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Honolulu

State Finds Red Hill Contamination Far Above Health Thresholds For Drinking Water

The Board of Water Supply's Halawa shaft isn't contaminated but could be closed for years, if not permanently.



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By Anita Hofschneider    / December 10, 2021

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EXHIBIT S-2

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State testing of the Navy's Red Hill shaft found levels of gasoline and diesel-range hydrocarbons as much as 350 times higher than state approved levels for drinking water, the state Department of Health announced Friday.

The Honolulu Board of Water Supply separately revealed test results indicating that the city's Halawa shaft isn't contaminated, but said that its shutdown of the well as a precaution could extend years or even become permanent.

The samples taken by the health department from the Navy water system tested positive for "gasoline range organics," also known as TPH-g, at levels more than 66 times the state's limit for drinking water.

Eurofins Laboratory in California found 20,000 parts per billion were present in the samples, compared to the state limit of 300 parts per billion.

The same testing found "petroleum hydrocarbons diesel range organics," also known as TPH-d, at 350 times above the state's environmental limits.

The California lab found 140,000 parts per billion of TPH-d were present in the samples compared with the state's environmental action level of 400 parts per billion.

The state tests also found trace amounts of "petroleum hydrocarbons oil range organics" in water from the Aliamanu Child Development Center that were below the state's drinking water thresholds.

The Navy earlier had confirmed that its Red Hill shaft tested positive for high levels of petroleum, announcing the results on Dec. 2. The city shut down its Halawa shaft within hours as a precautionary measure, closing off 20% of the supply of water for residents stretching from Moanalua to Hawaii Kai.

The health department has ordered the Navy to empty fuel from the Red Hill underground storage facility, which holds over 180 million gallons of jet fuel about 100 feet above the city's aquifer. The facility has the capacity to hold

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250 million gallons of jet fuel across 20 tanks that are 78 years old and have a history of leaks.



Board of Water Supply Manager and Chief Engineer Ernie Lau said the board's Halawa well may have to stay out of commission for years or be closed for good.

"The longer that fuel stays there, the risk to our aquifer continues and I believe it's growing," Ernie Lau, chief engineer at the Honolulu Board of Water Supply, said on the Honolulu Star-Advertiser's Spotlight program Friday.

The Navy is contesting the health department's order. Navy officials have apologized for the contaminated water and promised to pay for alternate housing for all of the 93,000 affected residents.

Lau said that the city has been testing five of its wells that are closest to the Navy's water supply system for the past eight years and never detected fuel contamination. The city is now testing those wells weekly in response to the Navy water crisis and requests from concerned Honolulu residents.

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Although the tests of the bureau's Halawa well came back clean, Lau estimates it would take six months to a year for fuel to travel through the aquifer across the valley if the city continued pumping from the Halawa well while the Navy's Red Hill well wasn't pumping.

"We can't take that chance," he said.

Need for Water Conservation

The Navy is still figuring out how exactly its Red Hill shaft became contaminated. But Lau said if the level of contamination is high, the city probably won't be able to start using the Halawa well for years — if ever.

If Honolulu's Halawa well stays out of commission, the Board of Water Supply would have to try to make up the difference by pumping from its remaining wells. Voluntary water conservation could become mandatory, he said, including measures such as allowing irrigation only on alternate days or barring car washing with a hose.

"I hope we don't have to do that," he said.

He added, "We think it's going to be very difficult and could take awhile" for the Navy to clean up the contamination.

Red Hill

Civil Beat has been reporting on the leaking tanks, water contamination and political debate over Red Hill since 2014. [Read our coverage here](#). Click on "[full archive](#)" for the complete list of stories.

Lau stressed the need to identify the source of the contamination as soon as possible.

The Navy has three sources of water from the aquifer, and now two of them are out of commission, raising questions about how it will meet demand from Navy customers who

use 18-22 million gallons per day. Hundreds of families have moved into temporary housing in hotels as the water crisis continues.

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Lau expressed skepticism about the Navy's promises to protect the drinking water and anger at the Navy's opposition to the Department of Health order to empty the fuel tanks.

"Their actions are not consistent with their words," he said. The crisis, has left him "deeply saddened. This is all avoidable."

Filtering The Water

During a lengthy legislative hearing Friday afternoon, Admiral Samuel Paparo, commander of the U.S. Pacific Fleet said he's been empowered to bring the full resources of the Navy to fix this problem and that he's accountable for the fix.

Paparo said that he's requested the initiation of planning for defueling the tanks, including how and where to store the fuel and what the risks of transferring it might be.

He said moving the tanks themselves is a nonstarter in part because it would be a "Herculean effort" given that each of the 20 tanks are 60 feet wide and 200 feet tall, taller than Aloha Tower.

"I couldn't tell you where we would move the fuel but we are moving prudently in planning where that would be," Paparo told legislators.

Rear Admiral Dean VanderLey, commander of the Naval Facilities Engineering Systems Command Pacific, said his organization awarded a contract Thursday evening "for two granulated activated carbon water filtration units capable of filtering up to 10 million gallons of water per day."

He said the filters are currently on the mainland.

"We are coordinating military airlift to bring them here as soon as possible," VanderLey said, adding the eight to 10 planes will be needed to transport

them to Hawaii and once they're here, a large effort to assemble and get them operational.

His goal is to have them ready in two to three weeks. He said he is working with the Department of Health to figure out where to send the water once it's filtered.

"It will be clean filtered water that will be safe for the environment," VanderLey said.

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