

Craig D. Jensen
Marnie E. Riddle
Jonathan C. McKay
Dave Fitzpatrick 6803
DEPARTMENT OF THE NAVY
OFFICE OF GENERAL COUNSEL
850 Ticonderoga Street, Suite 110
JBPHH, HI 96860
Telephone: (703) 727-6194

DEPARTMENT OF HEALTH

STATE OF HAWAII

ENVIRONMENTAL HEALTH DIVISION,)	Case No. 21-UST-EA-02
DEPARTMENT OF HEALTH, STATE OF)	
HAWAII,)	DECLARATION OF
)	SHERRI R. ENG
Complainant,)	
)	
v.)	
)	
UNITED STATES DEPARTMENT OF THE)	
NAVY,)	
)	
Respondent.)	
_____)	

DECLARATION OF SHERRI R. ENG

I, Sherri R. Eng, declare as follows:

1. I am the Senior Environmental Management Director for Naval Facilities Engineering Systems Command Hawaii (NAVFAC HI) and Environmental Regional Program Director for the Commander Naval Installation Command, Navy Region Hawaii. In my position, I oversee a staff of engineers, scientists, environmental professionals, technicians, and management professionals that manage the Navy's environmental compliance program for Navy installations in Hawaii.

2. I make this declaration in support of the Respondent, United States Department of the Navy's ("Navy") opposition to the Emergency Order of December 6, 2021, the Complainant,

Environmental Health Division, Department of Health, State of Hawaii (“DOH”), issued concerning impacts the Red Hill Bulk Fuel Storage Facility (“Red Hill Facility”) had on the Navy’s drinking water system. I make this declaration based upon personal knowledge and I am competent to testify as to all matters stated herein.

3. On November 28, 2021, the Navy received initial reports of odors of fuel and chemicals in some areas serviced by its water system. Because the reports were from areas that receive a higher proportion of water from the Red Hill Shaft, the Navy initiated its environmental response the same day by shutting down the Red Hill Shaft. The Navy immediately started collecting and testing the water for contaminants the next day on November 29, 2021. Since November 28, 2021, the Red Hill Shaft pump has been shut off and isolated from the Navy’s water supply system with a shut off valve. The shut off valve prevents any impacted water from Red Hill Shaft from flowing into the rest of the system.

4. The Navy collected fourteen samples from two Navy-owned and operated drinking water shafts (the Waiawa Shaft and the Red Hill Shaft); two above ground drinking water storage tanks (S1 and S2); four Navy housing community centers; two elementary schools serviced by the Navy’s water system; a Navy Child Development Center; and two separate Army communities, the Aliamanu Military Reservation and the Red Hill Housing area, which an Army-operated water distribution system also services.

5. The Navy’s initial testing analyzed the samples for Total Organic Carbons (TOC), which provides a measure of the total amount of carbon in organic compounds present in a water sample. The presence or level of TOC was then used along with other information, including the nature of the reports of contamination, to inform which additional locations warranted additional testing and immediate action.

6. In addition to the on-island testing, the Navy sent samples to Eurofins TestAmerica Seattle (“TestAmerica”) which is an independent lab capable of performing analysis that is more detailed by utilizing EPA approved methodologies, than any accredited laboratories available in Hawaii. TestAmerica is a lab located in Seattle, Washington, and it is accredited by California, Washington, Montana, Oregon, Florida, Louisiana, Alaska, New Jersey, Kentucky, Maine, and the Department of Defense Environmental Laboratory Accreditation Program (ELAP).

7. The Navy received its first partial results from TestAmerica on December 2, 2021, which it immediately provided to the DOH and EPA. The results showed detections at just one location, from the Red Hill Shaft, and while there was a presence of Total Petroleum Hydrocarbon-g (TPH), xylene, and naphthalene, all of the levels were below the DOH Environmental Action Levels (EAL).

8. Since it began sampling, the Navy has now collected over 900 samples, including samples for TOC, from locations in and around the Red Hill Shaft and many locations within the water distribution system. And of the samples collected and analyzed from the active portions of the Navy’s water distribution system, which currently is being supplied by just the Waiawa shaft, none have indicted the presence of petroleum-related constituents at or above DOH’s EAL.

9. Of the sampling taken from the drinking water wells at each of its three shafts – the Red Hill Shaft, the Navy Aiea-Halawa Shaft, and the Waiawa Shaft – results for TPH above the EAL have been limited to the Red Hill Shaft.

10. Samples taken from a waterline located near the Navy Aiea-Halawa Shaft pump house, which the Navy took off-line on December 3, 2021, indicated elevated results for TPH above the EAL. The Navy first collected these samples on December 5, 2021, not from the shaft of the well extending down into the aquifer but from an isolated section of piping above the well,

upstream of the pre-chlorination treatment point. Samples taken from a nearby post-chlorination point, however, were below the EAL.

11. To further investigate these results, the Navy took additional samples from the same locations on December 7 and 8, 2021, and received the results on December 11, 2021. The analysis indicated TPH was present above the EAL only upstream of the pre-chlorination treatment site at the same isolated, dead-end pipe.

12. On December 8, 2021, in addition to the samples collected from the pre-chlorination site, the Navy also collected a sample from the Navy Aiea-Halawa Shaft well utilizing a bailer, which is used to lift water directly from the aquifer. The Navy received the results on December 12, 2021, and the water tested from the well was a “non-detect” for TPH, and just a low-level detect for TPH-d with Silica Gel Cleanup. Samples collected at the Navy Aiea-Halawa Shaft taken on December 9 and 10, 2021, however, were a “non-detect” for total TPH and a “non-detect” for TPH-d with Silica Gel Cleanup.

13. The analysis for actual chemicals that are constituents or indicators of fuel – benzene, ethylbenzene, toluene, xylenes, and naphthalene – from the Navy Aiea-Halawa Shaft were also “non-detect.” This data as a whole suggests that the contaminant detected from the isolated section of piping in the Navy Aiea-Halawa Shaft pump station, which I discussed above in paragraph 11, may have traveled through the Navy’s water supply system after the Navy shut down the Red Hill Shaft, so that the contaminant came from the Red Hill Shaft, and not through the drinking water aquifer. The mechanism for this would be the depressurization of the system when the Navy shut off the Navy Aiea-Halawa Shaft pump station. The depressurized system would allow contaminants that are lighter to migrate through the pipes to the highest point, and settle at the end of the line, which is where the samples were taken.

14. Cumulative results of the Navy's sampling data from the drinking water wells are included in **N-3A**.

- a. Page 1 of **N-3A** provides the results from the Red Hill Shaft that exceed the EAL, which are highlighted in red.
- b. Page 1 of **N-3A** also provides the sampling results taken from the Navy's Aiea-Halawa Shaft well on December 8, 2021, which are highlighted in yellow.
- c. Pages 2 -4 of **N-3A** provides samples taken from the Navy's Aiea-Halawa Shaft on December 9 and 10, 2021 – the results which were a complete non-detect for TPH, including Silica Gel Cleanup – are highlighted in yellow.

15. **N-3B** includes the Navy's sampling results that include sampling points other than drinking water wells. The sampling results from the Navy Aiea-Halawa Shaft pump station are included on page four of **N-3B** and highlighted in yellow.

16. **N-3A** and **N-3B**, provide all of the available sampling data for each sample the Navy has collected since November 29, 2021, along with the dates and location of the source of the sample. This data includes both final data and preliminary data that is subject to change during the lab's quality control analyses. The Navy has provided all of this information to the EPA and DOH as it has received it, via email.

17. The Navy's sampling results are consistent with the sampling results that the DOH has collected and analyzed. On December 15, 2021, the DOH announced that it had collected twenty-seven samples from communities in the Iroquois Point and McGrew Point communities, the Iroquois Point Elementary School, the Navy's Aiea Halawa Storage tank, and the Navy's Aiea Halawa Shaft. Five of the twenty-seven samples detected just trace levels of petroleum

product from the Iroquis Point and McGew Point Communities, but all five samples were well below the EAL. The twenty-two samples taken from the other locations – including Navy’s Aiea Halawa Shaft – were a non-detect for petroleum. Eurofins Scientific in California analyzed the DOH samples. **N-3C.**

18. My staff is responsible for development of ground water flow models and reports via contracted experts. For example, my staff contracted for and supervised the development of the March 20, 2020 Groundwater Flow Model Report (GWFM), Red Hill Bulk Fuel Storage Facility. That report was developed pursuant to the Section 7.1 of the Scope of Work under the Administrative Order on Consent (In the Matter of Red Hill Bulk Fuel Storage Facility (EPA Docket No: RCRA 7003-R9-2015-01; DOH Docket No: 15-UST-EA-01)). Through these efforts, I am aware that models indicate when the Red Hill Shaft is pumping, groundwater beneath the tanks of the Red Hill Facility is captured by the Red Hill Shaft.

19. The Navy, DOH, EPA, and the Army have completed a Drinking Water Sampling Plan (“Sampling Plan”), which the agencies signed on December 14, 2021. The sampling plan will support the joint effort to determine if the drinking water within the affected areas complies with the State of Hawaii and EPA Drinking Water Standards. **N-3D.**

20. Pursuant to the Sampling Plan, the Navy will: 1) sample its three supply well shafts to characterize the concentration of constituents; 2) through sampling, prioritize contaminated locations in the DoD water distribution system to flush; 3) screen locations where flushing has been completed; 4) perform housing and building specific flushing for all down gradient structures; 5) collect samples from ten percent of the residences, with a minimum of fifteen homes in each zone, and increase sampling in areas where health professionals indicate; and 6) conduct long-term drinking water monitoring.

21. Under the Sampling Plan, once flushing is complete water in the residences could be considered fit for human consumption in as few as twelve (12) days.

22. To expedite sampling, the Navy is trying to secure additional testing and sampling capacity from laboratories accredited by the Hawaii Department of Health, which are located off-island. And because there are currently no Hawaii-accredited drinking water laboratories in Hawaii, the Navy is working with DOH to utilize reciprocity agreements to increase the number of labs available to support sample testing.

23. All of the Navy's efforts that I have described herein have been taken in broad coordination with the EPA and the DOH, and many have included the key stakeholders. Since December 2, 2021, the Navy has been meeting daily with the DOH to discuss its sampling efforts and laboratory results, and it shares any new information it has developed or received.

24. On December 6, 2021, the Navy established a daily meeting, which has since been referred to as the "Red Hill Water Crisis Solution" meeting. Participants include leaders from the DoD, EPA Region 9, the DOH, the Hawaii Department of Land and Natural Resources (DLNR), and the Honolulu Board of Water Supply (BWS).

25. The Navy has also established a multi-disciplinary team to collaborate concerning its groundwater modeling and effort to resume pumping at the Red Hill Shaft. The participants include EPA, DLNR, DOH, BWS, the U.S. Geological Survey (USGS), and representatives from the University of Hawaii.

I declare under penalty of perjury that the foregoing facts are true and correct to the best of my knowledge and belief.

Dated: Honolulu, Hawaii December 17, 2021.

/S/ Sherri R. Eng
Sherri R. Eng