Red Hill Update CWRM



28 JANUARY 2025



1



- Drinking Water
 - Drinking water monitoring program
 - LTM and EDWM analytes
- Groundwater
 - Groundwater monitoring
 - Groundwater monitoring well network
 - Navy groundwater flow model
- Ensuring Water for the Long Term
- Safe Waters website
- Additional information



Drinking Water



JOINT BASE PEARL HARBOR-HICKAM **DRINKING WATER MONITORING PROGRAM ENSURING SAFE AND COMPLIANT DRINKING WATER**



Emergency Response

Nov. 2021 - Dec. 2021

A Red Hill watchstander

valve, spilling fuel which

contaminated the JBPHH

distribution system. Hawaii

health advisory on Nov. 29,

2021.

Department of Health issued a

drinking water well and

inadvertently strikes a drain

Interagency **Drinking Water System Team**



A team of experts from the Hawaii Department of Health (DOH), Environmental Protection Agency (EPA), Navy and Army was formed to develop requirements to restore the JBPHH drinking water system.



Drinking Water

System Flushing

JBPHH



Between Dec. 2021 to Mar. 2022, the Navy conducted a complete flush of the JBPHH drinking water distribution system to include all facilities and residences on the system in compliance with the IDWST approved Drinking Water **Distribution System** Recovery Plan. DOH lifts health advisory in Mar. 2022.

Mar. 2022 - Mar. 2024

Drinking Water

Long Term

Monitoring



From Mar. 2022 to Mar. 2024, Navy implemented a two-year period of LTM of the JBPHH drinking water system. Navy collected over 9,000 samples testing for over 50 analytes to include metals, hydrocarbons, Synthetic Organic Compounds, and Volatile Organic Compounds to ensure the water is safe.

Extended **Drinking Water** Monitoring

Apr. 2024 - Present



In Apr. 2024, Navy voluntarily implemented EDWM ensuring the JBPHH drinking water system remains safe for consumption and meets all state and federal drinking water standards. Navy has collected over 3,500 samples testing for over 50 analytes.



SAFE DRINKING WATER ACT COMPLIANCE MONITORING



FIND US ONLINE

https://www.navyclosuretaskforce.navy.mil/



CAN THE QR CODE for the NCTF-RH



EMAIL NCTF_PAO@US.NAVY.MIL

LTM and EDWM Analytes

SAFE. DELIBERATE. ENGAGED. COMMITTED.

SURE TAS

LTM Long Term Monitoring	EPA Method 8260 / 8015	EDWM Extended Drinking Water Monitoring
Total Petroleum Hydrocarbons		Total Petroleum Hydrocarbons
BTEX (Benzene, Toluene, Ethylbenzene, Xylenes) 1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,2-Dichloroethylene 1,2-Dichlorobenzene 1,2-Dichloropropane Carbon tetrachloride cis-1,2-Dichloroethylene Styrene trans-1,2-Dichloroethylene Trichloroethylene	EPA Method 524.2	BTEX (Benzene, Toluene, Ethylbenzene, Xylenes) n-Butylbenzene Sec-Butylbenzene Tert-Butylbenzene Isopropylbenzene n-Propylbenzene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Total Trihalomethanes
Vinyl Chloride Total Trihalomethanes	EPA Method 504.1	Ethylene Dibromide
Metals (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Selenium, Thallium)	EPA	Metals (Copper, Lead)
Mercury	Method 200.8	Mercury
Benzo[a]pyrene 1-Methylnaphthalene 2-Methylnaphthalene Naphthalene	EPA	2-2- Methoxyethoxy - Ethanol
	Method 245.1 EPA	Benzo[a]pyrene 1-Methylnaphthalene 2-Methylnaphthalene Naphthalene
	Method 8270 Sim	Acenaphthlyene Anthrancene Benzo[b]fluoranthene Benzo[k]fluoranthene Benzo[g,h,i]perylene Chrysene Dibenz[a,h]anthracene Fluorene Indeno[1,2,3-cd]pyrene Phenanthrene Pyrene
	EPA Method 525.2	

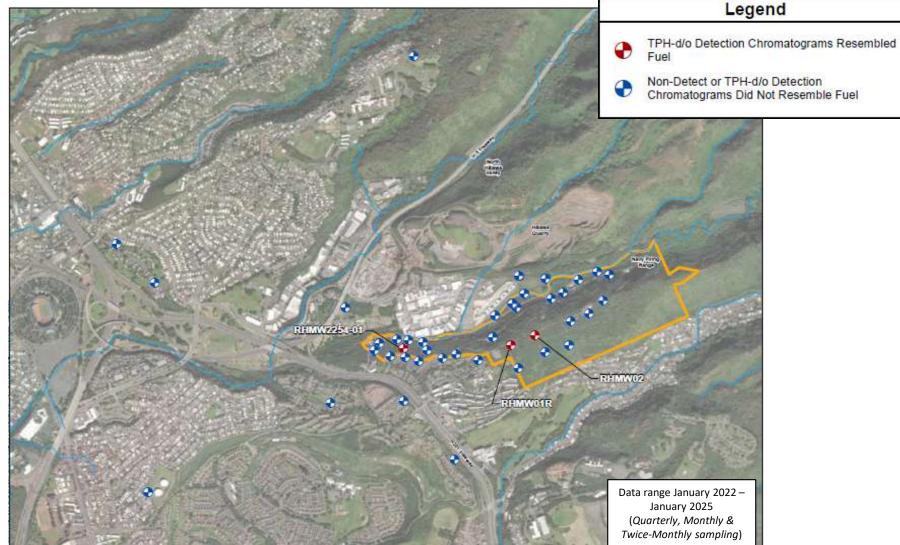


Groundwater



Groundwater Monitoring

SAFE. DELIBERATE. ENGAGED. COMMITTED.

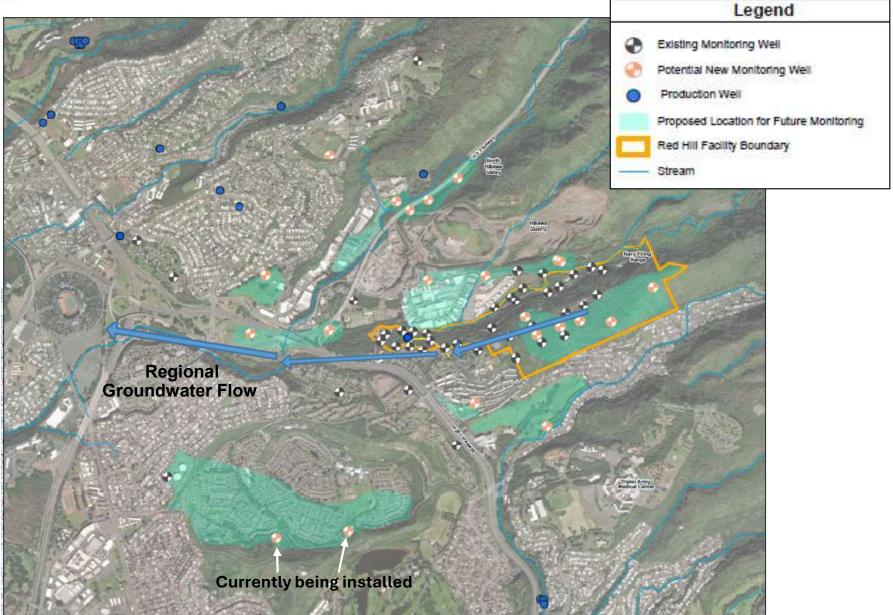


Monitoring data collected shows no evidence of fuel migration beyond Red Hill facility boundary

Groundwater Monitoring Well Network: Current & Potential Future Sites

SAFE. DELIBERATE. ENGAGED. COMMITTED.

TIRE



Navy Groundwater Flow Model

SAFE. DELIBERATE. ENGAGED. COMMITTED.

Navy Groundwater Model:

- Provides advance understanding of subsurface • conditions
- Informs environmental remediation ٠
- Assesses potential fuel release migration •

Composite Model:

- **Geological Conceptual Site Model**
 - o Estimation of the geologic material distribution
- **Groundwater Flow Model**
 - Estimates flow direction and flow rates of groundwater
- Vadose Zone Model

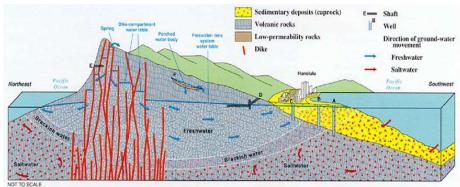
2015 AOC

2015

• Studies processes that occur in the geology between the land surface and groundwater table

Contaminant Fate and Transport Model

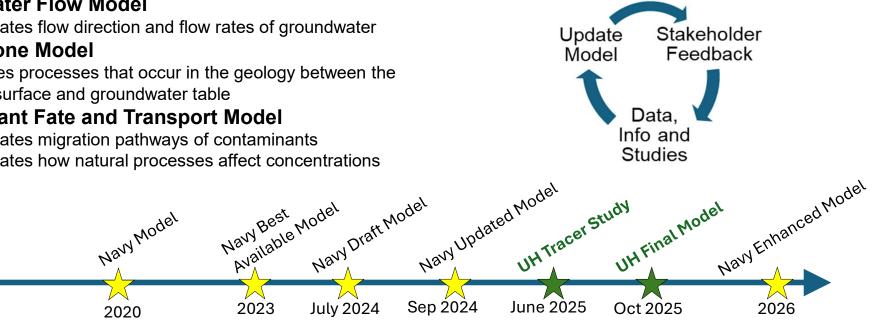
- Estimates migration pathways of contaminants
- Estimates how natural processes affect concentrations 0



Conceptual Hydrogeology of Oahu

Iterative Approach:

Informed by data, studies and feedback



Ensuring Water for the Long Term

SAFE. DELIBERATE. ENGAGED. COMMITTED.

Pathway to **Resiliency**, **Redundancy**, and **Security** for the JBPHH Drinking Water System

- Infrastructure Improvements
- Shaft Reactivations
- Treatment Systems
- Cybersecurity Improvements
- Leak Detection Programs
- Watershed Projects



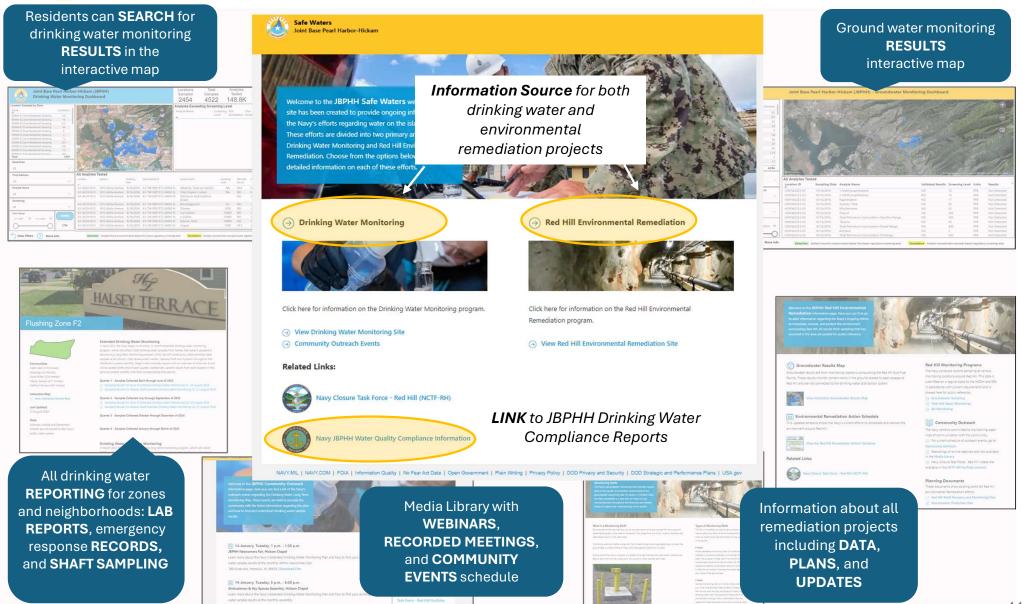
Joint effort between NCTF-RH, JBPHH, NAVFAC, Navy Region Hawaii and community partners

Safe Waters Website

www.JBPHH-SafeWaters.org

SAFE. DELIBERATE. ENGAGED. COMMITTED.

SURE 7



Additional Information

SAFE. DELIBERATE. ENGAGED. COMMITTED.



Joint Base Pearl Harbor-Hickam Safe Waters

jbphh-safewaters.org

- Ongoing information on Navy efforts regarding water on the island of Oahu
- Two primary areas: Drinking Water System & Red Hill Environmental Remediation





Navy Closure Task Force – Red Hill

navyclosuretaskforce.navy.mil

- Document library for defueling & closure of Red Hill Bulk Fuel Storage Facility
- Photos & media gallery related to water response efforts & drinking water testing
- Upcoming public engagements





Apple



Android

Download the free NCTF-RH app

- Interactive progress dashboard
- Latest news
- Photos & videos
- Weekly podcast episodes
- Presentations & fact sheets

