



Environmental Checks and Balances

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Careful planning allows NCTF-RH to proactively identify environmental risks associated with the closure process.

The daily process of PLAN-DO-CHECK-ACT allows for early mitigation of new or emerging risks.



The NCTF-RH Team ensures the implementation of protective measures during all closure operations.

NCTF-RH continually monitors the closure progress to identify new or emerging risks.

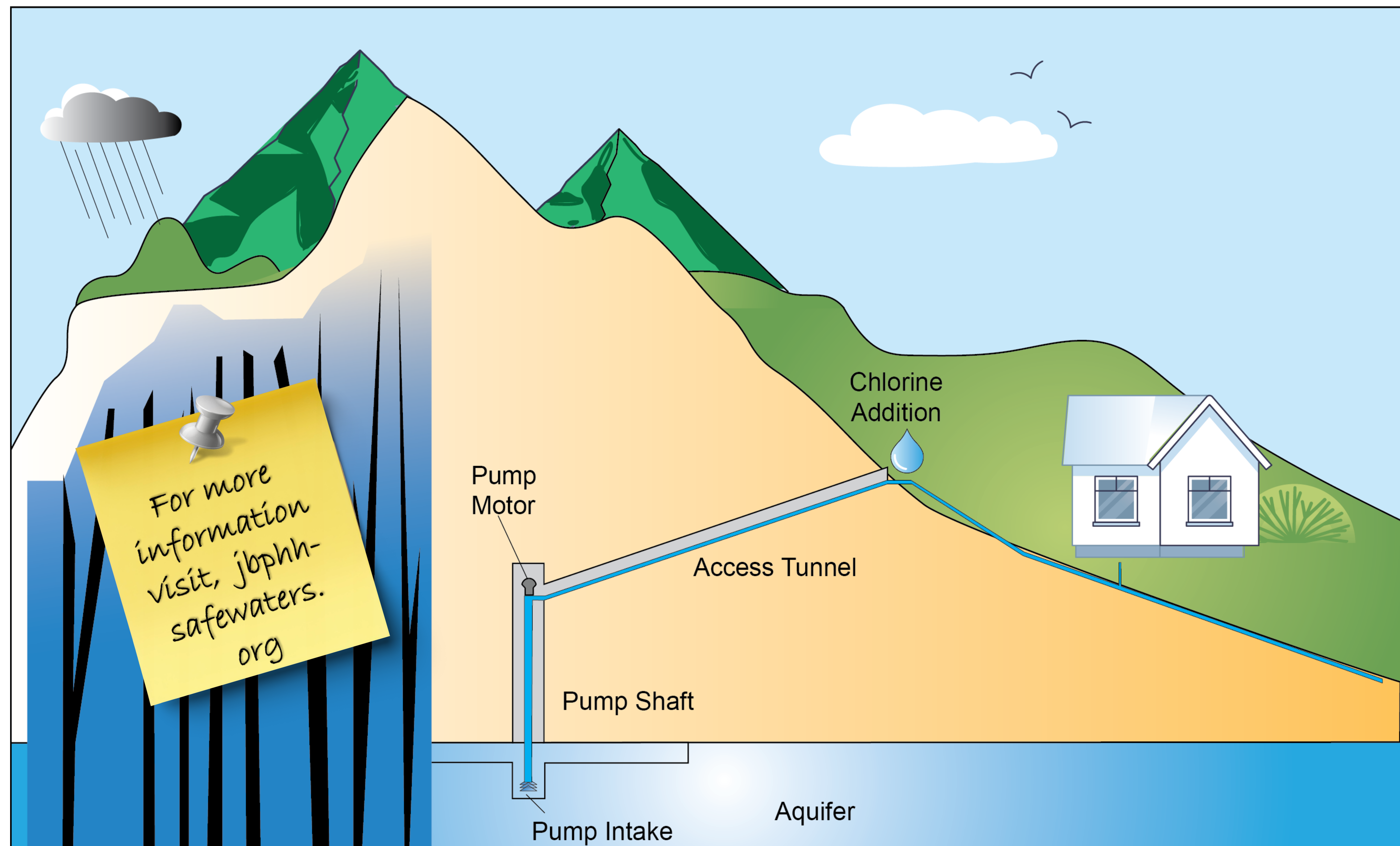
Strong partnerships with our regulators ensure success in the protection of our environment for future generations.



Where Does My Water Come From?

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Joint Base Pearl Harbor-Hickam's drinking water is supplied solely from the Waiawa shaft, a source over 6 miles away from Red Hill. The water is chlorinated before it enters the distribution system to serve 93,000 customers.





JOINT BASE PEARL HARBOR-HICKAM DRINKING WATER PROGRAM

ENSURING SAFE AND COMPLIANT DRINKING WATER



Water Quality Action Team

- 24/7 response to consumer concerns through the call center (808) 210-6968.
- Full water quality evaluation for consumer concerns, includes water quality professional.
- Includes investigations for hydrocarbons, bacteria, residual chlorine, water heater, and plumbing concerns.
- A liaison provides information and answers questions.

Compliance Monitoring

- Recurring monitoring in accordance with the Safe Drinking Water Act for drinking water systems.
- Full drinking water analytes sampled for required operational testing (bacteria/chlorine/etc.).
- Reported to all consumers by the JBPHH consumer confidence report, which is completed each summer.

Extended Drinking Water Monitoring Program

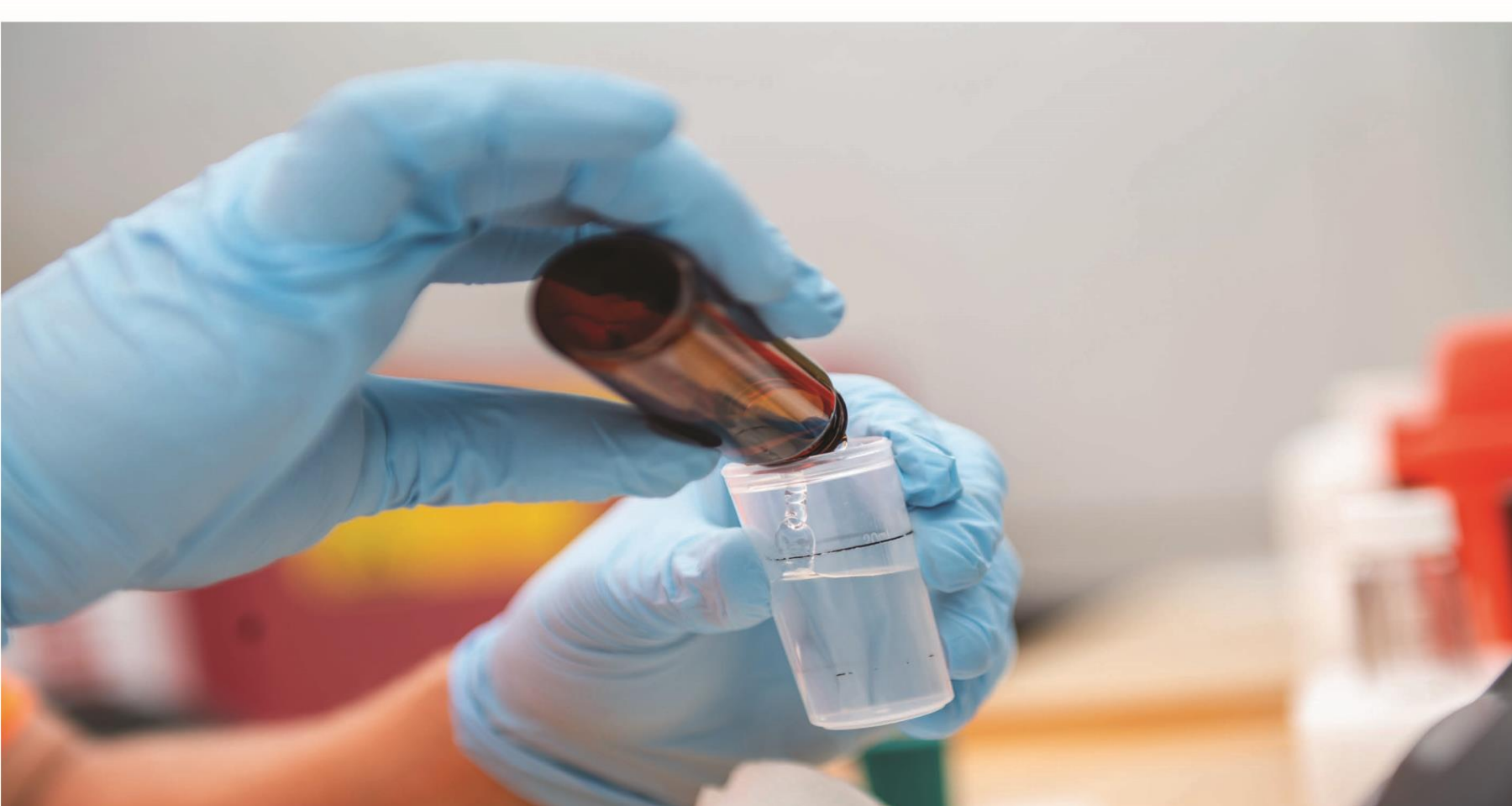
- Successor to the Long Term Monitoring Program. Will be conducted through March 2025.
- Focus of the monitoring is looking for petroleum hydrocarbon and fuel-related constituents.
- A goal to sample 100% of homes on the JBPHH drinking water system.

Drinking Water System Operations and Maintenance

- Source water and wellhead protection plan.
- Unidirectional flushing.
- Backflow and cross connection program.

Medical Monitoring

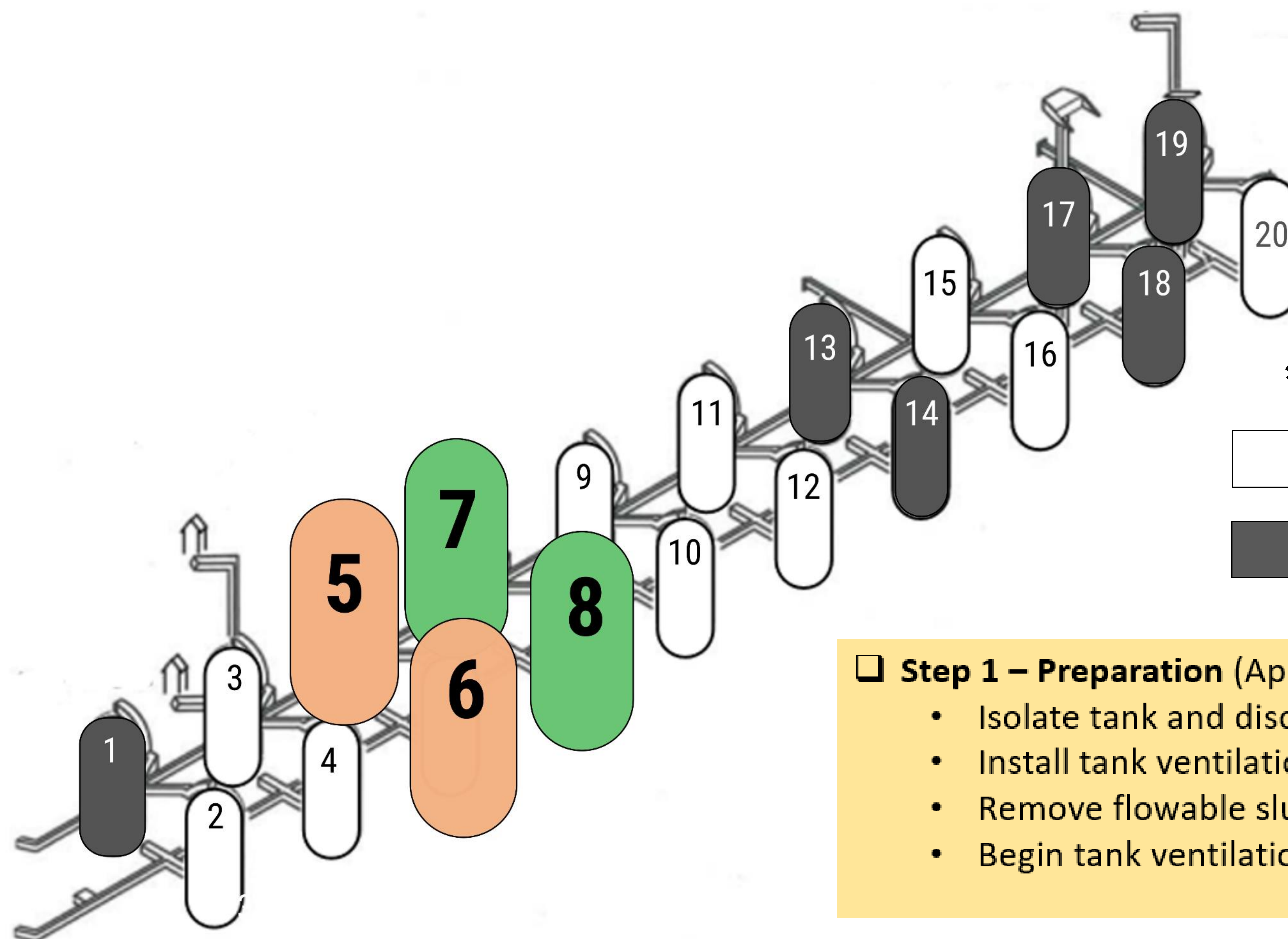
- Established Red Hill Clinic and authorizing eligible community members to use the clinic.
- Established Defense Occupational and Environmental Health Readiness Red Hill Incident Report.
- Ongoing CDC/ATSDR Public Health Assessment and establishment of Red Hill Registry.
- Epidemiological studies and medical record reviews.





Tank Cleaning Update

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***As of November 6, 2024**

White tanks awaiting cleaning

Black tanks empty at start of defueling

❑ Step 1 – Preparation (Approx. 2-3 months):

- Isolate tank and disconnect piping
- Install tank ventilation equipment and inject water to soften sludge
- Remove flowable sludge
- Begin tank ventilation with forced air

❑ Step 2 – Remove Solid Sludge (Approx. 2-3 months):

- Inspect and repair central tower and catwalk
- Install center tower elevator; load test tower and catwalk
- Remove solid sludge

❑ Step 3 – Pressure Washing (Approx. 1-2 months):

- Set up pressure washing system and
- Pressure wash with 3% Simple Green
- Rinse, continuously removing rinsate
- Dry tank interior and validate cleanliness; submit cleaning report
- Receive regulatory agency final approval that tank is clean

❑ Step 4 – Tank Decommission (Approx. 1-2 Months):

- Remove booms and infrastructure
- Install permanent lockable steel hatch at the entrance

Tank
cleaning
remains on
schedule!



SLUDGE AND RESIDUAL FUEL REMOVAL

00510.0

GALLONS RESIDUAL FUEL REMOVED

***As of November 6, 2024**

00078.0

GALLONS SLUDGE REMOVED

Sludge is removed by lowering personnel to the bottom of the tank where it is manually shoveled out and put into drums. The drums are sealed and sent off the island for disposal at a permitted waste disposal facility on the continental U.S.

[SLUDGE REMOVAL VIDEO](#)

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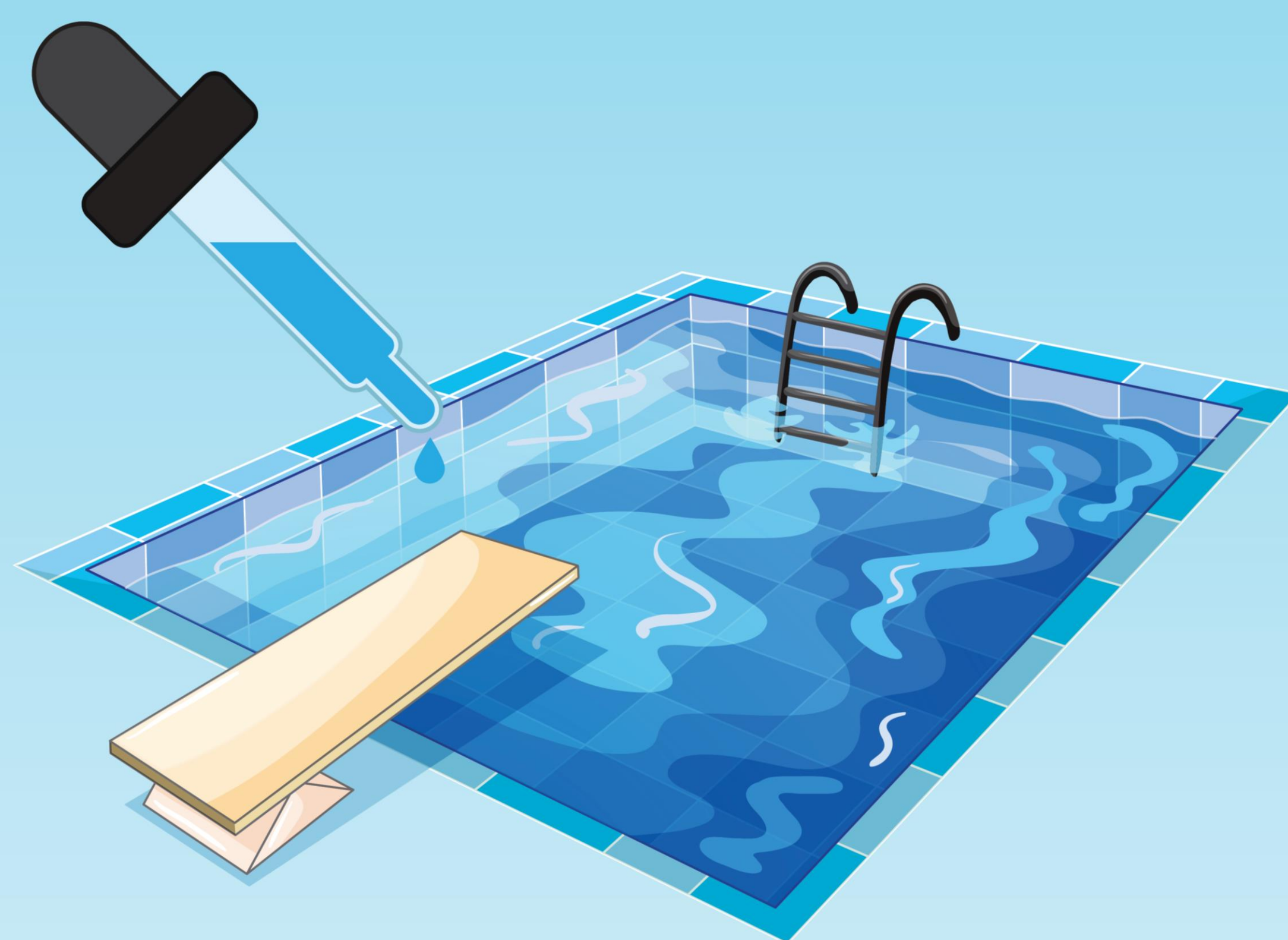
Download our mobile app and stay informed of the latest closure related information.



What is a ...?

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Parts per billion (PPB)



1 drop in a 10,000 gallon swimming pool*

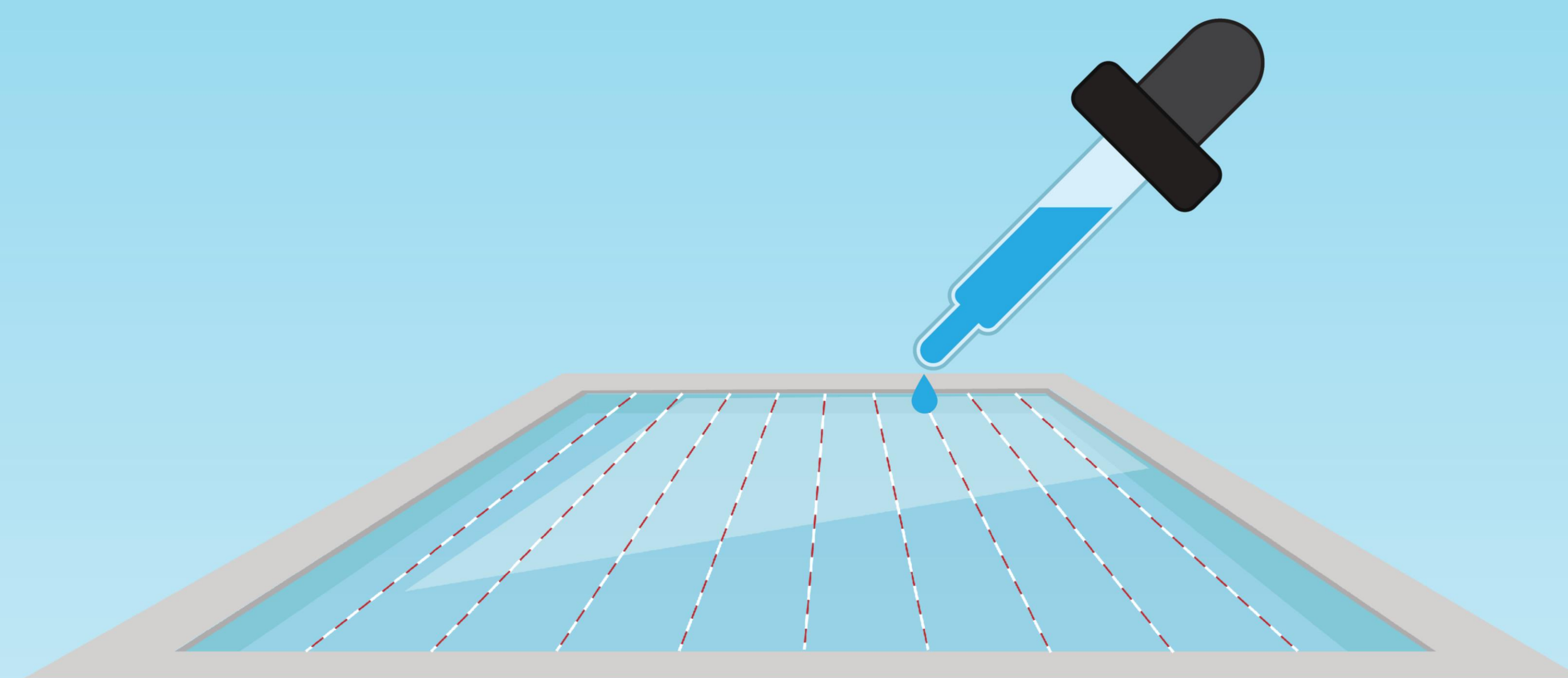
**17' x 10' x 8' deep*

1 ppb = approximately the width of
1 human hair in 68 miles.



1 ppb = 1 second per 32 years.

Parts per trillion (PPT)



1 drop in 20 Olympic-sized swimming
pools*

**164' x 56' approx. 500,000 gallons*

1ppt = 1 inch in 643 trips around the
earth.



1 ppt = 1 second in 32,000 years.

The Navy uses EPA-approved laboratories and methods with state-of-the-art equipment to analyze samples.



Monthly Sampling Snapshot Around Red Hill

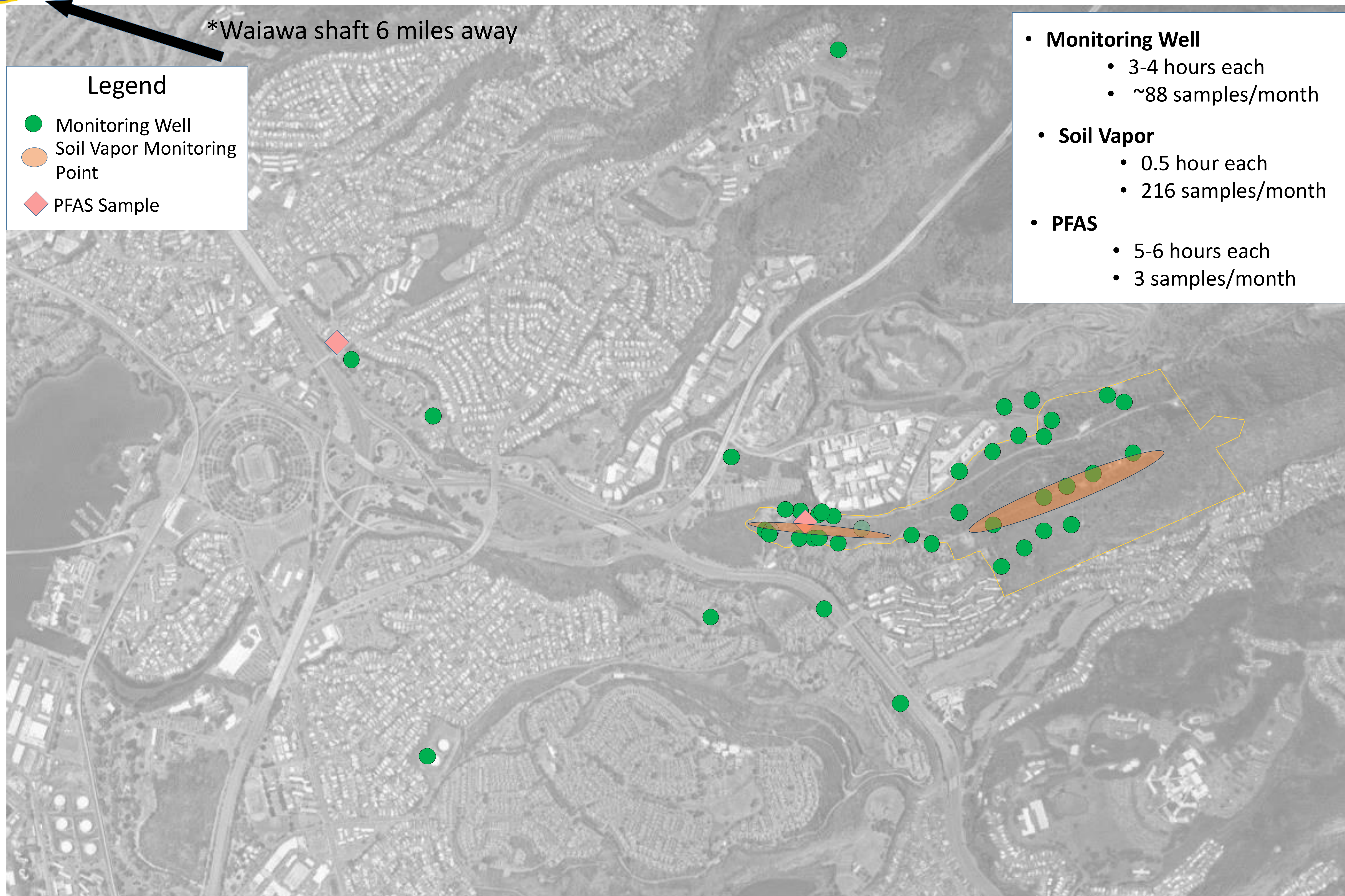
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*Waiawa shaft 6 miles away

Legend

- Monitoring Well
- Soil Vapor Monitoring Point
- ◆ PFAS Sample

- **Monitoring Well**
 - 3-4 hours each
 - ~88 samples/month
- **Soil Vapor**
 - 0.5 hour each
 - 216 samples/month
- **PFAS**
 - 5-6 hours each
 - 3 samples/month

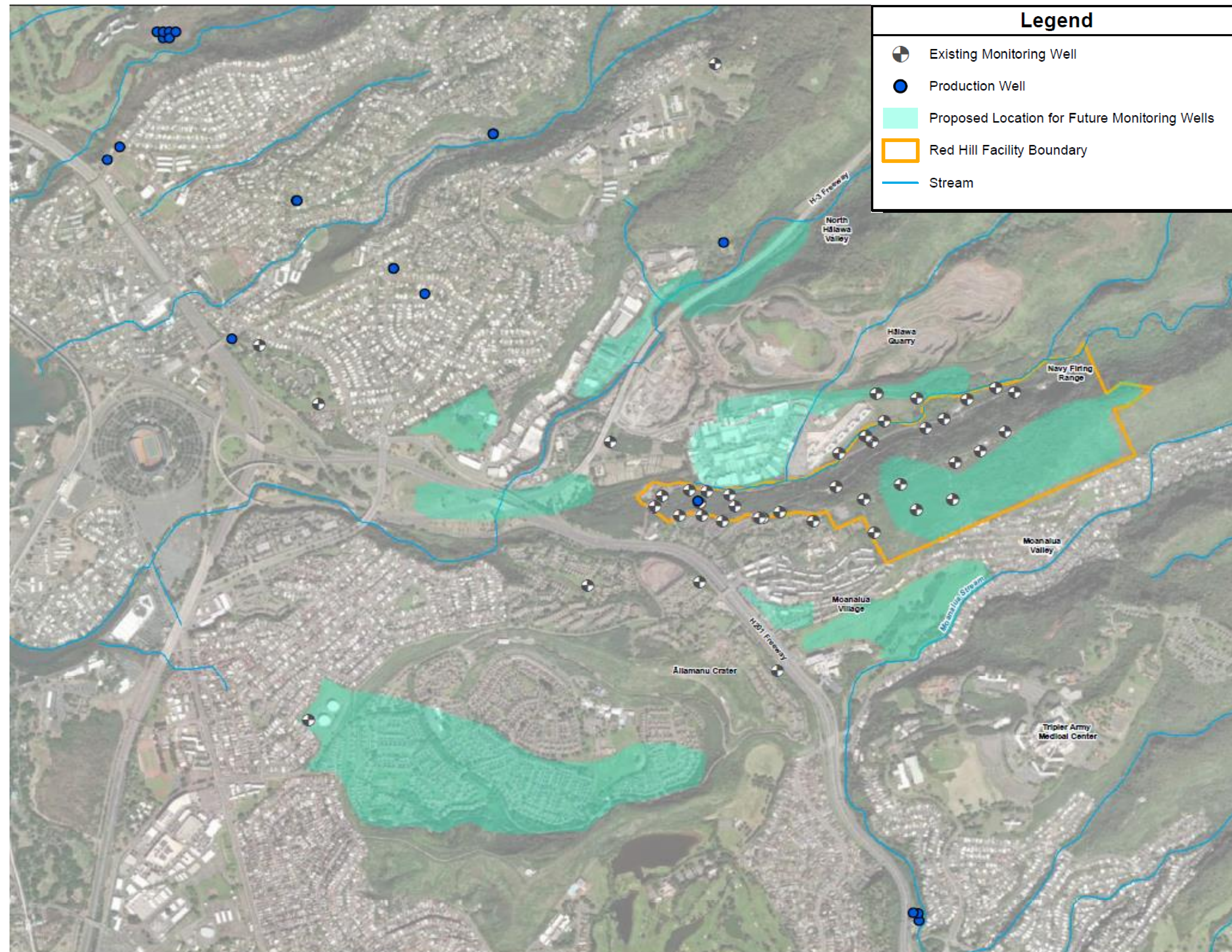


NCTF-RH team members collect over 350 samples of various types across more than 130 dispersed sample locations each month, or an average of 12 per day.



Current & Proposed Monitoring Well Network

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The Navy's monitoring well network extends beyond RHBFSF boundaries, with more coming. Each new well provides more data to ensure continued protection of the aquifer and help inform the Navy's groundwater flow model.



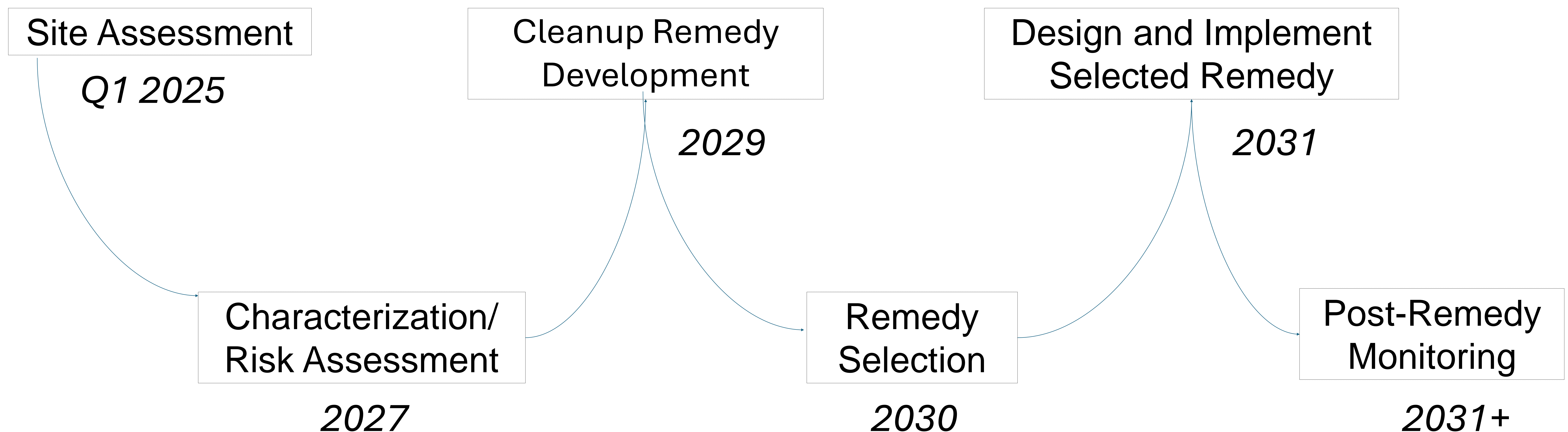
Environmental Remediation

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Site Assessment

- Regulatory driven requirement
- Looks at historic releases (known and unknown)
- Conduct sampling and analysis to determine characterization of a release
- Deliberate, data-driven process

General Process Flow



Concurrent Navy PFAS Remedial Investigation (CERCLA)



Ensuring Water for the Long-Term

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

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

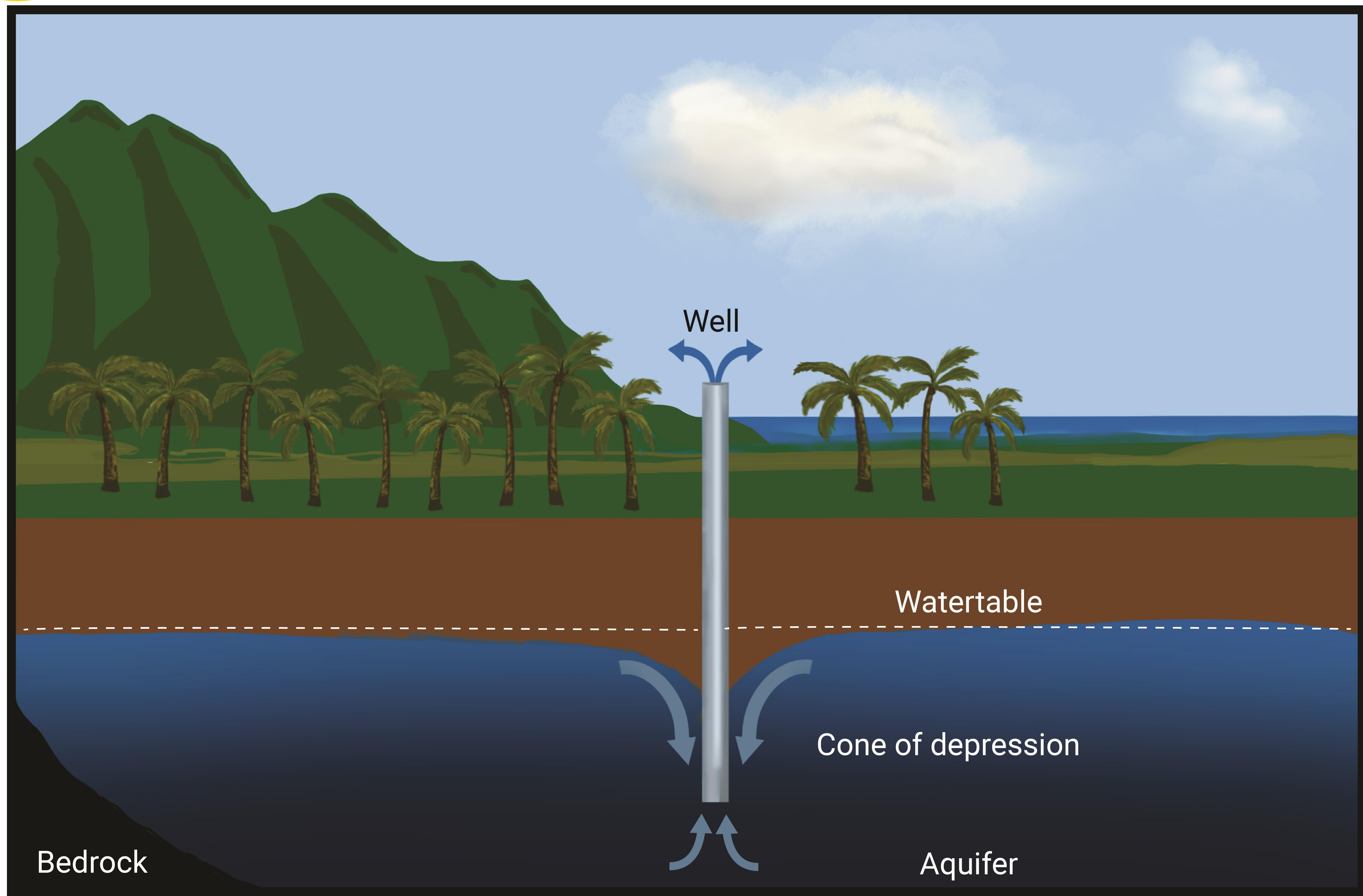


Joint effort between NCTF-RH, JBPHH, NAVFAC, Navy Region Hawaii and community partners.



Capture Zone

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Cleanup Process

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