

Navy Response
Navy Region Hawaii
Navy Facilities Engineering Command, Pacific
Navy Facilities Engineering Command, Hawaii

Dec. 12, 2022 Town Hall

Answered Questions

The following questions were submitted to the moderators. Questions were consolidated when asked more than once, text was edited for ease of use.

Closure:

Who will be ultimately responsible for Red Hill and the measures that need to be completed for closure?

The Department of the Navy is working closely with regulators, such as the U.S. Environmental Protection Agency (EPA) and the Hawaii Department of Health (DOH), toward the safe and timely closure of the Red Hill Bulk Fuel Storage Facility (RHBFSF). In December 2022, the Navy submitted a comprehensive analysis of alternatives for closure of the Red Hill underground storage tanks to DOH. The Navy is formally requesting DOH approve its request for permanent “closure in place,” as the best path forward to close the Red Hill tanks, which will minimize impacts to the environment, public health and safety. Recently, the Navy awarded a contract to a Native Hawaiian business, Nakupuna Companies, to solicit recommendations from the public to re-purpose Red Hill. Nakupuna Companies will solicit and consider all ideas received from the community, with an emphasis on Oahu residents. Together with federal and local partners, and with input from the local community, the Navy will close Red Hill. **More information and documents regarding the Navy’s closure plan can be found here - <https://cnrh.cnrc.navy.mil/Operations-and-Management/Red-Hill/DEPARTMENT-OF-THE-NAVY-CLOSURE-PLAN-RED-HILL-BULK-FUEL-STORAGE-FACILITY/>.**

Environmental Remediation and Clean Water:

Have you been testing individual homes for PFAS since the AFFF/PFAS spill on Nov. 29, 2021?

We have not tested individual homes for PFAS since the AFFF spill last November. The 2021 and 2022 Joint Base Pearl Harbor-Hickam (JBPH-H) Annual Water Quality Reports provided polyfluoroalkyl substances (PFAS) sampling results from the Navy’s drinking water system. In calendar year 2023, and in accordance with Department of Defense policy, the Navy will conduct drinking water sampling and test for PFAS in water sources that provide water to the JBPH-H system. The Navy continues to test

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drinking water in accordance with the Drinking Water Long-Term Monitoring Plan, which was approved in June 2022 by the U.S. Environmental Protection Agency (EPA) and Hawaii Department of Health (DOH) where we are required to test for more than 60 contaminants of concern. Up-to-date information regarding the ongoing quality of the Navy's drinking water system is available on the <https://jbphh-safewaters.org> website. All results from water sampling that have occurred throughout the system are posted to each zone's page once they have been reviewed by the Hawaii DOH. The water remains safe.

When will the Navy or DOD release a list of all known or suspected contaminants that have been in the water, pipes, or storage tanks last year?

Chemical and physical information on JP-5 and JP-8 jet fuels can be found at the Agency for Toxic Substances and Disease Registry at the Centers for Disease Control and Prevention website: <https://www.atsdr.cdc.gov/toxprofiledocs/index.html> . Under the 2015 Administrative Order on Consent (AOC), the Navy prepared a document summarizing the fuel additives used in each of the fuel types at Red Hill. A second document was prepared summarizing the *Chemicals of Potential Concern* recommended for long-term groundwater monitoring at the facility. Both documents are available at the following links.

https://www.epa.gov/sites/default/files/2016-07/documents/red_hill_navy_fuel_additives_list.pdf

https://www.epa.gov/sites/default/files/2016-03/documents/navy_proposed_copc_list_12_jan_2016.pdf

Up-to-date information regarding the Navy's ongoing efforts to remediate, recover, and protect the environment surrounding Red Hill are available on the JBPH-H Environmental Information page at <https://www.jbphh-safewaters.org> .

Is sampling showing how the contamination plume is moving in reference to the aquifer?

In response to the two 2021 fuel release events, the Navy continues to sample in accordance with the Hawaii Department of Health's Notice of Interest and the Red Hill Shaft Recovery and Monitoring Plan. Currently, the Navy samples from 25 well locations weekly to assess the groundwater conditions.

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Based on current monitoring, we do not see evidence of further fuel or Aqueous Film Forming Foam (AFFF) leaking. We continue to work closely with the regulators and other stakeholders to improve our ability to monitor and sample areas in the vicinity of the Red Hill Bulk Fuel Storage Facility. Up-to-date information regarding the Navy's ongoing efforts to remediate, recover, and protect the environment surrounding Red Hill are available on the JBPH-H Environmental information page at www.jbphh-safewaters.org. All results from sampling that have occurred in the area are posted for public reference.

We continue to collect soil samples at Red Hill to test for polyfluoroalkyl substances (PFAS). Samples are sent off island to a U.S. Environmental Protection Agency-certified lab for testing. We are also collecting weekly groundwater samples from nine monitoring wells in the vicinity of the AFFF concentrate release site, as well as a groundwater sample from the Red Hill Shaft, to monitor for AFFF constituents. All sampling activities are in accordance with the Hawaii Department of Health-approved Sampling and Analysis Plan.

Are headquarters personnel and family members drinking Red Hill / Kapukaki Wai on a daily basis? How many?

The Red Hill Shaft was shut down on Nov. 28, 2021, and has not been used as a source of water within the JBPHH water distribution system since that time.

Is any of the drinking water for the Salt Lake community even marginally affected by all the past and present fuel spills from Red Hill and the Navy?

Salt Lake gets its water from the Board of Water Supply (BWS). Information on BWS water quality can be found here: [BWS Water Quality Report - Board of Water Supply](#)

How does our water contamination crisis differ from Camp Lejeune?

The Red Hill Bulk Fuel Storage Facility fuel release is unlike Camp Lejeune. More information on Camp Lejeune can be found at the Veterans Affairs website below for further clarification:

<https://www.va.gov/disability/eligibility/hazardous-materials-exposure/camp-lejeune-water-contamination/>

The Navy is committed to ensuring that the water remains safe, and remains committed to working with all local, state, and government agencies throughout the defueling

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process at Red Hill as there is benefit to a whole-of-government and interagency approach.

Over the weekend Hawaii News Now obtained a letter sent to you (Naval Facilities) written by EPA Region 9 indicating PFAS was detected in the groundwater last December 2021. Why haven't you notified residents about this? Why haven't you been testing drinking water for PFAS?

The polyfluoroalkyl substances (PFAS) sampling results were provided to the U.S. Environmental Protection Agency (EPA) and Hawaii Department of Health (DOH), and subsequently posted on their respective websites. The PFAS levels detected were below DOH environmental action levels.

Do you have any other treatment of the contaminated water besides the GAC filters? A pilot study has been proposed. Who should we contact?

Granular Activated Carbon (GAC) filtration is the industry standard for removing contaminants from water. The proposed pilot study is intended to assess new technologies for applicability to the continued remediation at Red Hill.

Are you continuing to treat the water through GAC filters and dumping the water into the stream? If so, how much is being discharged? Are there any plans to recycle the water? If so, when?

Since Jan. 29, 2022, the Navy has continued to create a capture zone to prevent the potential for contaminant migration from the Red Hill Bulk Fuel Storage Facility. This water is pumped from the Red Hill Shaft at a daily average of approximately 4.3 million gallons per day, processed through the granular activated carbon (GAC) filtration system, and discharged to the Halawa Stream in accordance with the Hawai'i Department of Health (DOH)-approved discharge permit (NPDES) and the Red Hill Shaft Recovery and Monitoring Plan approved by the DOH and U.S. Environmental Protection Agency.

The Navy has evaluated beneficial re-use projects for the water discharged from the GAC filtration system. Due to site constraints and timelines for permitting and installation of beneficial use options, the Navy has transitioned its focus to reduced pumping operations and future water treatment options.

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Is there going to be any testing of residential water on Navy lines now that we know there was PFAS in ground water in 2021 and now that PFAS was spilled last week?
[PA]

The 2021 and 2022 Joint Base Pearl Harbor-Hickam (JBPHH) Annual Water Quality Reports provided polyfluoroalkyl substances (PFAS) sampling results from the Navy's drinking water system. In calendar year 2023, and in accordance with Department of Defense policy, the Navy will conduct drinking water sampling and test for PFAS in water sources that provide water to the JBPHH system. The JBPHH water system will also be sampled for PFAS as part of the U.S. Environmental Protection Agency Unregulated Contaminant Monitoring Rule 5 (UCMR5) in calendar year 2023.

How is the Navy addressing notification to ALL NAVY water lines users? And how is Department of Health tracking that or keeping up with ensuring the Navy had an acceptable notification system? [PA]

Updated drinking water long-term monitoring results are posted publicly on the Joint Base Pearl Harbor-Hickam Safe Waters website (<https://jbphh-safewaters.org>). Under an interagency-approved plan, the Navy water system is in a two-year period of long-term monitoring to ensure that the water remains safe. This includes testing of approximately 7,800 samples from nearly 55% of homes and other facilities on the system for over 60 different contaminants, using U.S. Environmental Protection Agency (EPA)-certified laboratories and methods. The Navy has received over 3,000 EPA-certified lab results since long-term monitoring began on March 22, 2022. To date, there has been no detection of JP-5 contamination in the Navy water system. Community members who are on the Navy water system can contact the Rapid Response Team if they have any specific concerns. Phone numbers can be found on the Safe Waters website. We also provide updates to the community through several channels, including Joint Base Commander letters to the community, neighborhood board updates for those boards with the Navy on their agendas, social media updates, press releases, open houses and more.

With the new AFFF spill, new additional even more toxic and lethal contaminants are involved. In other communities / states, I've heard the Navy has provided the affected communities with NSF approved water filters. Can the people of Hawaii be provided with the same?

Water in the Navy's water system currently comes from the Waiawa Shaft, and the ongoing long-term monitoring of the system shows that the water is safe to drink. The Navy is currently conducting long-term monitoring of the water on the Joint Base Pearl

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Harbor-Hickam drinking water system, as approved by the Hawaii Department of Health (DOH) and the U.S. Environmental Protection Agency (EPA). More information on this can be found at <https://jbphh-safewaters.org/>. The Navy posts sampling results after the results from EPA-approved laboratories are reviewed by DOH. The water in the JBPHH system remains safe, and the Navy will continue working with regulators and providing information to the public about the water quality.

What well had positive PFAS contamination results? What is being done to mitigate the problem?

The Red Hill monitoring well referred to as RHMW2254-01 detected PFAS levels lower than the state's environmental action level.

The Navy notified the U.S. Environmental Protection Agency and Hawaii Department of Health on March 31, 2022, upon receipt of validated results showing PFAS detections in samples collected from the Red Hill Shaft on Dec. 20 and 27, 2021. At the time of testing, both levels were lower than the state's environmental action level and the EPA's health advisory level of 70 parts per trillion. The Red Hill Shaft was disconnected from the drinking water distribution system at the time and there was no requirement for public notice due to it not being connected to the drinking water system.

The 2021 and 2022 Joint Base Pearl Harbor-Hickam (JBPHH) Annual Water Quality Reports provided polyfluoroalkyl substances (PFAS) sampling results from the Navy's drinking water system. In calendar year 2023, and in accordance with Department of Defense policy, the Navy will conduct drinking water sampling and test for PFAS in water sources that provide water to the JBPHH system. The JBPHH water system will also be sampled for PFAS as part of the U.S. Environmental Protection Agency Unregulated Contaminant Monitoring Rule 5 (UCMR5) in calendar year 2023.

Specifically, what areas are affected by the Red Hill Fuel Facility? Is Pearl Harbor Naval Shipyard affected? Salt Lake/Moanalua?

Water in the Navy's water system currently comes from the Waiawa Shaft, and the ongoing long-term monitoring of the system shows that the water is safe to drink.

The communities that use the Joint Base Pearl Harbor-Hickam water system can be found at this online map:

https://jbphh-safewaters.org/public/framework/appcontainer.aspx?url=../homepage/html_title.aspx&id.html=10738&title=Water%20System%20Zone%20Map&idMenu=88798&ddlDSN=SYSTM&DSN=SYSTEM.

Results from the sampling and testing of the water system can be found on that same Safe Waters website. The Navy is currently conducting the Hawaii Department of Health

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and U.S. Environmental Agency approved long-term monitoring, and the water remains safe to drink.

How many new water monitoring wells are off base?

The Navy has committed to install 22 new monitoring wells at locations both on Red Hill and offsite to provide a wider groundwater monitoring network. Two groundwater monitoring wells have been installed offsite since the 2021 event, and 10 more offsite groundwater monitoring wells are planned to be installed by the end of 2023.

No amount of PFAS is safe! What was the PFAS EAL when tested? EPA is 70PPT. What is Hawaii's PFAS EAL? Harvard Chan School of Public Health, drinking water is safe a 1PPT. What was your test result and why didn't you warn the DOH, the community leaders and the community about any amount of forever chemicals detected?

Perfluorooctanoic Acid (PFOA) was detected at 2.76 ppt and 3.49 ppt, and Perfluorooctanesulfonic Acid (PFOS) was detected at 6.72 ppt and 4.35 ppt.

At the time of testing of the Red Hill Shaft, both levels were lower than the state's environmental action level and the EPA's health advisory level of 70 parts per trillion. The Red Hill Shaft was disconnected from the drinking water distribution system at the time. The Navy notified the Environmental Protection Agency and Hawaii Department of Health on March 31, 2022, upon receipt of validated results showing PFAS detections in samples collected from the Red Hill Shaft on December 20 and 27, 2021. It is important to note, PFAS chemicals are used in many products and industries and it is not uncommon to see them in drinking water at low levels.

Please explain your narrative "no fuel contamination" has been found? Does that mean none at all or nothing above 211-266ppb? People deserve to know the TRUTH!

All of the results from water samples collected from the JBPHH water system have been thoroughly reviewed and analyzed to ensure there are no indications of remaining fuel contamination in the system. Low level detections of total petroleum hydrocarbons (TPH) are compared to the chemical fingerprint of JP-5, and none of the samples have matched the JP-5 fingerprint, indicating they are unrelated to fuel. Since long term monitoring began in March 2022, there have been no detections of TPH above the 266 ppb action level.

Testing, when doing these testing, do you do these testing at the same time as BWS and why not? You should do them at same time?

The Navy is currently conducting long-term monitoring of the water on the Joint Base Pearl Harbor-Hickam drinking water system as approved by the Hawaii Department of

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Health (DOH) and the U.S. Environmental Protection Agency (EPA). More information on this can be found at <https://jbphh-safewaters.org/>. The Navy posts sampling results after the results from EPA-approved laboratories are reviewed by DOH. The water in the JBPHH system remains safe, and the Navy will continue working with regulators and providing information to the public about the water quality.

Bottled water to schools. My children go to school on Navy lines. Given that there was PFAS in last year's ground water, are you going to test the schools and until we know it is safe, will you please be compassionate and give us bottled water?

The water in the JBPHH system remains safe. All of the water is supplied by the Waiawa Shaft, which previous testing shows is non-detect for PFAS. The Navy will continue working with regulators and providing information to the public about the water quality. The Navy is currently conducting long-term monitoring of the water on the Joint Base Pearl Harbor-Hickam drinking water system, as approved by the Hawaii Department of Health (DOH) and the U.S. Environmental Protection Agency (EPA). More information on this can be found at <https://jbphh-safewaters.org/>. The Navy posts sampling results after the results from EPA-approved laboratories are reviewed by DOH.

We know that AFFF was also in water last November with the fuel. How does that affect the health of all those families that consumed the water last year?

The fuel release that occurred on Nov. 20, 2021, did not involve AFFF. The reclamation line where the fuel was located had never been exposed to AFFF. Water samples collected in December 2021 by the Hawaii Department of Health (DOH) were non-detect for PFAS. Water samples collected by the Navy during that time showed trace detections of PFAS below the DOH Environmental Action Level. These results indicate that no AFFF was present at the Nov. 20, 2021 fuel release.

When will the Navy start testing hot water in people's homes at Red Hill, and replace all water heaters and porous material hookups:
refrigerator/freezer/icemaker/dishwasher/washer + dryer/PVC Pipes?

The military housing communities are responsible for the repair/replacement of appliances. The housing communities replace appliances as needed. Please contact your military housing community if you have questions or concerns about your appliances. The Navy continues to test drinking water in accordance with the Drinking Water Long-Term Monitoring Plan, which was approved in March 2022 by the U.S. Environmental Protection Agency (EPA) and Hawaii Department of Health (DOH) that requires the Navy to test for more than 60 contaminants of concern. Up-to-date information regarding the ongoing quality of the Navy's drinking water system is

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available on the <https://jbphh-safewaters.org> website. All results from water sampling that have occurred throughout the system are posted to each zone's page once they have been reviewed by the Hawaii DOH. The water remains safe.

Does any entity perform regular water testing for Kapilini Beach homes?

Kapilina Beach Homes, like any area on the Joint Base Pearl Harbor-Hickam water distribution system, is routinely tested for water quality. In March 2022, the Navy began a two-year long-term monitoring program, in which the Navy will collect 7,800 samples from homes, schools, and child development centers, other buildings and hydrants throughout the distribution system. Long-term monitoring is planned over seven periods and a Stage 5 data summary report with an overview of what was found will be posted on the JBPHH Safe Waters website (www.jbphh-safewaters.org) at the end of each period. Additionally, specific results from each location in this zone are posted monthly with their corresponding time period.

Has monitoring shown how the contamination is moving within the aquifer?

The Navy has not seen any spread of contamination into the aquifer. After more than a year of Granular Activated Carbon filtration system operations, and weekly groundwater sampling and analyses, data shows that concentrations of chemicals of potential concern (COPCs) in groundwater and around the facility have substantially and consistently decreased.

Are you notifying the community of their exposures at restaurants off-base, but still on Navy water lines?

In coordination with the regulators, the Navy conducted flushing, sampling and testing throughout the Navy water system in December 2021, and provided the wider community information on that effort, including when DOH amended the health advisory for each neighborhood. Under an interagency-approved plan, the Navy water system is in a two-year period of long-term monitoring to ensure that the water remains safe for all uses. This includes testing about 7,800 samples from roughly 55% of homes and other facilities on the system for more than 60 different contaminants, using U.S. Environmental Protection Agency (EPA) certified laboratories and methods. The Navy has received over 3,000 EPA-certified lab results since long-term monitoring began on March 22, 2022. There have been no detections of JP-5 contamination in the Navy water system. Community members who are on the Navy water system can contact the Rapid Response Team if they have any specific concerns. Phone numbers can be found on the Safe Waters website. Phone numbers can be found on the www.navy.mil/jointbasewater.

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Is the Department of the Navy still over-pumping their Board of Water Supply permit?
Why did you sue Department of Health?

The Navy is in compliance with the State of Hawaii Department of Land and Natural Resources guidelines for water usage. The Waiawa shaft provides on average 14.2 to 14.5 million gallons per day (MGD) to meet the water demand for JBPH-H. It has a permit of nearly 15MGD.

With you guys taking weeks to admit there was a problem with the water and taking action last year, to now taking a year to tell us there was PFAS found in the soil taken last year and only now finding out about. Why does it take a years or weeks to have to Navy admitted wrong doing? And how do we as the public know the Navy is not hiding anything else?

The Navy takes seriously its responsibility to notify regulators of environmental issues, as well as to communicate with the community. The Navy is committed to full transparency and continues to work in coordination with the Hawaii Department of Health and the U.S. Environmental Protection Agency on all environmental issues. All results from historical and recent sampling are available on the Safe Waters website (www.jbphh-safewaters.org). After the Navy received notification of issues in the water system on Nov. 28, 2021, sampling and testing of homes with concerns began immediately, and Hawaii Department of Health was notified. The Navy continues to share sampling and testing data with regulators and keep them, and the community, informed.

Environmental:

The tanks have been delivering fuel through pipelines for many decades. Now the pipelines need to be repaired before the tanks can be defueled. Doesn't this mean that the pipelines have been leaking for years and the Navy was aware of this?

The State of Hawaii emergency order directed a third-party assessment to determine what repairs, enhancements and modifications are required to reduce risk for the overall defueling effort. In addition, the National Defense Authorization Act required an assessment from the pump house to Hotel Pier on Joint Base Pearl Harbor-Hickam to further reduce risk. The mandated repairs are required as an additional measure in preparation for defueling. The pipelines were unpacked in October 2022, they are not leaking.

Joint Task Force-Red Hill was established to safely and expeditiously defuel the facility. Together, we will continue working on repairs, enhancements and modifications—

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seeking approval from the regulators—so we can safely commence defueling operations as soon as possible.

Can you have another third party acknowledge on who can clean-up efficiently? Why has the Navy not allowed the state or an independent group to help with the clean-up? Why the secrecy?

The cleanup actions have been conducted in an open and transparent manner. We have involved the Hawaii Department of Health and the Environmental Protection Agency throughout the entirety of the cleanup and remediation process, and will continue to do so. Up-to-date information regarding the ongoing quality of the Navy's drinking water system is available on the website (<https://jbphh-safewaters.org>).

What other chemicals or hazardous materials are being stored at the Red Hill Bulk Fuel Storage Facility?

Other than Aqueous Film Forming Foam (AFFF) and bulk fuel, there are two other chemicals used for water treatment that are stored at Red Hill Bulk Fuel Storage Facility (RHBFSS): liquid chlorine and fluoride.

Where did the Navy put the 1,300 gallons of toxic fire suppression chemicals? Will the AFFF contaminated soil removed from the contact point at Adit 6 be returned to the site, re-purposed for construction / landscaping, or removed to private landfill or another landfill?

The Aqueous Film Forming Foam (AFFF) contaminated soil that was removed from the site is currently stored on JBPH-H in roll-off containers, staged within secondary containment, until waste characterization samples have been analyzed. Upon receipt of the waste characterization samples, the soil will be transported to the U.S. mainland for proper disposal at a Chemical Waste Management facility.

Can there be a posting of contamination reports of all Oahu federal facilities like the weekly COVID reports in the past?

Water quality reports are posted every quarter and can be found at <https://pacific.navfac.navy.mil/Facilities-Engineering-Commands/NAVFAC-Hawaii/About-Us/Hawaii-Documents/Water-Quality-Reports/>.

The Navy will report any instances of contaminant exceedance to regulators and to the public.

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Did you test for PFAS before the shutdown of the Red Hill shaft?

Each year, Naval Facilities Engineering Systems Command (NAVFAC) Hawaii produces and publishes a Water Quality Report for the installations within their area of responsibility, which includes JBPH-H. These water quality reports are required from all water purveyors. Annual Water Quality Reports are available online at

<https://pacific.navfac.navy.mil/Facilities-Engineering-Commands/NAVFAC-Hawaii/About-Us/Hawaii-Documents/Water-Quality-Reports/>

Why can't you use AFFF Class A without PFAS? Honolulu Fire Department uses Class A AFFF. Why do you have to use Class B AFFF with highly toxic PFAS?

On January 12, 2023, the DOD released a Fluorine-Free Foam (F3) Military Specification for land-based fresh-water applications to replace Aqueous Film Forming Foam (AFFF) at military installations.

More information can be found here:

<https://media.defense.gov/2023/Jan/12/2003144157/-1/-1/1/MILITARY-SPECIFICATION-FOR-FIRE-EXTINGUISHING-AGENT-FLUORINE-FREE-FOAM-F3-LIQUID-CONCENTRATE-FOR-LAND-BASED-FRESH-WATER-APPLICATIONS.PDF>

How did they clean the (AFFF) crisis other than affecting it more?

AFFF cleanup is complete.

- Water Samples: Four rounds of sampling have been completed.
- Soil Samples: Gross contamination outside Adit 6 has been successfully excavated. JTF-Red Hill received approval from DOH to temporarily “cap” the entire excavation site with asphalt to minimize rain water infiltration pending final soil testing results. The asphalt ‘cap’ was completed on Dec. 23, 2023.
- Culvert Removal: Culvert was removed and soil samples collected.
- Adit 6 Interior Cleaning: Cleaning of the interior of Adit 6 began on Jan. 3, 2023, and is complete. At the completion of cleaning, an epoxy coating was applied to the interior and three holes were drilled into the tunnel floor to obtain soil samples to verify the AFFF did not penetrate the concrete.

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Why did the Navy give “no detects” last December without testing for hydrocarbons?

In December 2021, the Navy sampled various locations throughout the drinking water distribution system, including neighborhood community centers and other public locations, for total petroleum hydrocarbons (TPH). None of the samples collected detected TPH in the drinking water system. These results are available on the JBPHH Safe Waters website. The Interagency Drinking Water System Team that included members of the U.S. Environmental Protection Agency and Hawaii Department of Health, determined that all homes and facilities on the JBPHH water system would be flushed, and samples collected in accordance with the approved plan, regardless of perceived level of impact.

Was the AFFF leak limited to the near AFFF storage tanks or was it from the distribution piping? About the fuel storage system, is the storage / tunnel access system open to the aquifer in some way and is that how the fuel entered the water aquifer? If not, how did it enter the system?

The AFFF leak in November 2022, was limited to a valve leak that occurred just inside the Adit 6 door. Early response to the site allowed for visual verification of the extent of the spill and in coordination with the Hawaii Department of Health, excavation of the area to remove gross contamination began the same day. Soil samples were collected to for testing and the Adit 6 floor was cleaned to remove any remaining AFFF, and then sealed. The Adit 6 door is located more than 200 ft. above the aquifer, and a mile from the Red Hill Shaft. Groundwater monitoring is ongoing to ensure the AFFF has not migrated to the aquifer.

As a lifelong resident of Moanalua Valley, I am I concerned with what kinds of exposures may be happening or have happened on our side of the red hill tanks. I know that most of the attention and video in the news focuses on the Halawa side, but there appears to be doorways or some kinda of structures at the top of the ridge on our valley side. We can see them lit up at night (usually late at night).... And I doubt they are related to the houses below due the sheer distance between the houses and the ridge. What are the risks of any fuel or chemicals over the years that may have been released on our side? Please elaborate.

In response to previous spills, groundwater monitoring has been ongoing at multiple monitoring wells located on and around Red Hill. Results from this sampling is available on the Environmental page of the Safe Waters website for public knowledge - <https://jbphh-safewaters.org/>. We will continue to work closely with regulators to ensure the safety of the water, the environment and the community.

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What was the purpose of using the fire retardant and why?

The Navy's most common operational use of PFAS has been associated with Aqueous Film-Forming Foam (AFFF) used primarily for firefighting, including historic training and equipment testing. PFAS has also been associated, to a lesser extent, with other applications such as mist suppression in metal plating operations.

Due to their unique properties, PFAS have been used in many industrial and consumer products. PFAS have been used to make non-stick surfaces on cookware, waterproof coatings for textiles, and various paper products. They are a key ingredient in many products that must flow freely, including paints, cleaning liquids, and firefighting foams. PFAS have been used in thousands of ways across various industrial sectors, some of which are listed in the table below.

More information on PFAS can be found at <https://www.secnav.navy.mil/eie/Pages/PFAS-FAQs.aspx#:~:text=DON's%20most%20common%20operational%20use,suppression%20in%20metal%20plating%20operations.>

Instead of using pop-up tents and tarps, why wasn't there more done to cover the spill? Military in general has access to huge tents.

The Navy coordinated all monitoring and clean-up efforts with the Hawaii Department of Health and the U.S. Environmental Protection Agency. Each step, including covering, sampling, and cleaning, was reviewed and approved by regulators to ensure proper procedures were followed.

Why has the Navy not allowed a third-party or the state to help with cleanup?

On Dec. 1, 2022, the Hawaii Department of Health (DOH) approved the Navy's PFAS Sampling and Analysis Plan (SAP), which outlines the sampling strategy at Red Hill, in response to the Nov. 29, 2022, AFFF release at Adit 6. The SAP was developed in direct coordination with DOH and U.S. Environmental Protection Agency and follows approved testing methods. The Navy continues to work closely with DOH and the EPA on matters related to the AFFF cleanup.

HOW will you "recover" the aquifer? You can't unpoison it. What specific actions will you take for the plume in the aquifer?

In accordance with the Red Hill Shaft Recovery and Monitoring Plan, the Navy continues to maintain a capture zone in the Red Hill Shaft to prevent potential contaminate migration. Water is pumped from the shaft then filtered through a granulated granular activated carbon (GAC) filtration system to remove potential contaminants. During the initial crisis, the Navy used skimmers and absorbent materials

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to remove much of the contamination that was pulled towards the Red Hill Shaft. Recent groundwater monitoring results indicate that the capture zone is working, and the plume of contamination in the groundwater has reduced significantly.

When did you/the Navy find out that EPA detected PFAS in our ground water on 20 and 27 Dec? Why haven't you told the residents as required by law?

The Navy notified the U.S. Environmental Protection Agency and Hawaii Department of Health on March 31, 2022, upon receipt of validated results showing PFAS detections in samples collected from the Red Hill Shaft on Dec. 20 and 27, 2021. At the time of testing, both levels were lower than the state's environmental action level and the EPA's health advisory level of 70 parts per trillion. The Red Hill Shaft was disconnected from the drinking water distribution system at the time, and therefore there was not a requirement from the regulators for public notice due to it not being connected to the drinking water system.

When will you disclose all the toxins/harmful chemicals/additives in Jp-5 stored at Red Hill?

The Navy, in coordination with the Hawaii Department of Health (DOH), U.S. Environmental Protection Agency, Army, and Navy-Marine Corps Public Health Command used JP-5 Safety Data Sheets (SDS) and the Red Hill Navy fuel additives list - which the Navy provided in 2016 under the Administrative Order on Consent (AOC) and provided to DOH in 2022 - to create the drinking water sampling plan that has been followed to certify that the water is safe to drink.

Chemical and Physical Information on JP-5 and JP-8 jet fuels can be found at the Agency for Toxic Substances and Disease Registry at the Centers for Disease Control and Prevention website: <https://www.atsdr.cdc.gov/toxprofiledocs/index.html>. Under the AOC, the Navy prepared a document summarizing the fuel additives used in each of the fuel types at Red Hill. A second document was prepared summarizing the chemicals of potential concern recommended for long-term groundwater monitoring at the facility. Both documents are available at the following links.

https://www.epa.gov/sites/default/files/2016-07/documents/red_hill_navy_fuel_additives_list.pdf

https://www.epa.gov/sites/default/files/2016-03/documents/navy_proposed_copc_list_12_jan_2016.pdf

What else is being stored at the fuel facility? Just fuel and AFFF?

Navy Response
Navy Region Hawaii
Navy Facilities Engineering Command, Pacific
Navy Facilities Engineering Command, Hawaii

Other than Aqueous Film Forming Foam (AFFF) and bulk fuel, there are two other chemicals used for water treatment that are stored at Red Hill Bulk Fuel Storage Facility (RHBFSS): liquid chlorine and fluoride.

Why were there military personnel in pictures on DVIDS site on 2 DEC 2022 at the AFFF/PFAS cleanup site without hazmat suits or personal protective equipment? Are they wearing these uniforms home and potential spreading the forever chemicals to their family members? And are these service members receiving hazardous duty pay?

The military personnel pictured on Dec. 2, 2022, at the AFFF/PFAS cleanup site were in the clean zone where PPE was not required. Soil samples were collected on this day and industrial operations were on hold during this time. The cones in the picture symbolize the line that separates the warm zone from the clean zone. There were no limitations on wearing uniforms home since the individuals remained in the clean zone. Service members are not receiving hazardous duty pay.

Complete Transparency? Data on sites? Were samples thrown away and never tested?

In regard to the November 2022 Aqueous Film Forming Foam (AFFF) release, the Navy completed soil testing on Dec. 15, 2022, with weekly groundwater sampling ongoing at nine monitoring wells and the Red Hill Shaft. Validated soil sample and groundwater sample results are available on the PFAS Data Page of the Joint Base Pearl Harbor-Hickam Safe Waters website (www.jbphh-safewaters.org). The Navy will continue to work with the Hawaii Department of Health regarding monitoring of the Red Hill Bulk Fuel Storage Facility at selected monitoring wells to ensure there is no spread of Per- and polyfluorinated substances (PFAS) contaminants that originated from this spill.

In response to the two 2021 fuel release events, the Navy has continued to sample in accordance with the Hawaii Department of Health's Notice of Interest and the Red Hill Shaft Recovery and Monitoring Plan. Currently, the Navy regularly samples from 25 well locations to assess the groundwater conditions.

In regard to water testing, the Navy is conducting long-term monitoring (LTM) of the JBPHH drinking water system to ensure the water is safe. Trained teams are available 24/7 to respond to resident concerns about water quality. More than 3,000 U.S. Environmental Protection Agency (EPA) drinking water samples have been analyzed by certified labs, and there have been no detections of petroleum product contamination in the Navy drinking water system. If residents have concerns with their water quality, they can call the Emergency Operation Center at (808) 448-2557 or visit <https://www.cpf.navy.mil/JBPHH-Water-Updates/>.

Was AFFF in the fire suppression pipe in Nov. 2021?

Navy Response
Navy Region Hawaii
Navy Facilities Engineering Command, Pacific
Navy Facilities Engineering Command, Hawaii

There was no Aqueous Film Forming Foam (AFFF) in the retention line where the fuel was during the November 2021 spill.

The fuel release that occurred on Nov. 20, 2021, did not involve AFFF. The reclamation line where the fuel was located had never been exposed to AFFF.

The first known major fuel spill occurred in 2014, why didn't the Navy acknowledge the issues and remedy the situation at the Red Hill Bulk Fuel Storage Facility then?

On Jan. 17, 2014 the Navy released a statement in response to a reported leak at Red Hill. In the statement, the Navy reported that test results of the area's drinking water met federal regulatory Safe Drinking Water and State of Hawaii standards, and the water was safe to drink. After the 2014 release, the Navy and Defense Logistics Agency intensified modernization of the facility and monitoring of groundwater and drinking water. The Navy continues to work with the U.S. Environmental Protection Agency and Hawaii Department of Health regulators under an Administrative Order on Consent to improve the facility and protect the environment. From 2006-2022, DOD invested \$260 million in Red Hill for modernization in oversight, technology, operating procedures and protecting the environment. On March 7, 2022, Secretary of Defense Lloyd J. Austin III announced the decision to defuel and permanently close the Red Hill Bulk Fuel Storage Facility. The Department of Defense and Navy are working closely with the Hawaii Department of Health and the U.S. Environmental Protection agency on a safe and expeditious defueling of the facility, followed by permanent closure.