kapua Sproat and Board Member Edwin Sniffen were absent.

Chair Anthony introduced those in the Boardroom: Deputy Manager Erwin Kawata, Board Secretary Joy L. Cruz-Achiu, Manager Secretary Kimberly Kuwaye, and Information Specialist II Steven Norstrom and Wayne Maria. Deputy Jeff Lau and Deputy Jessica Wong joined via Zoom from the City and County Corporation Counsel.

REGULAR MEETING

**APPROVAL OF
MINUTES**

Approval of the Minutes of the Regular Meeting Held on December 18, 2023.

**MOTION
TO APPROVE**

Bryan Andaya and Jonathan Kaneshiro motioned and seconded, respectively, to approve the Minutes of the Regular Meeting Held on December 18, 2023.

In lieu of a roll call vote, Chair Anthony requested a voice vote on the motion and requested that Board Members in favor of the motion say "Aye." The Board members present responded with a verbal "Aye." Chair Anthony then inquired if any Board Members would like to object or vote "Nay" on the motion. There were no objections or "Nay" votes. Vice Chair Anthony announced that the motion was unanimously carried.

THE MINUTES OF THE REGULAR MEETING HELD ON DECEMBER 18, 2023, WERE APPROVED AT THE JANUARY 22, 2024, BOARD MEETING			
	AYE	NO	COMMENT
NĀ'ĀLEHU ANTHONY	X		
KAPUA SPROAT			ABSENT
BRYAN P. ANDAYA	X		
JONATHAN KANESHIRO	X		
EDWIN H. SNIFFEN			ABSENT
GENE C. ALBANO	X		

“January 22, 2024

ADOPTION OF
RESOLUTION NO.
978, 2024,
ACCEPTANCE OF
GIFTS TO THE

BOARD OF WATER
SUPPLY FROM
VARIOUS

DONORS IN
SUPPORT OF
THE 2024 WATER
CONSERVATION
WEEK PROGRAM

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Adoption of Resolution No. 978, 2024, Acceptance of
Gifts to the Board of Water Supply from Various Donors
in Support of the 2024 Water Conservation Week Program

We recommend the adoption of the attached Resolution No. 978,
2024, that accepts proposed gifts to the Board of Water Supply (BWS),
City and County of Honolulu, in support of the 2024 Water Conservation
Week (WCW) Program. Monetary and in-kind gifts from the donors total
to \$14,000.00.

<u>Donor Name</u>	<u>Amount</u>
Friends of Halawa Xeriscape Garden	\$ 2,000.00
Sodexo (Refreshments for awards ceremony)	\$ 4,000.00
Hawaiian Financial Federal Credit Union	\$ 2,000.00
Aloha Pacific Federal Credit Union	\$ 2,000.00
Alexander and Baldwin, Incorporated	\$ 1,000.00
Hawaii Energy	\$ 1,000.00
Pasha Hawaii	\$ 1,000.00
Times Supermarkets	<u>\$ 1,000.00</u>
TOTAL	\$14,000.00

This well-established education outreach program is in its 45th year of
existence. It uses a poster and poetry contest to engage Oahu’s students
in grades Kindergarten through 12 and teach them the value of water.
Our goal is to instill in them the need to be water-efficient as, together,
everyone contributes to a larger, island-wide commitment to a sustainable
water future. Through this program, the BWS hopes to inspire more
island residents to adopt water-conserving behaviors.

Sponsor gifts will help the BWS offset program costs that include the
printing of 20,000 copies of the 2025 Water Conservation Calendars that
will feature the winning entries from the 2024 WCW Poster and Poetry
contests, as well as an awards ceremony for place winners and
honorable mentions of the 2024 contests. The calendars are distributed
to all Oahu schools, elected officials, and the public.

We deeply appreciate the continued support of this Board for this very
valuable and worthwhile public education program. All participants in our

WCW program are encouraged to always embrace their roles as responsible stewards of our precious water resource.

Respectfully Submitted,

/s/ ERNEST Y. W. LAU, P.E
 Manager and Chief Engineer

Attachment”

DISCUSSION: Kathleen Elliott-Pahinui, Information Officer, Communications Office, gave the report. There were no comments or discussion.

MOTION TO APPROVE Jonathan Kaneshiro and Bryan Andaya motioned and seconded, respectively, to approve the Adoption of Resolution No. 978, 2024, Acceptance of Gifts to the Board of Water Supply from Various Donors in Support of the 2024 Water Conservation Week Program.

Ms. Cruz-Achiu conducted a roll call vote: Board Member Bryan Andaya, aye; Board Member Jonathan Kaneshiro; aye; Board Member Gene Albano, aye; and Chair Nā’ālehu Anthony, aye. Vice Chair Kapua Sproat and Board Member Edwin Sniffen were absent

Ms. Cruz-Achiu announced that the motion passed with four ayes.

ADOPTION OF RESOLUTION NO. 978, 2024, ACCEPTANCE OF GIFTS TO THE BOARD OF WATER SUPPLY FROM VARIOUS DONORS IN SUPPORT OF THE 2024 WATER CONSERVATION WEEK PROGRAM WAS ADOPTED ON JANUARY 22, 2024			
	AYE	NO	COMMENT
NĀ’ĀLEHU ANTHONY	X		
KAPUA SPROAT			ABSENT
BRYAN P. ANDAYA	X		
JONATHAN KANESHIRO	X		
EDWIN H. SNIFFEN			ABSENT
GENE C. ALBANO	X		

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU

RESOLUTION NO. 978, 2024

ACCEPTANCE OF GIFTS TO THE BOARD OF WATER SUPPLY
FROM VARIOUS DONORS IN SUPPORT OF THE
2024 WATER CONSERVATION WEEK PROGRAM

WHEREAS, the Board of Water Supply's (BWS) annual Water Conservation Week program uses a poster and poetry contest to inspire Oahu students to reflect on the importance of efficient water use and features the winning and honorable mention entries in a yearly Water Conservation Calendar that is distributed to the public; and

WHEREAS, the BWS may solicit gifts to the Department as long as it does not provide special consideration, treatment, advantage, privilege, or exemption for or coerces a potential donor; and

WHEREAS, the BWS will solicit for gifts on its agency website, which is available for access by any interested person or business; and

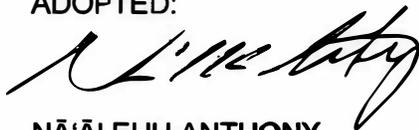
WHEREAS, the Friends of Halawa Xeriscape Garden; Sodexo; Hawaiian Financial Federal Credit Union, Board of Water Supply Branch; Aloha Pacific Federal Credit Union; Alexander and Baldwin, Incorporated; Hawaii Energy; Pasha Hawaii; and Times Supermarkets are offering monetary and in-kind gifts totaling \$14,000.00 in support of the 2024 Water Conservation Week program; and

WHEREAS, a gift to the BWS benefits the Department because it assists ongoing efforts, such as this well-established public education program, and reduces the need for ratepayer funds to support the program's key components; and

WHEREAS, the gifts will be used to offset reasonable and necessary costs of the printing and delivery of about 20,000 Water Conservation Calendars featuring the contests' winning entries and efforts to reveal and recognize the student winners and honorable mentions; now, therefore

BE IT RESOLVED that the Board of Water Supply hereby accepts the various gifts valued at \$14,000.00 and directs the Manager and Chief Engineer, or his delegate, to accept and thank the various donors for these gifts.

ADOPTED:



NĀ'ĀLEHU ANTHONY
Chair

Honolulu, Hawaii
January 22, 2024

ADOPTION OF RESOLUTION NO. 978, 2024,
ACCEPTANCE OF GIFTS TO THE BOARD OF WATER
SUPPLY FROM VARIOUS DONORS IN SUPPORT OF THE
2024 WATER CONSERVATION WEEK PROGRAM WAS
ADOPTED ON JANUARY 22, 2024

	AYE	NO	COMMENT
NĀ'ĀLEHU ANTHONY	X		
KAPUA SPROAT			ABSENT
BRYAN P. ANDAYA	X		
JONATHAN KANESHIRO	X		
EDWIN H. SNIFFEN			ABSENT
GENE C. ALBANO	X		

ITEM FOR INFORMATION NO. 1

“January 22, 2024

UPDATE ON
THE BOARD OF
WATER SUPPLY'S
RESPONSE TO
THE POTENTIAL
IMPACTS OF
RED HILL FUEL
CONTAMINATION

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Update on the Board of Water Supply's Response to the
Potential Impacts of the Red Hill Fuel Contamination

Joyce Lin, Civil Engineer IV, Office of the Manager and Chief Engineer,
will give an Update on the Board of Water Supply's Response to the
Potential Impacts of the Red Hill Fuel Contamination.

Respectfully Submitted,

/s/ ERNEST Y. W. LAU, P.E
Manager and Chief Engineer

Attachment”

The foregoing was for information only.

DISCUSSION:

Joyce Lin, Civil Engineer IV, Office of the Manager and Chief Engineer,
gave the report.

There was in-person testimony:

Susan Pcola-Davis	<i>Shared her TPH findings at various locations by doing her own research. She provided an 18-page attachment.</i>
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Chair Anthony referred to the letter included in Ms. Susan Pcola-Davis' attachment, addressed to Dr. Bruce Anderson on July 19, 2018. He asked Deputy Manager Erwin Kawata to confirm that the Department of Health (DOH) relaxed the Environmental Action Levels (EALs) in the fall of 2017, raising the standard to 500 parts per billion (ppb). He commented that the data Ms. Pcola-Davis' presented are above the thresholds.

Deputy Manager Erwin Kawata confirmed that the EALs were raised 2017 to 500 ppb. He stated that the taste and order threshold was 100 ppb, and the drinking water toxicity level was 160 ppb before the DOH raised the EALs.

Chair Anthony commented that the challenge in lowering the threshold is subject to the Environmental Protection Agency (EPA) setting a maximum

contaminant level (MCL), which the BWS is waiting to discuss in a future meeting.

Deputy Manager Kawata agreed with Chair Anthony's comments.

Chair Anthony expressed his appreciation to Ms. Pcola-Davis for sharing her findings.

Board Member Jonathan Kaneshiro asked what the dates of the detections for Zone D2 were, which are noted on page 10 of the attachments.

Ms. Pcola-Davis replied that the detections were between January and November 30, 2023. She explained that she began monitoring the detections in these areas due to the amount of complaints received.

Chair Anthony asked Ms. Pcola-Davis how long it takes for the Navy to release its reports.

Ms. Pcola-Davis responded that the long-term monitoring (LTM) period was supposed to end in December 2023. However, there were no sample results available as of January 22, 2024.

There was remote testimony:

Meredith Wilson	<i>Asked what the difference was between the defueling information sharing forum and the Red Hill Remediation Roundtable. She expanded on Ms. Pcola-Davis's testimony and shared that an Inspector General in the April 2023 EPA report stated that communications with the DOH were unclear.</i>
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Chair Anthony requested Ms. Meredith Wilson email the letter reference from April 2023 from the EPA Inspector General.

Jamie Simic	<i>Expanded on Ms. Pcola-Davis's testimony and shared that she was one of those affected in Zone D2, which was the most affected.</i>
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JANUARY 2024 RED HILL UPDATES

January 22, 2024

boardofwatersupply.com

RECENT EVENTS

Gravity Defueling Completed: 12/15/2023

- 104,642,160 gallons of fuel removed.
- 64,000 gallons of fuel and 28,000 gallons of sludge remains.

Quarterly Meeting with Navy Admirals: 1/19

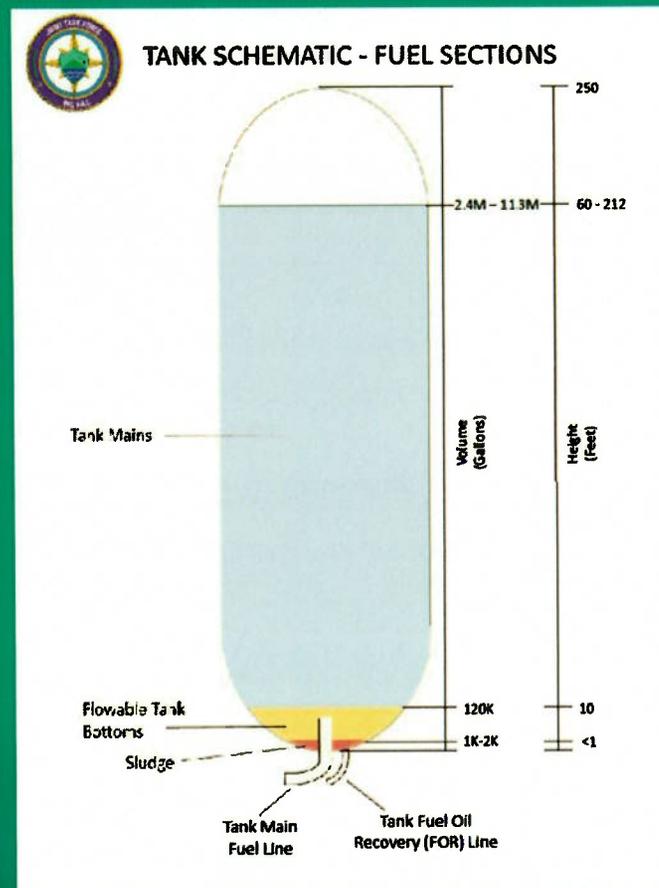


Yosemite Trader is transporting fuel drained from the Red Hill Bulk Fuel Storage Facility to the Philippines. (Kevin Fujii/Civil Beat/2023)



DEFUELING the Red Hill Bulk Fuel Storage Facility

- 60,000 gallons of residual fuel will be removed from low points of pipeline and valves by March 2024.
- Joint Task Force –Red Hill will transition to Navy Closure Task Force –Red Hill (NCTF-RH).
- Remaining 4,000 gallons of residual fuel and 28,000 gallons of sludge to be removed by NCTF-RH.
- The Red Hill Facility to be fully defueled tentatively end of November 2027, when all 3 fuel pipelines are dismantled.



Source: Joint Task Force –Red Hill



CLOSURE of Red Hill Bulk Fuel Storage Facility

Department of Defense Announced Closing Red Hill **WILL NOT** Impact Operational Readiness



Attachment 1 of Navy Response to EPA Comments dated November 20, 2023

Navy Closure Task Force –Red Hill

- Rear Admiral Stephen Barnett
- Latest Integrated Master Schedule indicates pipeline deconstructing and defueling to complete tentative end of November 2027

Tentative Facility Closure: July 2028



UPCOMING EVENTS

- Representative of the Environmental Protection Agency and the State Department of Health to attend February 22, 2024 Board of Directors Meeting
- Red Hill Remediation Roundtable
- Red Hill Closure Updates





MAHALO!

January 2024 Red Hill Updates

Providing safe, dependable, and affordable drinking water, now and into the future.

Joy Cruz-Achiu

From: contactus=notify2.boardofwatersupply.com@mg.boardofwatersupply.com on behalf of contactus@notify2.boardofwatersupply.com
Sent: Saturday, January 20, 2024 9:44 AM
To: Stella Bernardo; Board of Water Supply Board of Directors
Subject: Board Meeting Testimony Submittal or Request - January 22, 2024 - Susan Pcola-Davis

CAUTION: This email originated from outside of the organization. Do not follow guidance, click links, or open attachments unless you recognize the sender and know the content is safe.

BWS TESTIMONY SUBMITTAL / REQUEST TO TESTIFY FORM

Form Submitted on: 1/20/2024 9:43:26 AM

Meeting Date: January 22, 2024

I wish to provide Written testimony + request to give in-person oral testimony at 630 S. Beretania Street

TESTIFIER INFORMATION

Full Name Susan Pcola-Davis

Email susanp60@yahoo.com

Phone (optional) (808) 387-3061

TESTIMONY DETAILS

Agenda Item Info 1: Update on the Board of Water Supply's Response to the Potential Impacts of the Red Hill Fuel Contamination

Your Position on Matter I wish to comment

Representing Self

I wish to provide

Written testimony + request to give in-person oral testimony at 630 S. Beretania Street

**Written
Testimony
(if entered on the
online form;
otherwise see
attached)**

Will be presenting another tri-fold.

ACKNOWLEDGEMENTS

**Terms and
Agreement
Check Box**

I UNDERSTAND and ACCEPT that all public meeting transcripts and testimony are public documents. Therefore, any testimony that is submitted orally or in writing, electronically or in person, for use in the meeting process is public information.

www.boardofwatersupply.com/boardmeetings

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JBPHH UN-SAFE WATERS

All data presented is directly extracted from the JBPHH Long Term Monitoring Data Base

This data represents January – November 30, 2023

Last date uploaded

Susan A. Pcola-Davis

BWS PRESENTATION JANUARY 22, 2024
Research By: SUSAN A. PCOLA-DAVIS

As I have done previously, I used the Navy's Safe Water Site to extract their data to put it in a visually acceptable format.

This time I set my parameters at **January – November 30, 2023**, detections of Petroleum Hydrocarbons (as diesel) and Petroleum Hydrocarbons (as oil).
Diesel + Oil = Total Petroleum Hydrocarbons (TPH).

This presentation will demonstrate the TPH in 3 zones. These zones were chosen, by me, due to the high amounts of TPH and high frequency of TPH

D2: Hickam, Hale Na Koa, Officer Field, Onizuka Housing

F1: Navy Exchange, Surrounding Businesses in Moanaloa Shopping Center,
Moanaloa Terrace Housing

F2: Catlin Park, Maloelop, Doris Miller, Halsey and Radford Terrace Housing

In all of this research, in which I have all of the zones calculated, the high was 256 TPH and the low was 105.1.

D2 analysis:

These homes were hit hard. July-August 2023 you can see the frequency of 34 samples with a high of 216.3. The graphs depict a sort by date and a sort by address.

F1 analysis:

This selection shows an interesting pattern. In August two homes were tested twice and flushed. The decrease was insignificant, but the Navy walked away telling occupants their water was safe.

The other data point is from Taylor Street with a TPH of 256.

No problem says the DOH and Navy. The Environmental Action Level (EAL) is 266 parts per billion. This is only 256. The graphs depict a sort by date and a sort by address.

F2 analysis:

These homes were also hit hard. In the month of August 2023 you can see the frequency of 23 samples with a high of 239.1 in two different addresses. The graphs depict a sort by date and a sort by address.

The total TPH frequency of all zones was 123 with several homes sampled more than one time. The high was 256 and the low was 105.1.

Average TPH = 154.64.

Median TPH = 150.5.

Mode TPH = 144.

Graph analysis: January – November 30, 2023

Each zone has two graphs.

1. TPH (diesel + oil) by DATE
2. TPH (diesel + oil) by ADDRESS in that zone.

This is absolutely WRONG.

Until next month. Mahalo.

Any questions?

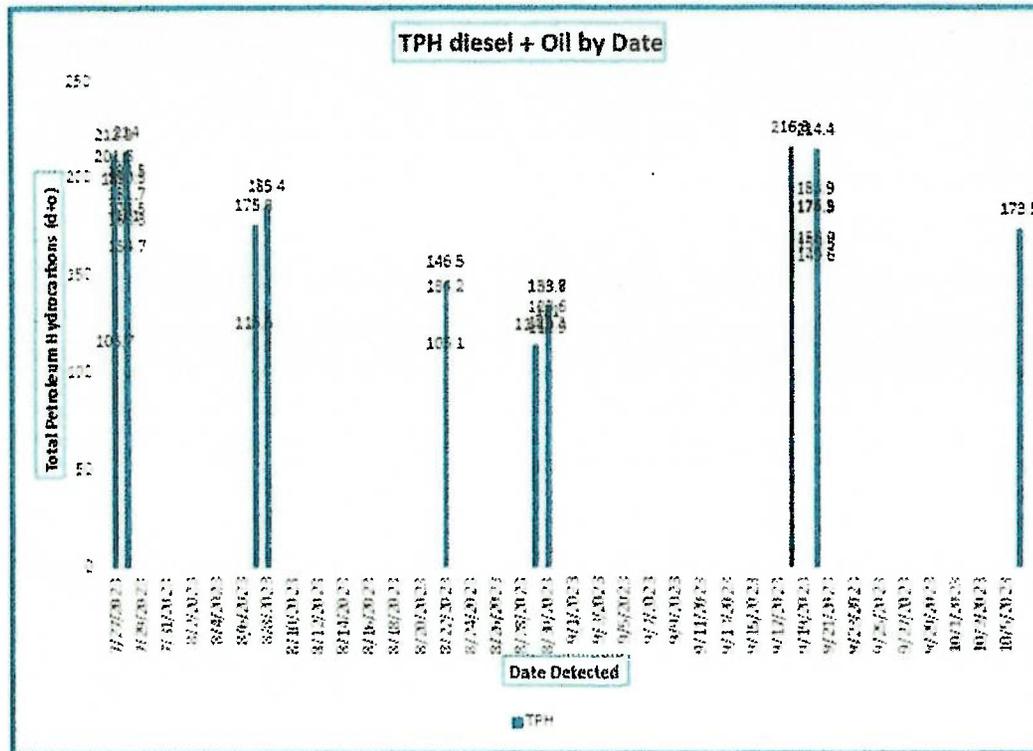
105.1	Mean	105.1	105.1	Mode
106.2	154.64	106.2	106.2	144
106.7		106.7	106.7	
106.7		106.7	106.7	
107.5		107.5	107.5	
108		108	108	
109.4		109.4	109.4	
109.9		109.9	109.9	
110.6		110.6	110.6	
110.9		110.9	110.9	
111.9		111.9	111.9	
112.9		112.9	112.9	
113.1		113.1	113.1	
113.5		113.5	113.5	
113.7		113.7	113.7	
114.1		114.1	114.1	
114.3		114.3	114.3	
115		115	115	
115.1		115.1	115.1	
115.4		115.4	115.4	
115.5		115.5	115.5	
115.8		115.8	115.8	
116.6		116.6	116.6	
116.8		116.8	116.8	
118		118	118	
118.2		118.2	118.2	
118.8		118.8	118.8	
119.8		119.8	119.8	
120.8		120.8	120.8	
121		121	121	
121		121	121	
121.2		121.2	121.2	
123		123	123	
123.6		123.6	123.6	
123.6		123.6	123.6	
124		124	124	
125.1		125.1	125.1	
125.7		125.7	125.7	
127.3		127.3	127.3	
128.5		128.5	128.5	
132.3		132.3	132.3	
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133.7		133.7	133.7	
133.8		133.8	133.8	

134.2		134.2	134.2
135.7		135.7	135.7
136.3		136.3	136.3
137.2		137.2	137.2
140.4		140.4	140.4
141.2		141.2	141.2
144		144	144
144.2		144.2	144.2
145.3		145.3	145.3
146.5		146.5	146.5
146.7		146.7	146.7
149.2		149.2	149.2
149.6		149.6	149.6
150.5	Median	150.5	150.5
154.7		154.7	154.7
155		155	155
155.5		155.5	155.5
155.7		155.7	155.7
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157.8		157.8	157.8
158.9		158.9	158.9
160.5		160.5	160.5
160.9		160.9	160.9
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164.6		164.6	164.6
166.4		166.4	166.4
167.6		167.6	167.6
168.3		168.3	168.3
169.2		169.2	169.2
170.7		170.7	170.7
171		171	171
172.6		172.6	172.6
173.5		173.5	173.5
174.3		174.3	174.3
174.5		174.5	174.5
175.5		175.5	175.5
175.8		175.8	175.8
176.1		176.1	176.1
177.3		177.3	177.3
177.5		177.5	177.5
179.2		179.2	179.2
179.8		179.8	179.8
180.7		180.7	180.7

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181.8	181.8	181.8
181.9	181.9	181.9
183.9	183.9	183.9
185.4	185.4	185.4
186.4	186.4	186.4
189	189	189
189.2	189.2	189.2
190.3	190.3	190.3
190.7	190.7	190.7
191.8	191.8	191.8
193.5	193.5	193.5
199.6	199.6	199.6
201.6	201.6	201.6
205.6	205.6	205.6
208.7	208.7	208.7
209.4	209.4	209.4
212.3	212.3	212.3
214	214	214
214.4	214.4	214.4
216.3	216.3	216.3
227	227	227
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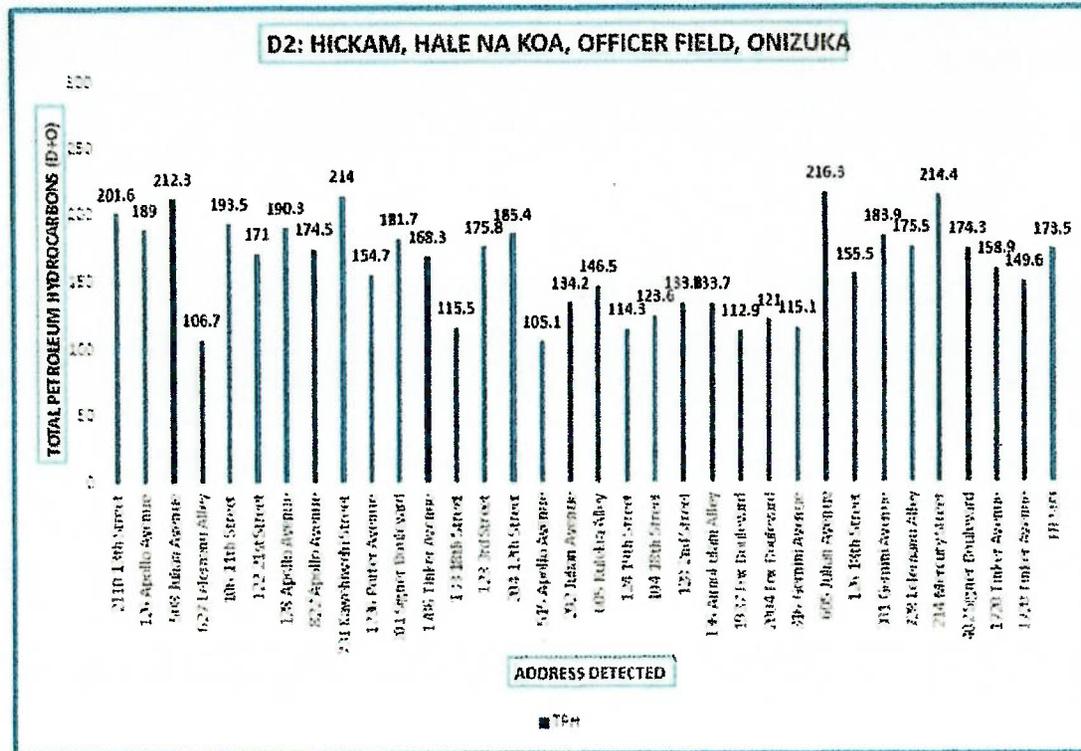
DATE	D2: Address	TPH (d+o)
HICKAM, HALE NA KOA, OFFICER FIELD, ONIZUKA		
7/27/2023	211B 13th Street	201.6
7/27/2023	126 Apollo Avenue	189
7/27/2023	508 Julian Avenue	212.3
7/27/2023	627 Lelemanu Alley	106.7
7/28/2023	106 11th Street	193.5
7/28/2023	122 21st Street	171
7/28/2023	128 Apollo Avenue	190.3
7/28/2023	822 Apollo Avenue	174.5
7/28/2023	731 Kawehiwehi Street	214
7/28/2023	1736 Porter Avenue	154.7
7/28/2023	701 Signer Boulevard	181.7
7/28/2023	1706 Tinker Avenue	168.3
8/7/2023	133 18th Street	115.5
8/7/2023	123 3rd Street	175.8
8/8/2023	204 12th Street	185.4
8/22/2023	515 Apollo Avenue	105.1
8/22/2023	202 Julian Avenue	134.2
8/22/2023	605 Kulekia Alley	146.5
8/29/2023	124 19th Street	114.3
8/30/2023	104 18th Street	123.6
8/30/2023	128 2nd Street	133.8
8/30/2023	136 Aimokulani Alley	133.7
8/30/2023	1937 Fox Boulevard	112.9
8/30/2023	2004 Fox Boulevard	121
8/30/2023	316 Gemini Avenue	115.1
9/18/2023	605 Julian Avenue	216.3
9/20/2023	126 18th Street	155.5
9/20/2023	301 Gemini Avenue	183.9
9/20/2023	728 Lelemanu Alley	175.5
9/20/2023	214 Mercury Street	214.4
9/20/2023	402 Signer Boulevard	174.3
9/20/2023	1720 Tinker Avenue	158.9
9/20/2023	1720 Tinker Avenue	149.6
10/6/2023	FH:509	173.5

ZONE D2: HICKAM, HALE NA KOA, OFFICER FIELD, ONIZUKA



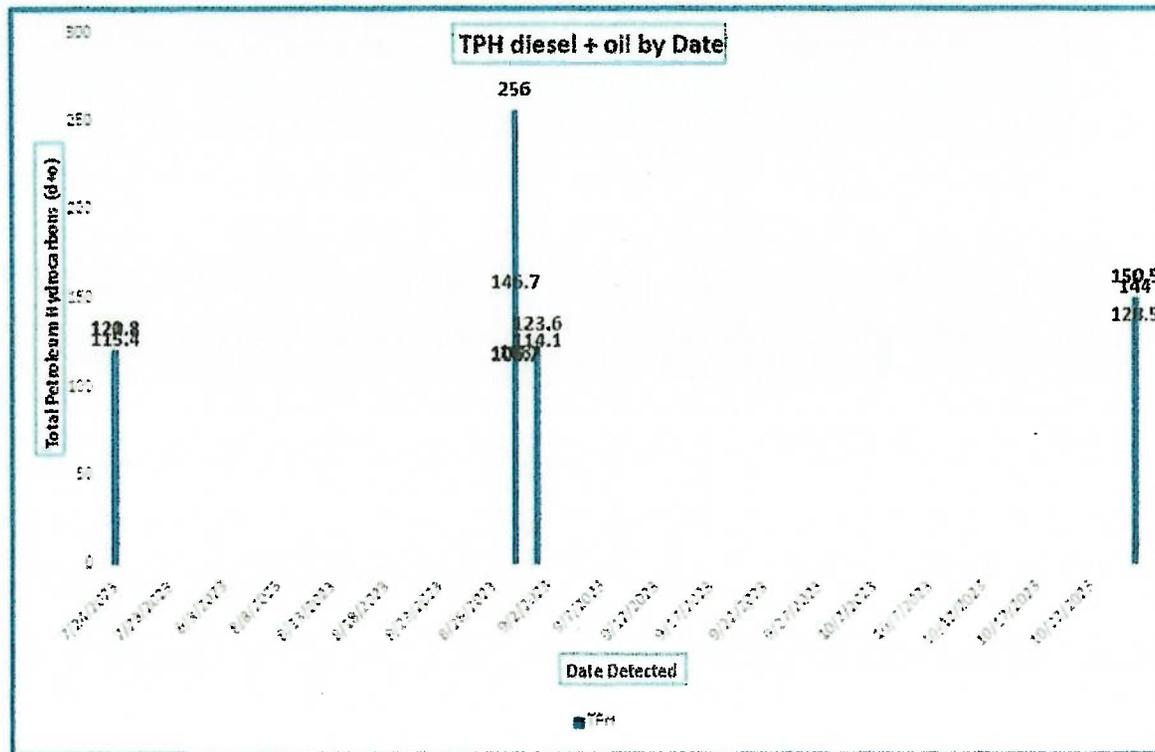
ZONE D2:

HICKAM, HALE NA KOA, OFFICER FIELD, ONIZUKA

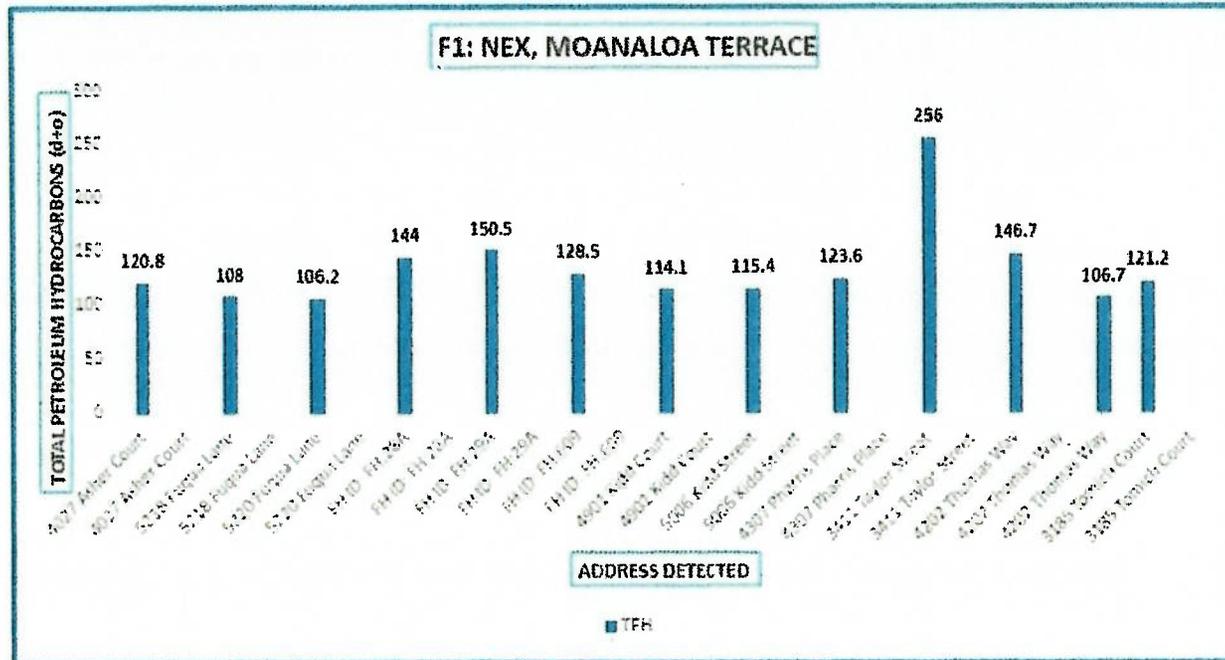


DATE	F! Address	TPH (d+o)
NEX, MOANALOA TERRACE		
7/24/2023	4027 Asher Court	120.8
7/24/2023	5006 Kidd Street	115.4
7/24/2023	3185 Tomich Court	121.2
8/30/2023	5218 Fuqua Lane	108
8/30/2023	5220 Fuqua Lane	106.2
8/30/2023	3411 Taylor Street	256
8/30/2023	4202 Thomas Way	146.7
8/30/2023	4202 Thomas Way	106.7
9/1/2023	4901 Kidd Court	114.1
9/1/2023	4307 Pharris Place	123.6
10/26/2023	FH ID: FH:28A	144
10/26/2023	FH ID: FH:29A	150.5
10/26/2023	FH ID: FH:609	128.5

F1: NEX, MOANALOA TERRACE



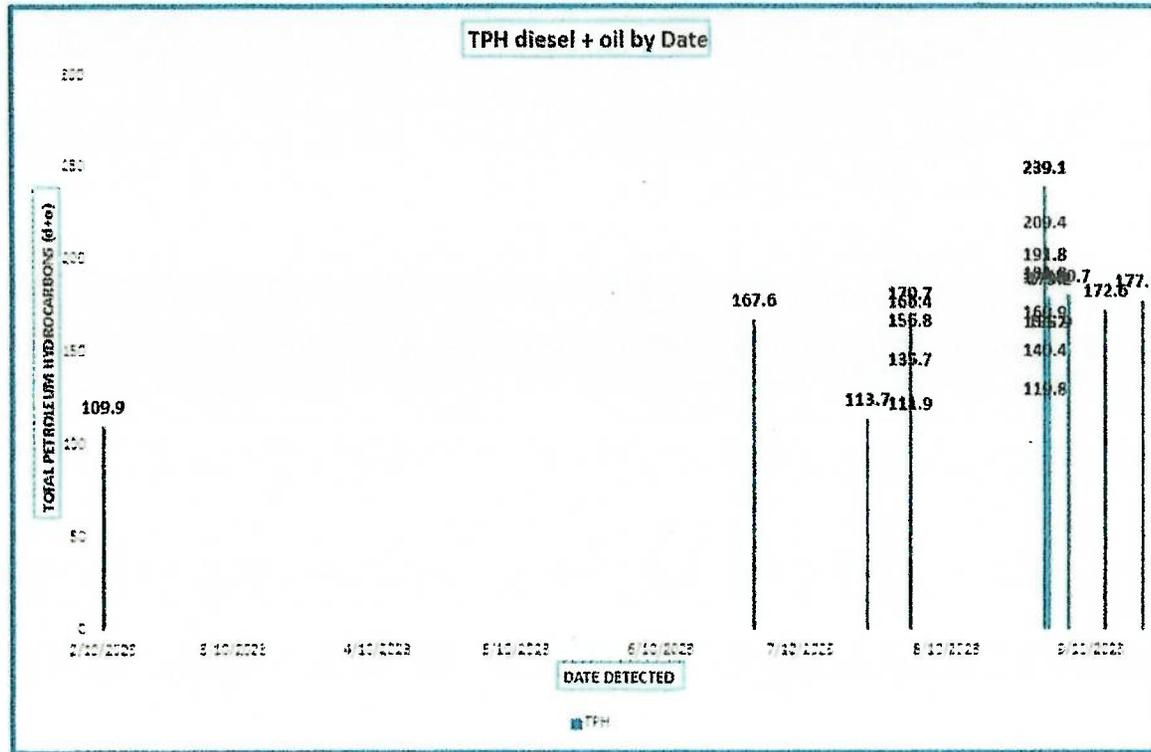
F1: NEX, MOANALOA TERRACE



DATE	F2 Address	TPH (d+o)
CATLIN, MALOELOP, DORIS MILLER, HALSEY RADFORD		
2/10/2023	FH 39	109.9
6/30/2023	614 Meyerkord Loop	167.6
7/24/2023	1652 Koaia Court	113.7
8/2/2023	Peltier CDC, Building 1928	111.9
8/2/2023	Peltier CDC, Building 1928	135.7
8/2/2023	2276D Doris Miller Loop	170.7
8/2/2023	2276D Doris Miller Loop	156.8
8/2/2023	2706 Stowell Circle	166.4
8/31/2023	2812 Anderson Avenue	119.8
8/31/2023	5226 Catlin Lane 2273C Doris Miller	239.1
8/31/2023	Loop	239.1
8/31/2023	688 Murray Drive	179.8
8/31/2023	1726 Nye Circle	160.9
8/31/2023	3285 Shields Lane	209.4
8/31/2023	3287 Shields Lane	140.4
8/31/2023	711 Sibley Street	181.8
8/31/2023	3156 Snyder Court	155.7
8/31/2023	2678 Stowell Circle	191.8
9/1/2023	2629 Gordon Street	155.9
9/1/2023	2860 Gordon Street	179.2
9/5/2023	3298 Jaluit Lane	180.7
9/13/2023	3221 Gillespie Lane	172.6
9/21/2023	2609 Stowell Circle	177.3

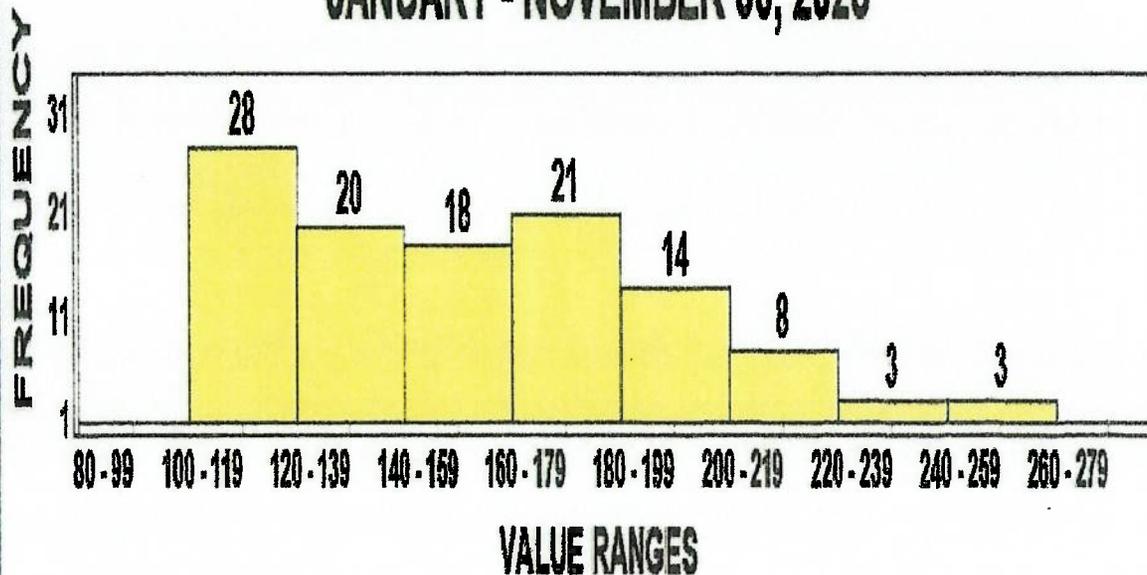
F2:

CATLIN PARK, MALOELOP, DORIS MILLER, HALSEY RADFORD



A histogram is a specialized type of bar chart. Individual data points are grouped together in classes, so that you can get an idea of how frequently data in each class occur in the data set. The strength of a histogram is that it provides an easy-to-read picture of the location and variation in a data set.

HISTOGRAM: JANUARY - NOVEMBER 30, 2023



A truncated curve, with the peak at or near the edge while trailing gently off to the other side, often means that part of the distribution has been removed through screening, 100% inspection, or review. These efforts are usually costly and make good candidates for improvement efforts.

Dr. Bruce Anderson
July 19, 2018
Page 2

(RPD = 200%). Due to this imprecision, there is uncertainty in the true concentrations of the TPH-d for this sample." (Navy, 2018). The Navy provided further comments in the DOH letter, stating the 2018 Q1 results for Red Hill Shaft were also non-detects (DOH, 2018).

The BWS strongly recommends collecting and testing additional samples to resolve the sampling bias, imprecision and uncertainty issues expressed by the Navy. The collection and testing of additional samples is a best practice for reconciling the presence or absence of contaminants. If those subsequent tests confirm the contaminant is present, then increasing the testing frequency is prudent (i.e. monthly) to track any long-term changes in the values.

The Navy's fourth quarter 2017 cumulative groundwater results show past detections of TPH-d in Red Hill Shaft. On June 28, 2005, three samples were collected and recorded TPH-d levels of 43 ppb, 67 ppb and 58 ppb. On September 8, 2005, 43 ppb was detected. On December 6, 2005, two samples detected 38 and 24 ppb respectively. On January 20, 2016, 20 ppb was detected. We believe these historical detections warrant monthly testing given Red Hill Shaft is an important drinking water source to Joint Base Pearl Harbor Hickam (JBPHH). On December 13, 2016, the BWS sent a letter to DOH transmitting the results of two independent studies the BWS commissioned to determine screening levels for TPH-d in drinking water. Both studies calculated values that were very consistent with DOH's TPH-d gross contamination (taste and odor threshold) environmental action limit (EAL) of 100 ppb and TPH-d Drinking Water Toxicity EAL of 160 ppb. In Fall 2017, the DOH relaxed these EALs by raising them to 500 ppb and 400 ppb, respectively. The BWS would like to know the detailed basis DOH used to relax the EAL standard and receive a copy of the data used to make its decision. The BWS believes the previous DOH EALs were protective of the environment, and human health and relaxing the EALs is a backsliding that is not in the best interest of our community. The BWS urges the DOH to reconsider and reinstate the 100 ppb and 160 ppb EAL values.

Finally, the Navy's 2018 Consumer Confidence Report (CCR) for JBPHH reports 65 ppb as the highest level of TPH-d detected in Red Hill Shaft for voluntary testing performed in 2017, on page 4 of the CCR (copy enclosed for reference). Where did the 65 ppb value come from? Did it come from the duplicate sample collected on October 24, 2017? This is the only detection recorded in calendar year 2017 based on the Navy's fourth quarter 2017 cumulative groundwater results shown on the DOH website. However, the Navy states, "there is uncertainty in the true concentrations of the TPH-d for this sample." (Navy, 2018). If so, then why does a Navy CCR report imprecise results to the Navy's customers? If not, is the Navy reporting a precise 65 ppb result in its CCR that was not included in the Navy's fourth quarter 2017 cumulative groundwater results report? Can you please clarify?

Joy Cruz-Achiu

From: contactus=notify2.boardofwatersupply.com@mg.boardofwatersupply.com on behalf of contactus@notify2.boardofwatersupply.com
Sent: Monday, January 22, 2024 1:31 PM
To: Stella Bernardo; Board of Water Supply Board of Directors
Subject: Board Meeting Testimony Submittal or Request - January 22, 2024 - Meredith Wilson

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BWS TESTIMONY SUBMITTAL / REQUEST TO TESTIFY FORM

Form Submitted on: 1/22/2024 1:29:41 PM

Meeting Date: January 22, 2024

I wish to provide Written testimony + request to give remote oral testimony by Zoom videoconference

TESTIFIER INFORMATION

Full Name Meredith Wilson

Email meredithwilson17@gmail.com

Phone (optional) (808) 554-6778

TESTIMONY DETAILS

Agenda Item Info 1: Update on the Board of Water Supply's Response to the Potential Impacts of the Red Hill Fuel Contamination

Your Position on Matter I wish to comment

Representing Self

I wish to provide

Written testimony + request to give remote oral testimony by Zoom
videoconference

**Written
Testimony
(if entered on the
online form;
otherwise see
attached)**

(Will submit a written testimony following meeting, thank you.)

ACKNOWLEDGEMENTS

**Terms and
Agreement
Check Box**

I UNDERSTAND and ACCEPT that all public meeting transcripts and testimony are public documents. Therefore, any testimony that is submitted orally or in writing, electronically or in person, for use in the meeting process is public information.

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Joy Cruz-Achiu

From: contactus=notify2.boardofwatersupply.com@mg.boardofwatersupply.com on behalf of contactus@notify2.boardofwatersupply.com
Sent: Monday, January 22, 2024 2:03 PM
To: Stella Bernardo; Board of Water Supply Board of Directors
Subject: Board Meeting Testimony Submittal or Request - January 22, 2024 - Jamie Simic

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BWS TESTIMONY SUBMITTAL / REQUEST TO TESTIFY FORM

Form Submitted on: 1/22/2024 2:02:52 PM

Meeting Date: January 22, 2024

I wish to provide Written testimony + request to give remote oral testimony by Zoom videoconference

TESTIFIER INFORMATION

Full Name Jamie Simic

Email Simicjamie1@gmail.com

Phone (optional) (850) 829-5148

TESTIMONY DETAILS

Agenda Item Info 1: Update on the Board of Water Supply's Response to the Potential Impacts of the Red Hill Fuel Contamination

Your Position on Matter I wish to comment

Representing Self

I wish to provide

Written testimony + request to give remote oral testimony by Zoom videoconference

**Written
Testimony
(if entered on the
online form;
otherwise see
attached)**

I wish to testify in support of Susan Pacola Davis & the ongoing issues on the baby water lines

ACKNOWLEDGEMENTS

**Terms and
Agreement
Check Box**

I UNDERSTAND and ACCEPT that all public meeting transcripts and testimony are public documents. Therefore, any testimony that is submitted orally or in writing, electronically or in person, for use in the meeting process is public information.

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ITEM FOR INFORMATION NO. 2

"January 22, 2024

RECRUITMENT
STATUS

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Recruitment Status

Michele L. Thomas, Executive Assistant, Human Resources Office, will be presenting an update on the Recruitment Status for the period of October 2023 to December 2023.

Respectfully Submitted,

/s/ ERNEST Y. W. LAU, P.E
Manager and Chief Engineer

Attachment"

The foregoing was for information only.

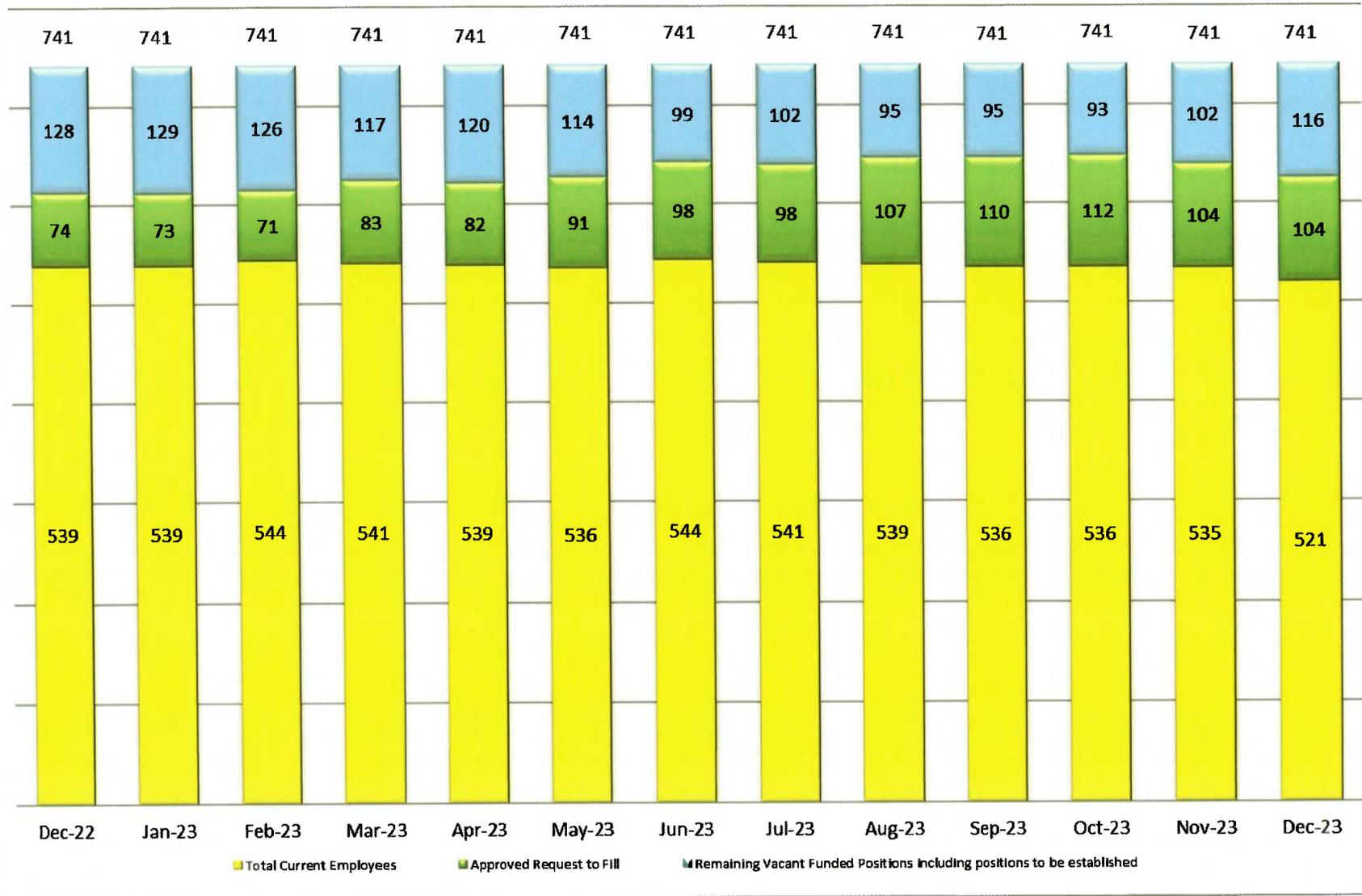
DISCUSSION:

Michele Thomas, Executive Assistant I, Human Resources Office, gave the report.

Chair Anthony inquired if the BWS has a 29% vacancy, which is reported in the news and in line with other city and state agencies.

Ms. Michele Thomas said she would return to the Board with its vacancy rate information. She mentioned there are several vacancies in the difficult-to-fill positions; however, the BWS is above average for filling customary positions.

Positions Filled December 1, 2022 through December 31, 2023



For the period Oct23-Dec23 Actions: 10 New Hires, 5 Promotions, 1 Demotion, 25 Separations.

BOARD OF WATER SUPPLY

City and County of Honolulu

RECRUITMENT AND SEPARATION STATUS For Period October 1, 2023 to December 31, 2023

Status of Positions Under Recruitment

	as of		
	10/31/2023	11/30/2023	12/31/2023
Pending DHR Open List (external recruitment)	15	18	30
Pending Internal recruitments	5	7	2
Pending Final Interview Questions	10	3	18
Pending Interviews with Division	61	41	20
Anticipated Starts (pre-employment clearances)	14	30	33
Cancelled Requests	7	5	1
Total Positions Under Recruitment	112	104	104

Filled Positions

Month	Oct-23	Nov-23	Dec-23
Open list	3	4	3
Internal Promotions	0	1	4
Internal Demotions/Transfers	0	1	0
Reallocations	16	7	3

Separations

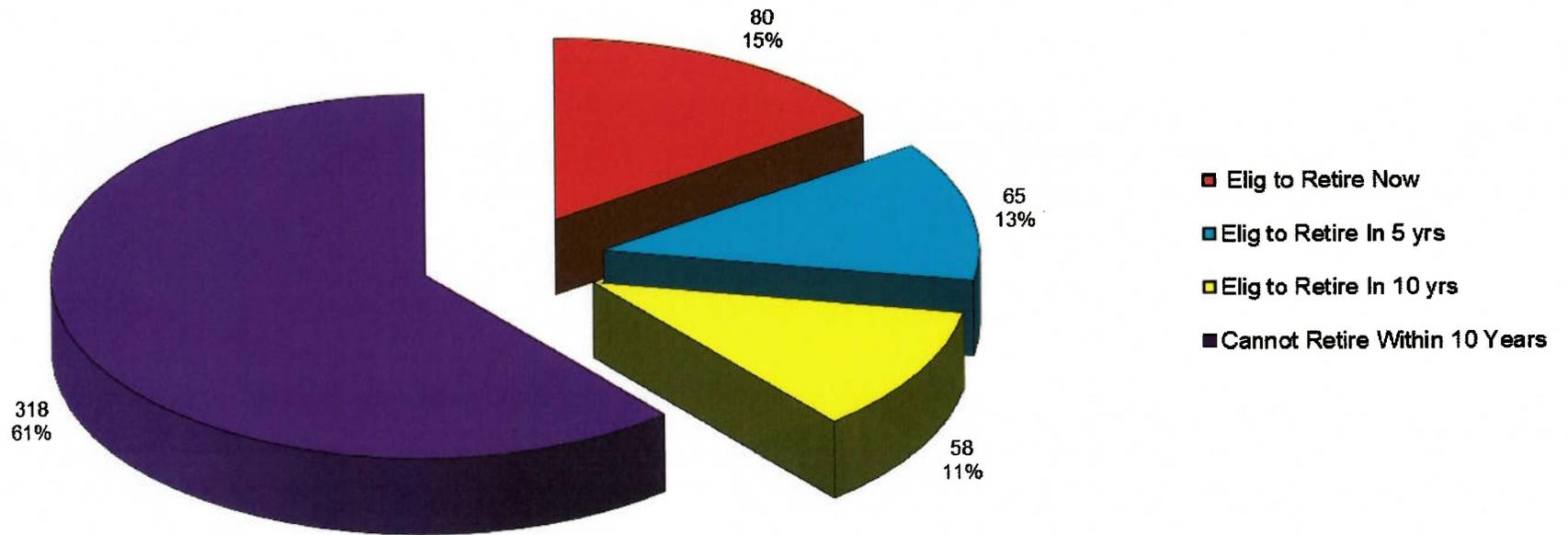
Month	Oct-23	Nov-23	Dec-23
Retire	2	2	10
Resign/Termination/Other	1	3	7

Legend:

DHR = Department of Human Resources City and County of Honolulu

Reallocation = Employee has demonstrated competency in higher level position and position was adjusted

BWS Retirement Projections As of December 31, 2023



ITEM FOR INFORMATION NO. 3

"January 22, 2024

STATUS
UPDATE OF
GROUNDWATER
LEVELS AT
ALL INDEX
STATIONS

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Status Update of Groundwater Levels at All Index Stations

Nine aquifer index stations were in low groundwater condition for the production month of December 2023. Beretania, Kalihi, Moanalua, Pearl City, Waipahu, Kaluanui and Waialua are in Caution Status. Kaimukī and Punalu`u are in Alert Status. The monthly production average for December 2023 was 126.27 million gallons per day.

The Board of Water Supply rainfall index for the month of December 2023 was 131 percent of normal, with a 5-month moving average of 76 percent. As of January 2, 2024, the Hawai`i Drought Monitor shows abnormally dry to moderate drought conditions through west O`ahu. The National Weather Service is forecasting below-normal precipitation through June 2024.

Most monitoring wells exhibited stable to slightly increasing head levels for the month of December 2023, likely reflecting the seasonal lower production combined with recent rains in November and December. Average monthly production for December 2023 was similar to December 2022 and the 5-year monthly average. Increased conservation messaging is recommended leading into summer 2024.

Respectfully Submitted,

/s/ ERNEST Y. W. LAU, P.E
Manager and Chief Engineer

Attachment"

The foregoing was for information only.

DISCUSSION:

Barry Usagawa, Program Administrator, Water Resources Division, gave the report.

Chair Anthony stated that at a previous Board meeting, Mr. Barry Usagawa seemed concerned with some of BWS's wells, some of which were in the critical stage. He asked if Mr. Usagawa was reassured by the recent amount of rainfall Oahu had and the uptick in head levels.

Mr. Barry Usagawa replied that the rainfall, the increase in head levels, and the reduction in chloride levels are good signs. He stated that it is important to ensure that low groundwater conditions do not reach critical levels regularly as it will affect the source and aquifer.

**PRODUCTION, HEAD AND RAINFALL REPORT
MONTH OF DECEMBER 2023**

POTABLE

STATION	MGD
HONOLULU (1)	
KULIOUOU	0.06
WAILUPE	0.10
AINA KOA	0.00
AINA KOA II	0.51
MANOA II	0.81
PALOLO	1.06
KAIMUKI HIGH	1.65
KAIMUKI LOW	0.83
WILDER	6.71
BERETANIA HIGH	2.39
BERETANIA LOW	2.33
KALIHI HIGH	1.24
KALIHI LOW	3.52
KAPALAMA	1.09
KALIHI SHAFT	7.72
MOANALUA	2.60
HALAWA SHAFT	0.00
KAAMILO	0.97
KALAUAO	8.46
PUNANANI	9.07
KAAHUMANU	0.25
HECO WAIU	2.65
MANANA	0.17
WAIALAE IKI	0.51
WELLS SUBTOTAL:	54.70
MANOA TUNNEL	0.17
PALOLO TUNNEL	0.00
GRAVITY SUBTTL:	0.17
HONOLULU SUBTTL:	54.87

STATION	MGD
WINDWARD (2)	
WAIMANALO II	0.70
WAIMANALO III	0.00
KUOU I	0.00
KUOU II	0.79
KUOU III	0.76
LULUKU	0.85
HAIKU	0.27
IOLEKAA	0.00
KAHALUU	0.67
KAHANA	0.63
PUNALUU I	0.00
PUNALUU II	1.78
PUNALUU III	0.00
KALUANUI	1.69
MAAKUA	0.39
HAUULA	0.26
WELLS SUBTOTAL:	8.80
WAIM. TUNNELS I & II	0.00
WAIM. TUNNELS III&IV	0.19
WAIHEE INCL. WELLS	0.27
WAIHEE TUNNEL	4.48
LULUKU TUNNEL	0.16
HAIKU TUNNEL	0.34
KAHALUU TUNNEL	1.34
GRAVITY SUBTOTAL:	6.79
WIND. SUBTOTAL:	15.59

STATION	MGD
NORTH SHORE (3)	
KAHUKU	0.40
OPANA	1.00
WAIALEE I	0.34
WAIALEE II	0.62
HALEIWA	0.00
WAIALUA	1.54
N.SHORE SUBTOTAL:	3.90

STATION	MGD
MILILANI (4)	
MILILANI I	1.48
MILILANI II	0.00
MILILANI III	0.63
MILILANI IV	1.86
MILILANI SUBTOTAL:	3.97

STATION	MGD
WAHIAWA (5)	
WAHIAWA	1.65
WAHIAWA II	1.08
WAHIAWA SUBTOTAL:	2.74

STATION	MGD
PEARL CITY-HALAWA (6)	
HALAWA 277	0.00
HALAWA 550	0.00
AIEA	0.00
AIEA GULCH 497	0.00
AIEA GULCH 550	0.19
KAONOHI I	1.34
WAIMALU I	0.00
NEWTOWN	1.73
WAIU	1.67
PEARL CITY I	0.81
PEARL CITY II	1.04
PEARL CITY III	0.17
PEARL CITY SHAFT	0.90
PEARL CITY-HALAWA SUBTOTAL:	7.85

STATION	MGD
WAIPAHU-EWA (7)	
WAIPIO HTS.	1.70
WAIPIO HTS. I	0.00
WAIPIO HTS. II	0.34
WAIPIO HTS. III	1.01
WAIPAHU	6.66
WAIPAHU II	1.87
WAIPAHU III	1.62
WAIPAHU IV	2.43
KUNIA I	4.61
KUNIA II	1.52
KUNIA III	1.27
HOAEAE	4.78
HONOULIULI I	0.00
HONOULIULI II	5.57
MAKAKILO	0.14
WAIPAHU-EWA SUBTOTAL:	33.51

STATION	MGD
WAIANAE (8)	
MAKAHA I	0.51
MAKAHA II	0.00
MAKAHA III	0.13
MAKAHA V	0.27
MAKAHA VI	0.00
MAKAHA SHAFT	0.00
KAMAILE	0.05
WAIANAE I	0.27
WAIANAE II	0.34
WAIANAE III	0.72
WELLS SUBTOTAL:	2.29
WAI. C&C TUNNEL	1.40
WAI. PLANT. TUNNELS	0.14
GRAVITY SUBTOTAL:	1.54
WAIANAE SUBTOTAL:	3.83

NONPOTABLE

NONPOTABLE	MGD
KALAUAO SPRINGS	0.45
BARBERS POINT WELL	1.12
GLOVER TUNNEL NP	0.31
NONPOTABLE TOTAL:	1.88

RECYCLED WATER (NOVEMBER 2023)

RECYCLED WATER	MGD
HONOULIULI WRF R-1	5.57
HONOULIULI WRF RO	1.57
RECYCLED TOTAL:	7.14

**PRODUCTION, HEAD AND RAINFALL REPORT
MONTH OF DECEMBER 2023**

PRODUCTION SUMMARIES

TOTAL WATER	MGD
PUMPAGE	117.76
GRAVITY	8.51
POTABLE TOTAL:	126.27
NONPOTABLE	1.88
RECYCLED WATER	7.14
TOTAL WATER:	135.28

CWRM PERMITTED USE AND BWS ASSESSED YIELDS FOR BWS POTABLE SOURCES				
WATER USE DISTRICTS		A	B	C
		PERMITTED USE/ BWS YLDS	DEC 2022	DIFF. A-B
1	HONOLULU	83.32	54.70	28.62
2	WINDWARD	25.02	15.59	9.43
3	NORTH SHORE	4.70	3.90	0.80
4	MILILANI	7.53	3.97	3.56
5	WAHIAWA	4.27	2.74	1.53
6	PEARL CITY-HALAWA	12.25	7.85	4.40
7	WAIPAHU-EWA	50.63	33.51	17.12
8	WAIANAЕ	4.34	3.83	0.51
TOTAL:		192.06	126.10	65.96

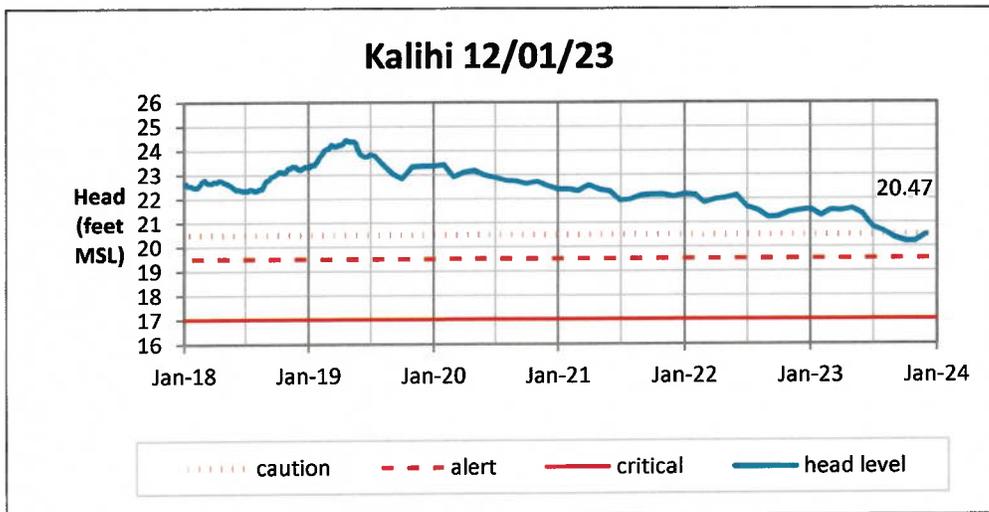
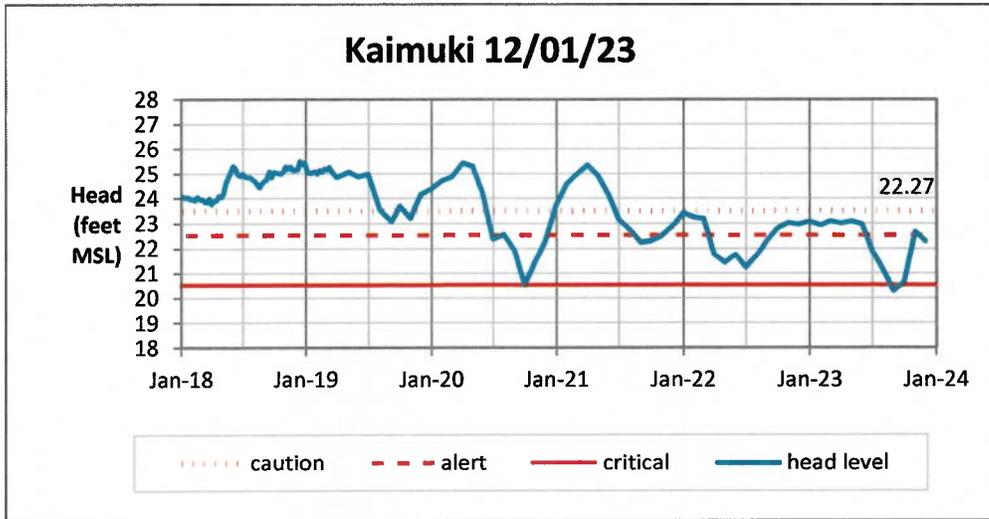
CWRM PERMITTED USE FOR BWS NONPOTABLE SOURCES				
WATER USE DISTRICTS		A	B	C
		PERMITTED USE	DEC 2022	DIFF. A-B
7	WAIPAHU-EWA (BARBERS POINT WELL)	1.00	1.12	-0.12
TOTAL:		1.00	1.12	-0.12

EFFECTIVE WATER DEMAND PER DISTRICT

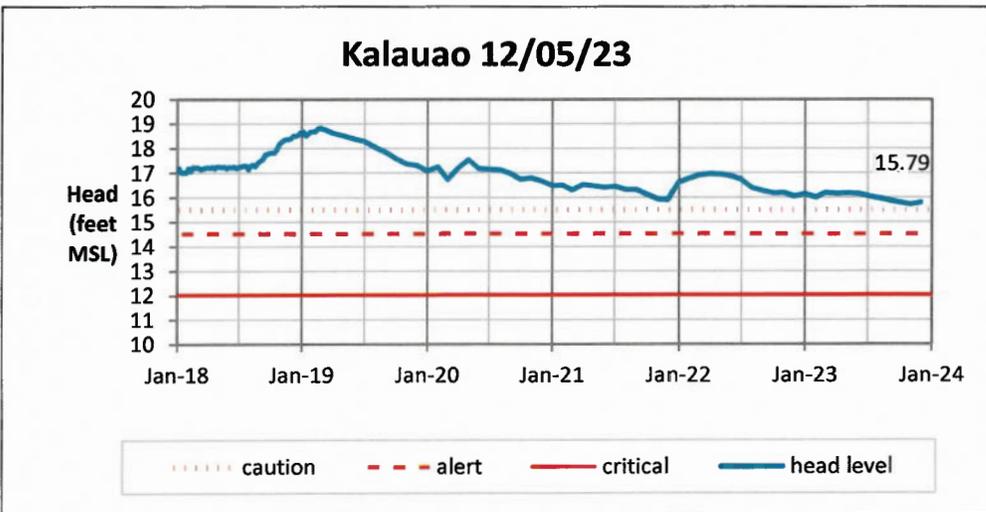
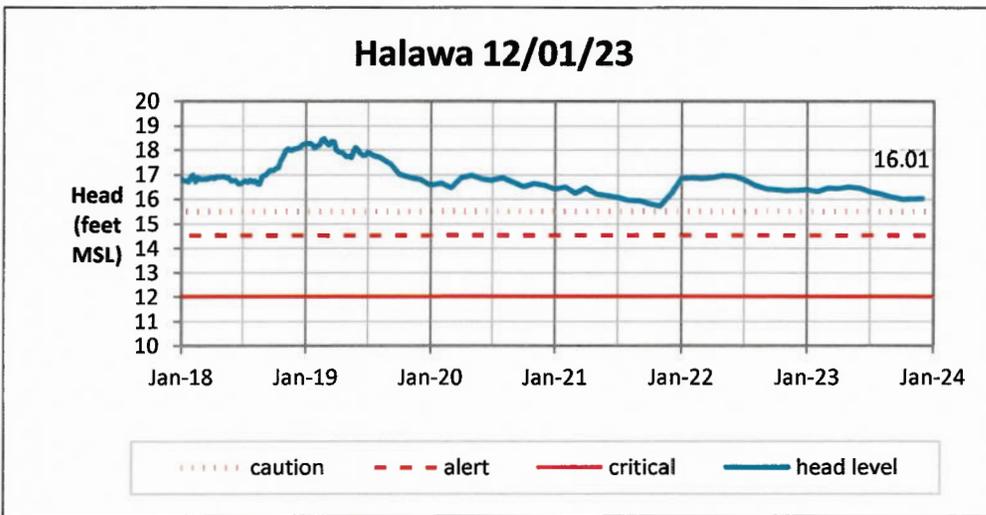
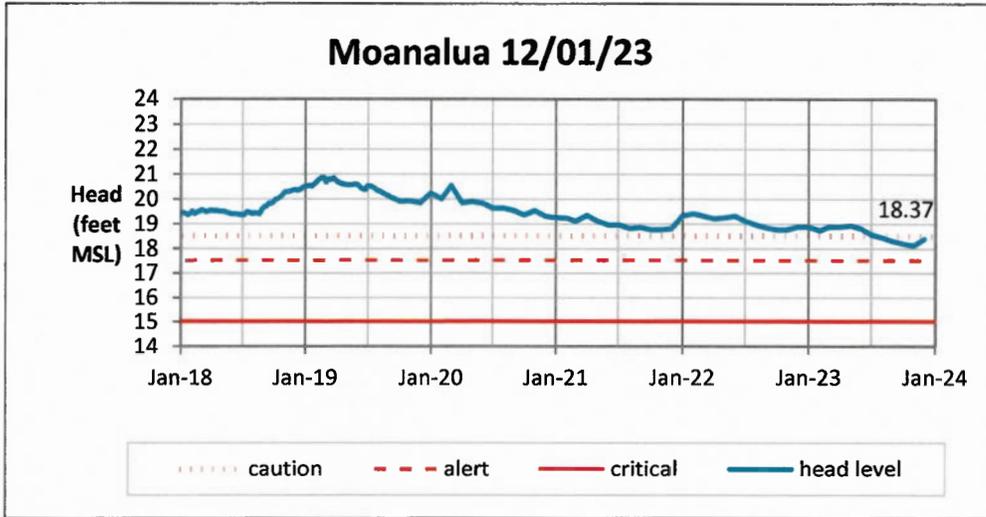
IMPORT/EXPORT BETWEEN WATER USE DISTRICTS			
FROM	TO		MGD
2	1	WINDWARD EXPORT	0.14
7	8	BARBERS PT LB	5.06

WATER USE DISTRICTS		SUBTOTAL	IMPORT	EXPORT	EFFECTIVE WATER DEMAND
1	HONOLULU	54.87	0.14	-	55.01
2	WINDWARD	15.59	-	0.14	15.45
3	NORTH SHORE	3.90	-	-	3.90
4	MILILANI	3.97	-	-	3.97
5	WAHIAWA	2.74	-	-	2.74
6	PEARL CITY-HALAWA	7.85	-	-	7.85
7	WAIPAHU-EWA	33.51	-	5.06	28.45
8	WAIANAЕ	3.83	5.06	-	8.89
TOTAL:		126.27	5.20	5.20	126.27

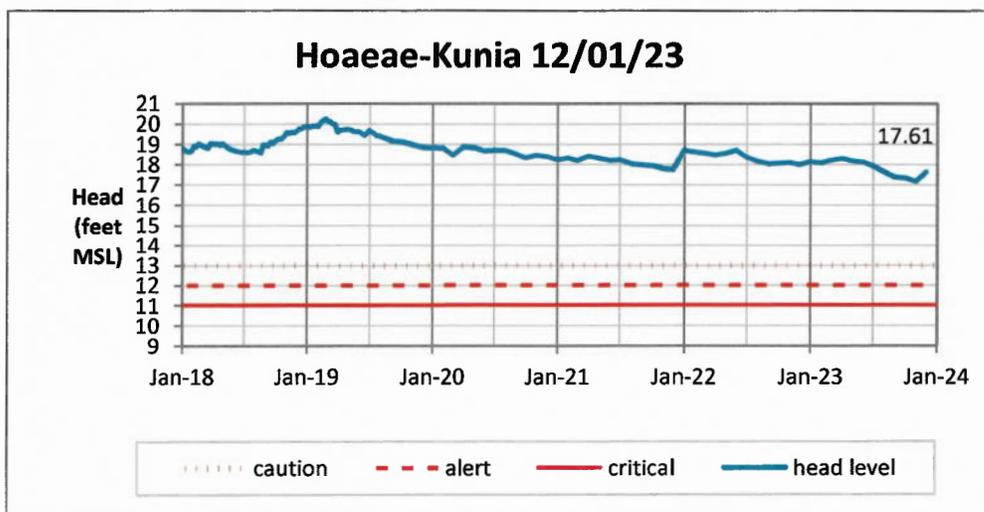
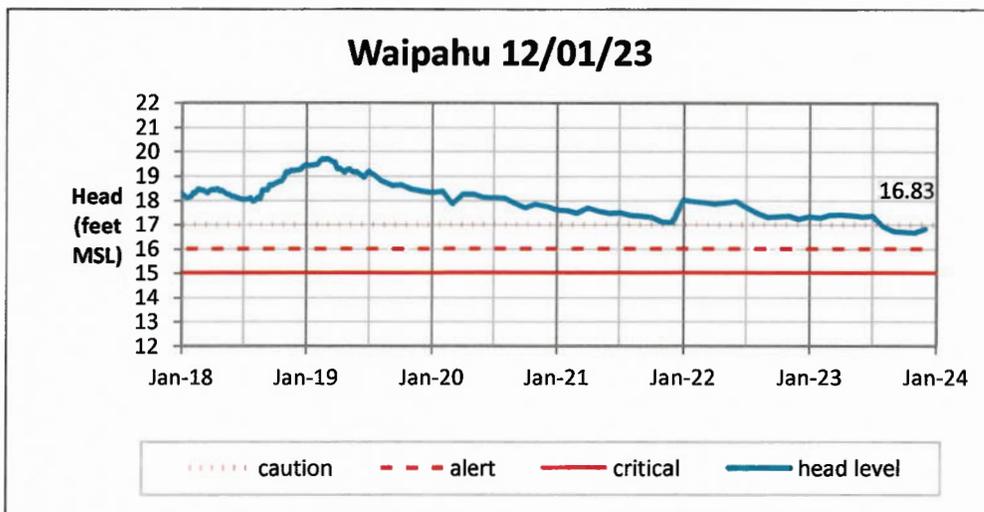
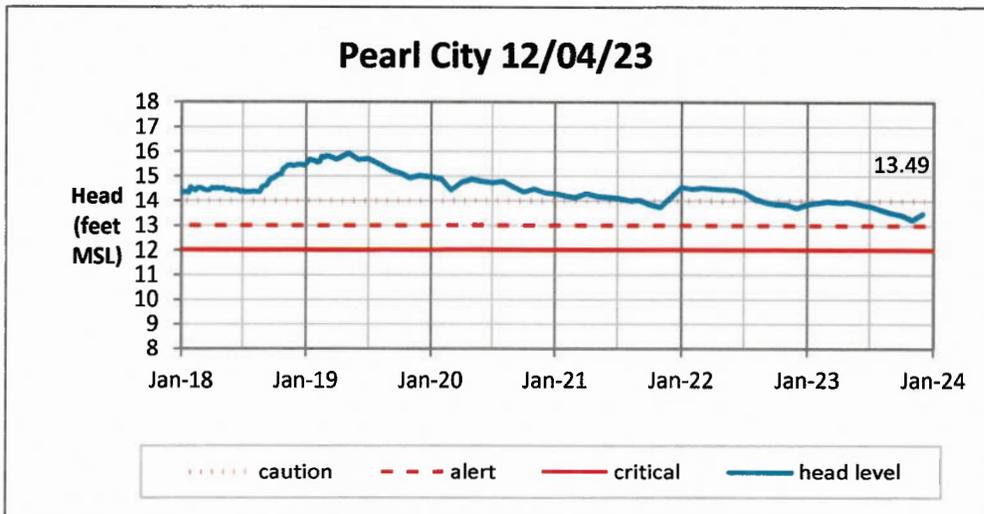
Head Report



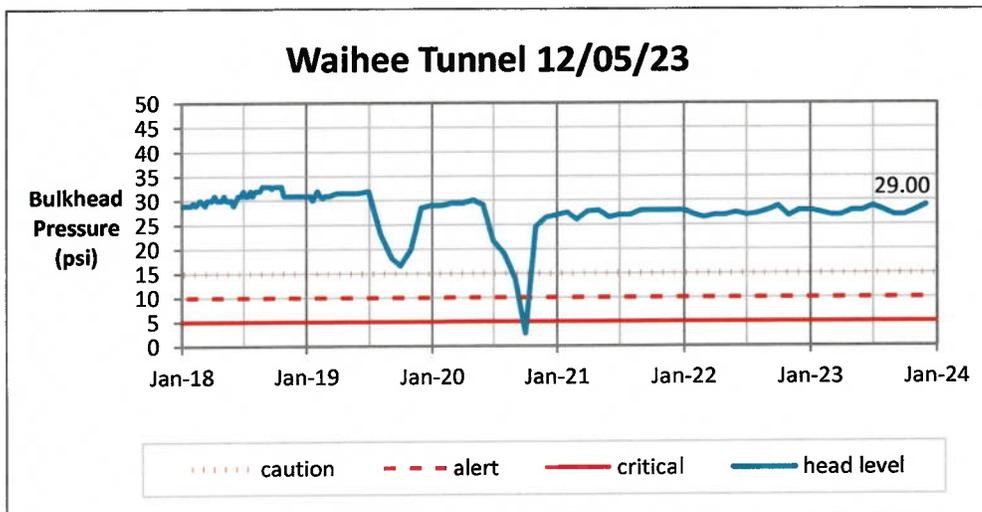
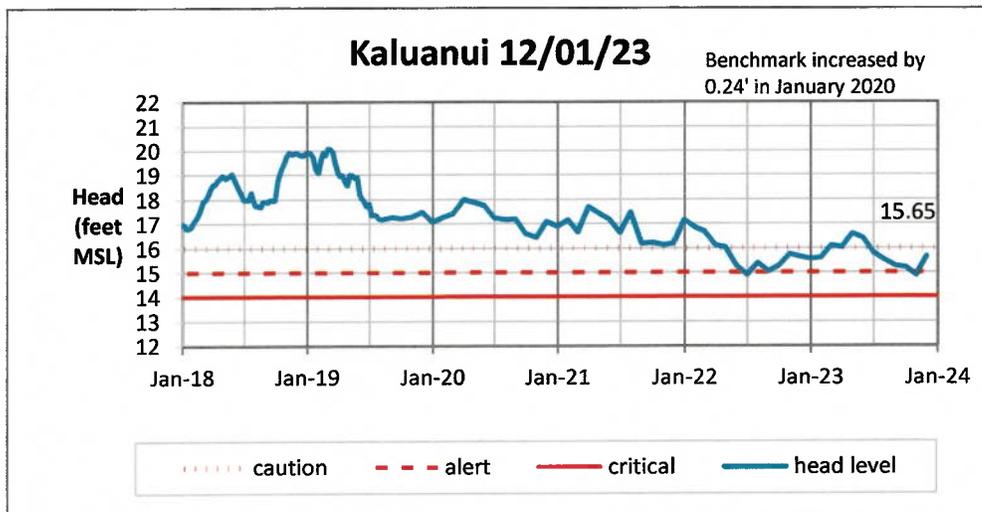
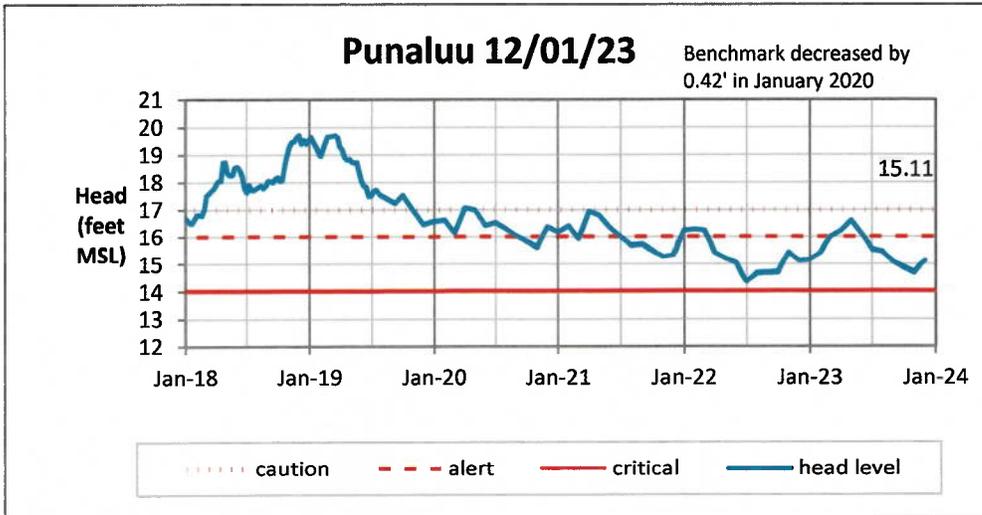
Head Report



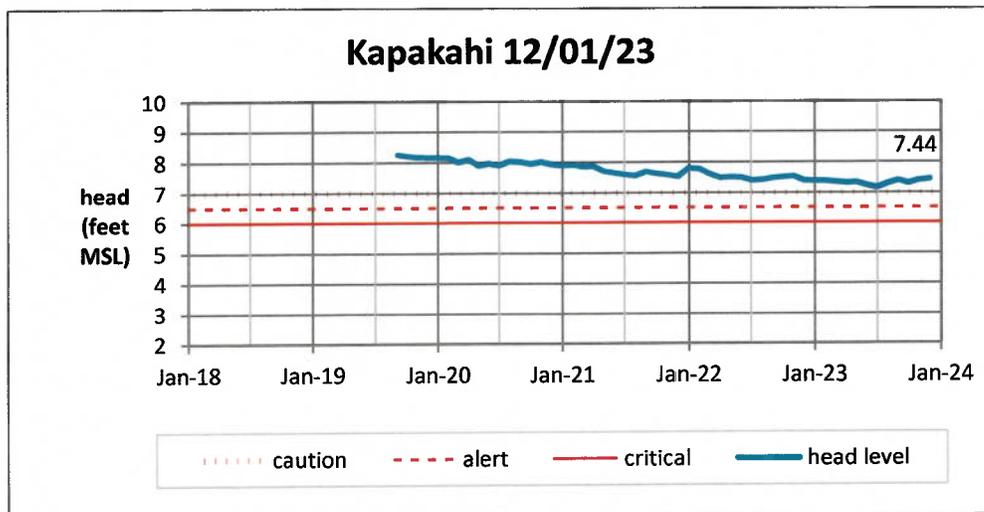
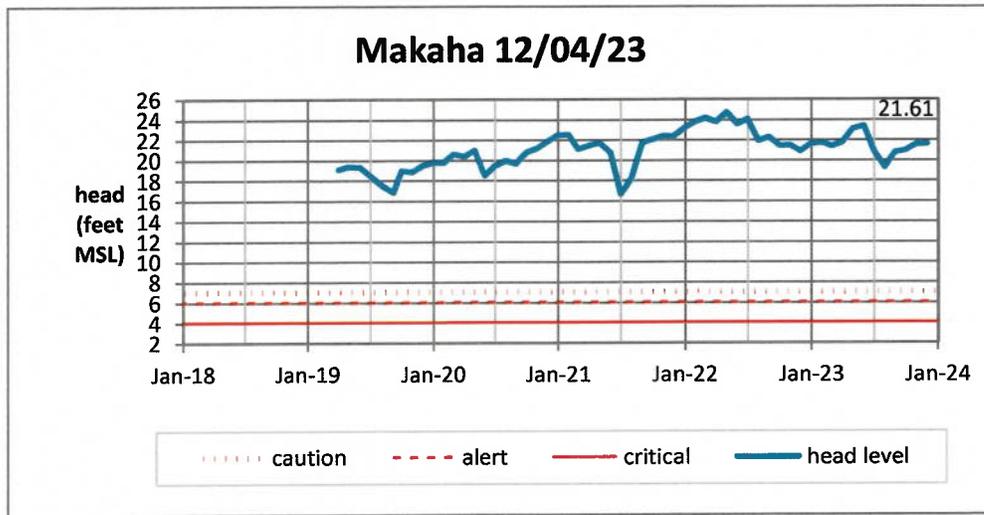
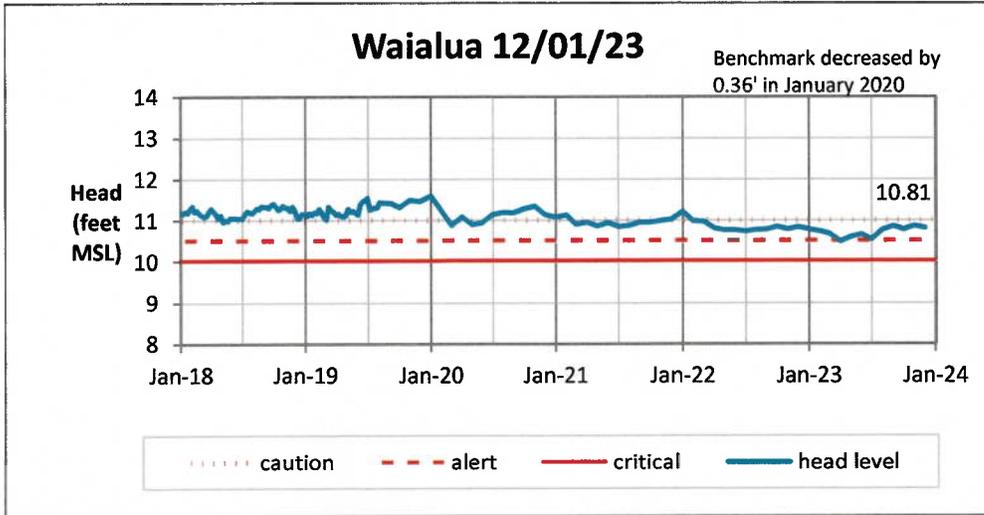
Head Report

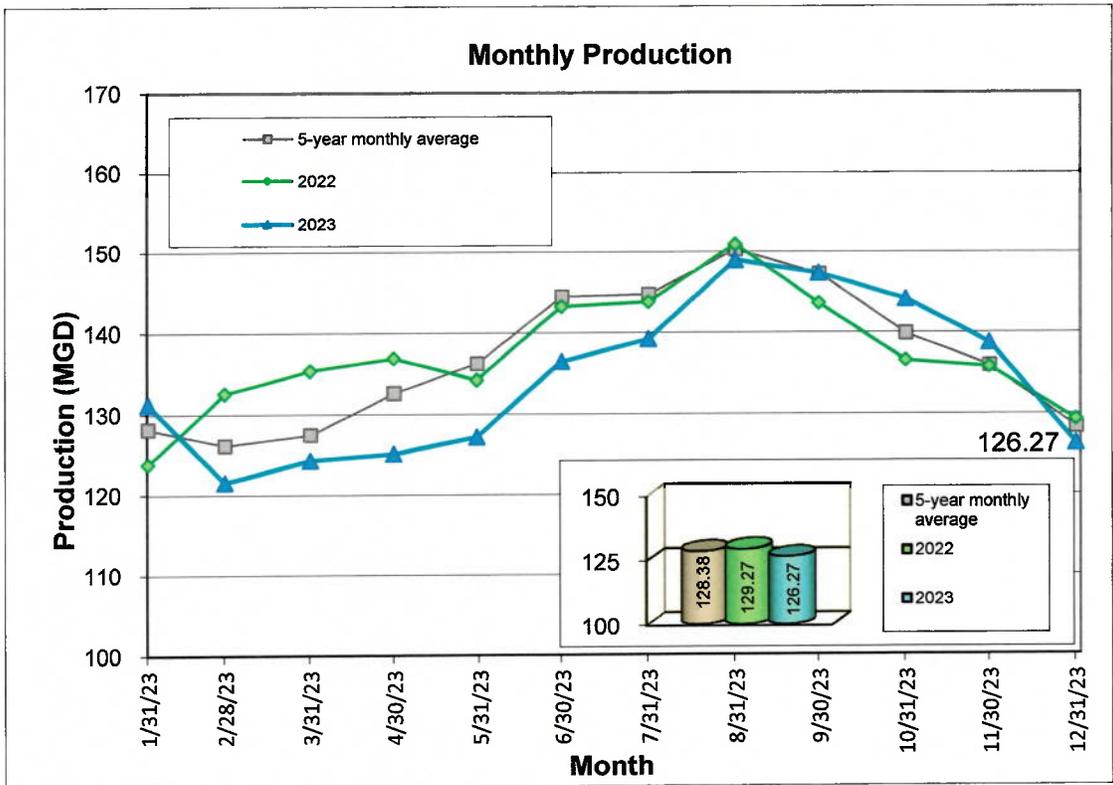
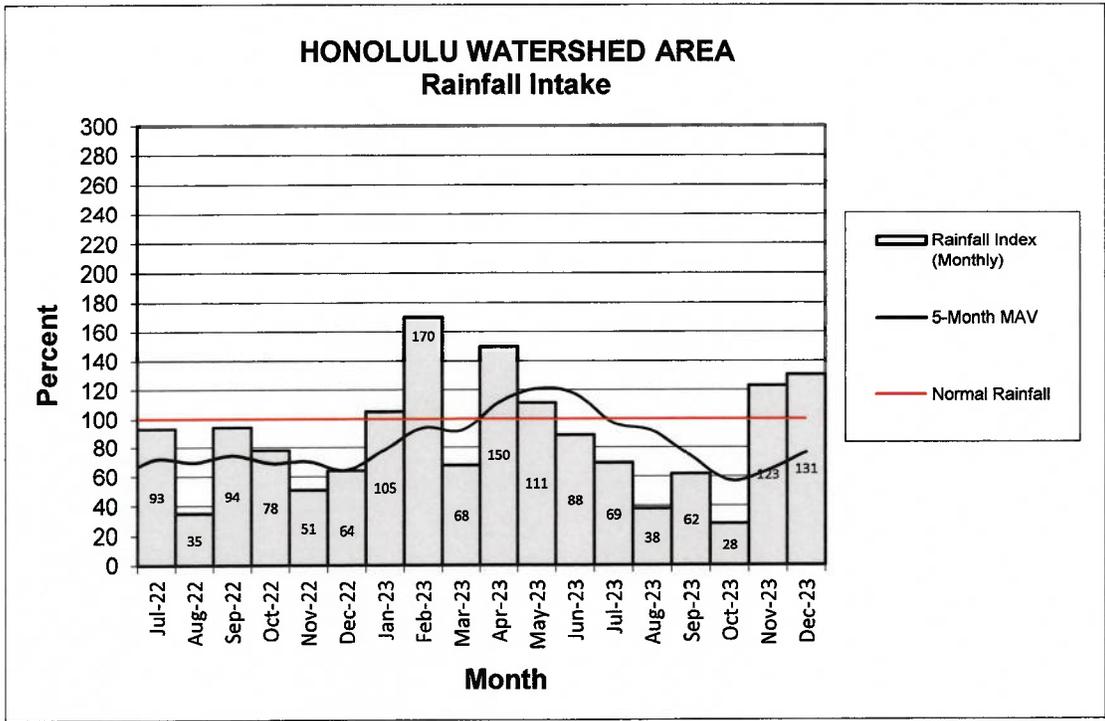


Head Report



Head Report





ITEM FOR INFORMATION NO. 4

“January 22, 2024

WATER MAIN
REPAIR
REPORT FOR
DECEMBER 2023

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Water Main Repair Report for December 2023

Jason Nikaido, Program Administrator, Field Operations Division, will report on water main repair work for the month of December 2023.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E
Manager and Chief Engineer

Attachment”

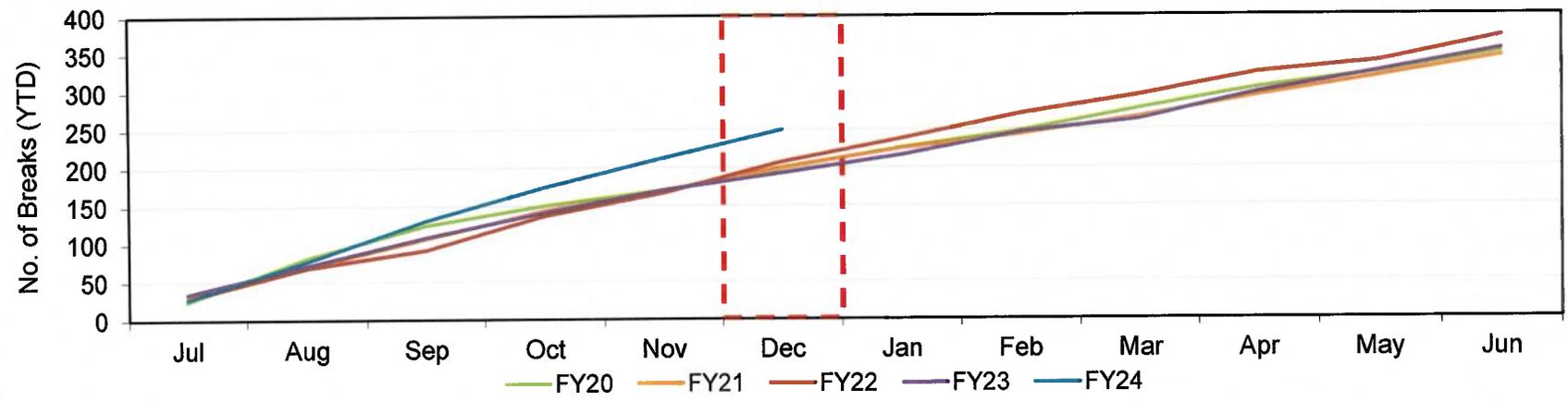
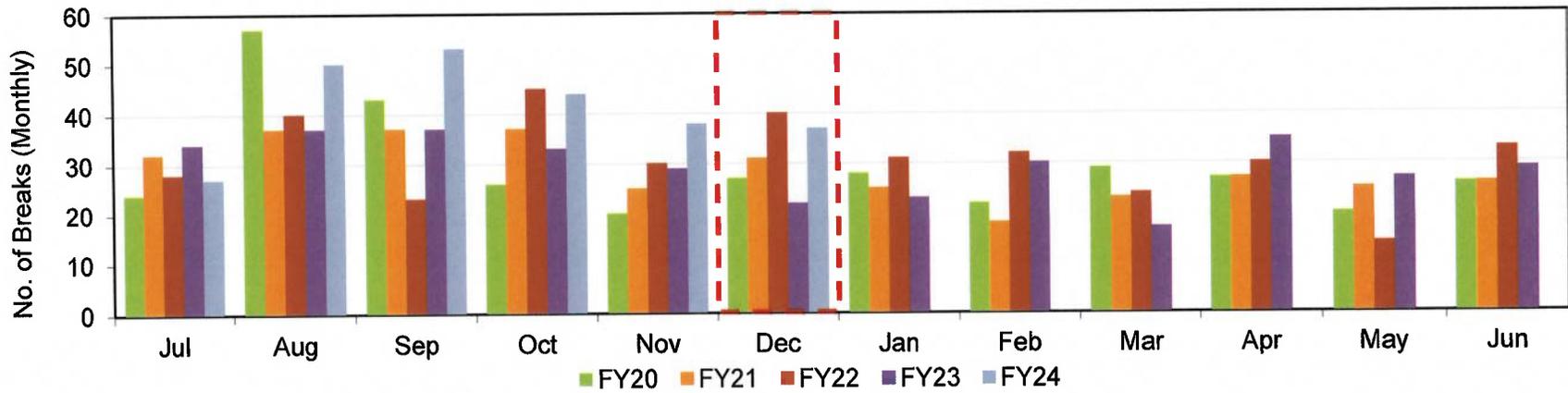
The foregoing was for information only.

DISCUSSION: Jason Nikaido, Program Administrator, Field Operations Division, gave the report. There were no comments or discussion.

WATER MAIN REPAIR REPORT
for December 2023

Monthly Main Breaks

FY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2024	27	50	53	44	38	37							249
2023	34	37	37	33	29	22	23	30	17	35	27	29	353
2022	28	40	23	45	30	40	31	32	24	30	14	33	370
2021	32	37	37	37	25	31	25	18	23	27	25	26	343
2020	24	57	43	26	20	27	28	22	29	27	20	26	349

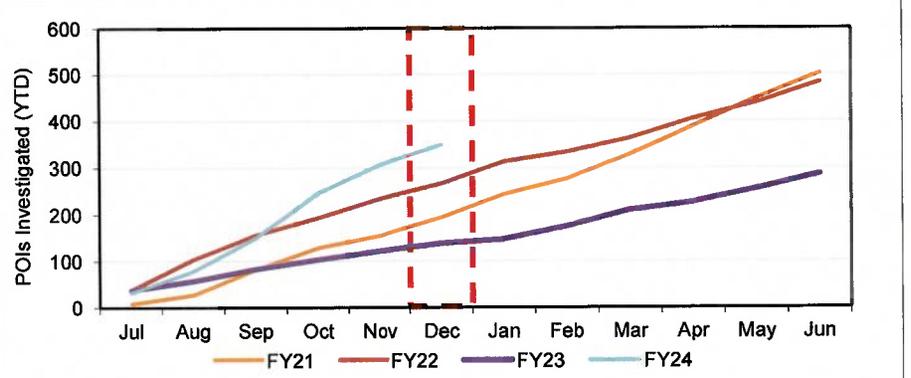
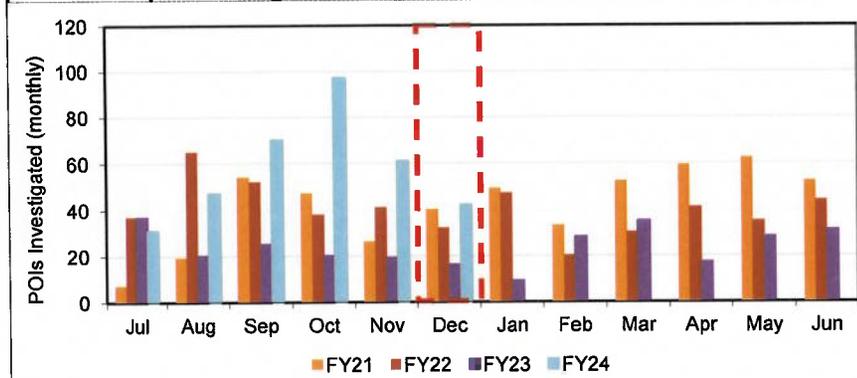


Date	Address	Size (In)	Pipe Type	Date	Address	Size (In)	Pipe Type
12/2/2023	91-515 Huleia Pl, Ewa Beach	6	CI	12/26/2023	3045 Wailani Rd, Honolulu	6	CI
12/4/2023	200 N. Vineyard Blvd, Honolulu	8	CI	12/27/2023	91-1052 Anaunau St, Ewa Beach	8	DI
12/4/2023	94-1081 Nalii St, Waipahu	8	CI	12/27/2023	4333 Hakupapa St, Honolulu	8	PVC
12/5/2023	94-955 Awaiki St, Waipahu	8	CI	12/27/2023	2314 N. School St, Honolulu	12	PVC
12/5/2023	94-1047 Maikai St, Waipahu	8	CI	12/28/2023	2238 Waiomao Rd, Honolulu	8	CI
12/6/2023	2106 Kanealii Ave, Honolulu	8	CI	12/28/2023	1720 Hoolehua St, Pearl City	8	CI
12/6/2023	742 Pumehana St, Honolulu	8	DI	12/30/2023	99-876 Ohapueo Pl, Aiea	8	CI
12/6/2023	2204 Kula Kolea Dr, Honolulu	6	CI				
12/6/2023	45-117 Miha St, Kaneohe	4	CI				
12/6/2023	41-1050 Kakaina St, Waimanalo	6	CI				
12/7/2023	799 Kapahulu Ave, Honolulu	12	CI				
12/7/2023	3205 Pinaoula St, Honolulu	8	CI				
12/8/2023	41-565 Waikupanaha Pl, Waimanalo	4	CI				
12/11/2023	306 Lehua St, Wahiawa	6	CI				
12/12/2023	2696 Kili Hau St, Honolulu	12	CI				
12/13/2023	44-109 Puuohalai Pl, Kaneohe	8	CI				
12/13/2023	91-667 Kilinahe St, Ewa Beach	8	CI				
12/13/2023	94-1048 Lumikula St, Waipahu	8	CI				
12/15/2023	98-90 Hekaha St, Aiea	8	DI				
12/15/2023	1801 N School St, Honolulu	16	CI				
12/15/2023	H1 W/Kapiolani Blvd, Honolulu	6	CI				
12/16/2023	2365 Pauoa Rd, Honolulu	6	CI				
12/17/2023	38 Kaneohe Bay Dr, Kailua	12	DI				
12/19/2023	7152 Makaa St, Honolulu	8	DI				
12/19/2023	99-899 Meaala St, Aiea	12	CI				
12/21/2023	1577 Monte St, Honolulu	4	DI				
12/21/2023	48-322 Kamehameha Hwy, Kaneohe	12	AC				
12/23/2023	98-1038 Kaahumanu St, Pearl City	12	CI				
12/24/2023	99-794 Meaala St, Aiea	8	DI				
12/24/2023	3116 Alika Ave, Honolulu	8	PVC				

LEAK DETECTION for December 2023

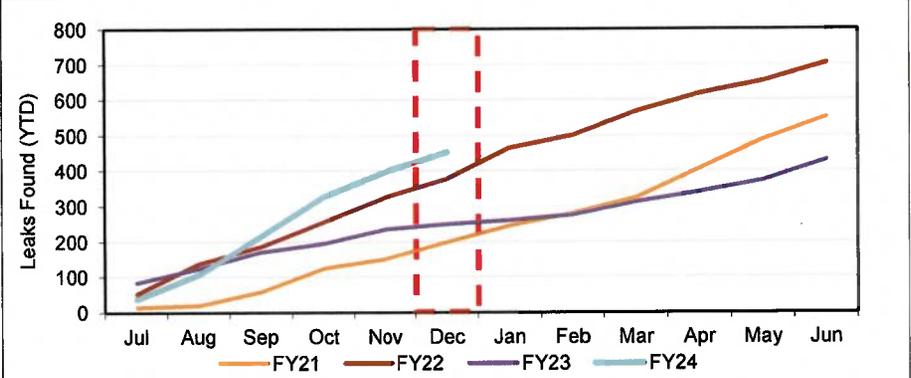
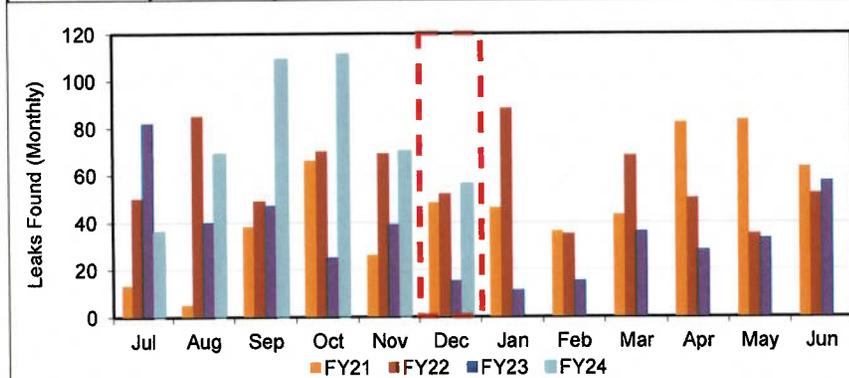
POIs Investigated

FY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2024	31	47	70	97	61	42							348
2023	37	20	25	20	19	16	9	28	35	17	28	31	285
2022	37	65	52	38	41	32	47	20	30	41	35	44	482
2021	7	19	54	47	26	40	49	33	52	59	62	52	500



Leaks Found

FY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2024	36	69	109	111	70	56							451
2023	82	40	47	25	39	15	11	15	36	28	33	57	428
2022	50	85	49	70	69	52	88	35	68	50	35	52	703
2021	13	5	38	66	26	48	46	36	43	82	83	63	549



**SATELLITE LEAK AND MAIN REPAIR TYPES
for December 2023**

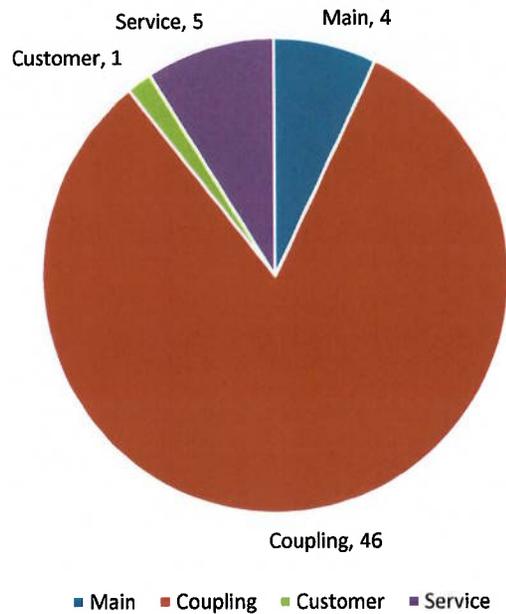
Satellite Leak by Type

Type	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
Main	6	14	13	6	5	4							48
Coupling	17	35	74	71	48	46							291
Customer	9	13	14	23	12	1							72
Service	4	7	8	11	5	5							40
Total	36	69	109	111	70	56	0	0	0	0	0	0	451

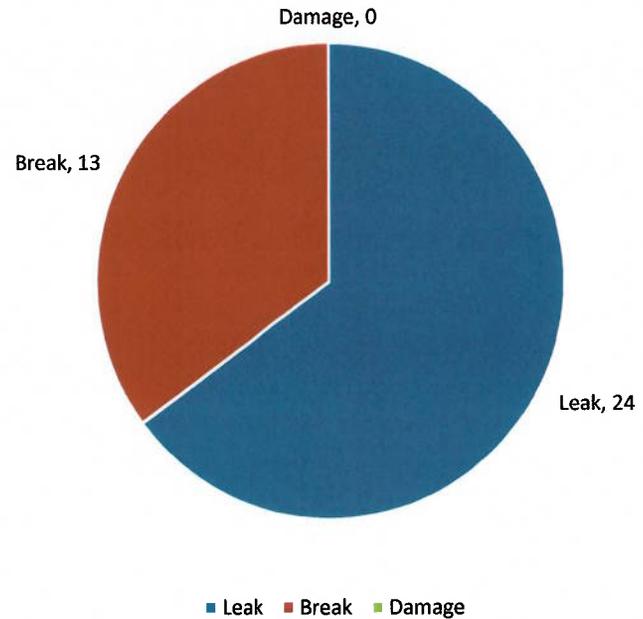
Main Repair by Type

Type	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
Leak	--	--	--	--	--	24							24
Break	--	--	--	--	--	13							13
Damage	--	--	--	--	--	0							0
Total	---	---	---	---	---	37	0	0	0	0	0	0	37

Satellite Leak by Type



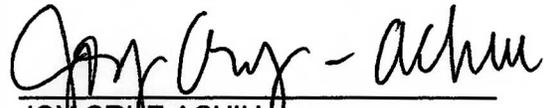
Main Repair by Type



MOTION TO
ADJOURN

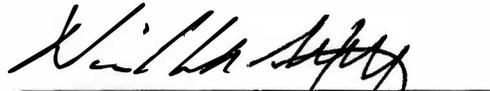
There being no further business, Chair Anthony, at 2:51 PM, called for a motion to adjourn the Regular Session. Jonathan Kaneshiro so moved, seconded by Gene Albano, and unanimously carried.

The minutes of the Regular Meeting held on January 22, 2024, are respectfully submitted,


JOY CRUZ-ACHIU

THE MINUTES OF THE REGULAR MEETING HELD ON JANUARY 22, 2024, WERE APPROVED AT THE FEBRUARY 26, 2024, BOARD MEETING			
	AYE	NO	COMMENT
NĀ'ĀLEHU ANTHONY	X		
KAPUA SPROAT	X		
BRYAN P. ANDAYA	X		
JONATHAN KANESHIRO	X		
EDWIN H. SNIFFEN			ABSENT
GENE C. ALBANO			ABSENT

APPROVED:


NĀ'ĀLEHU ANTHONY
Chair of the Board

FEB 26 2024

Date