

'25NOV17 PM 3:05 CITY CLERK



RED HILL UPDATE

Joyce Lin, P.E.

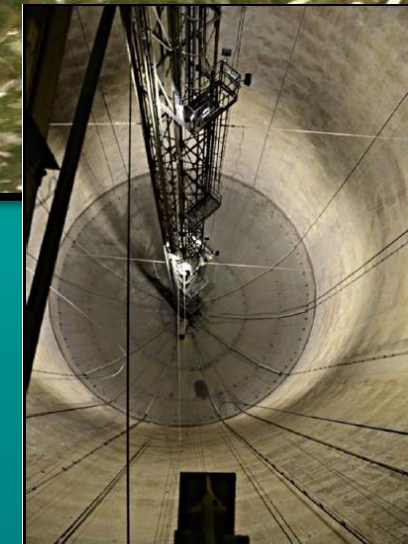
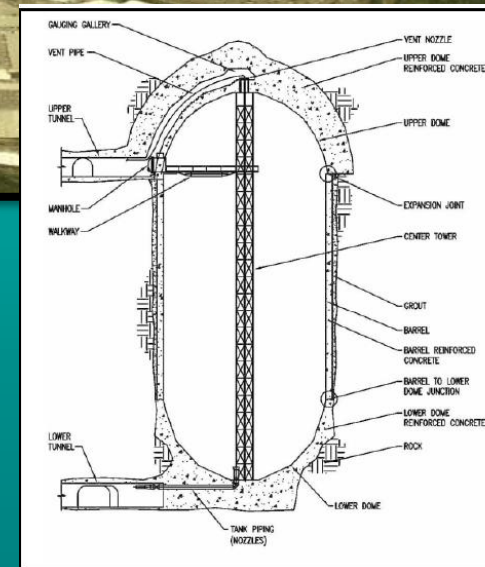
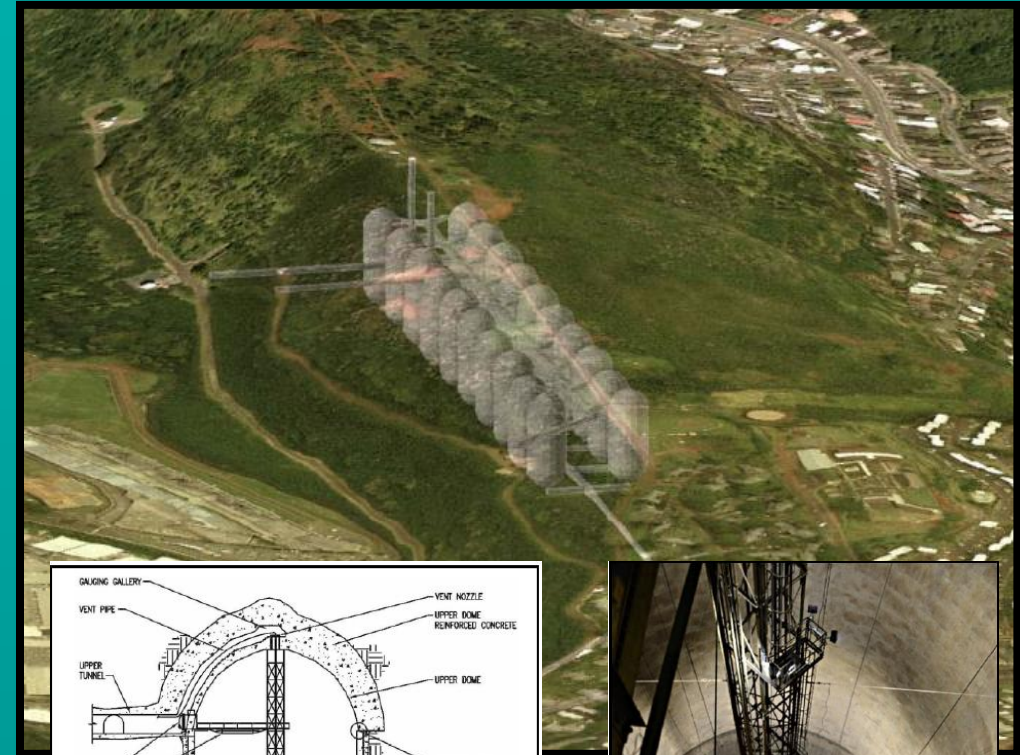
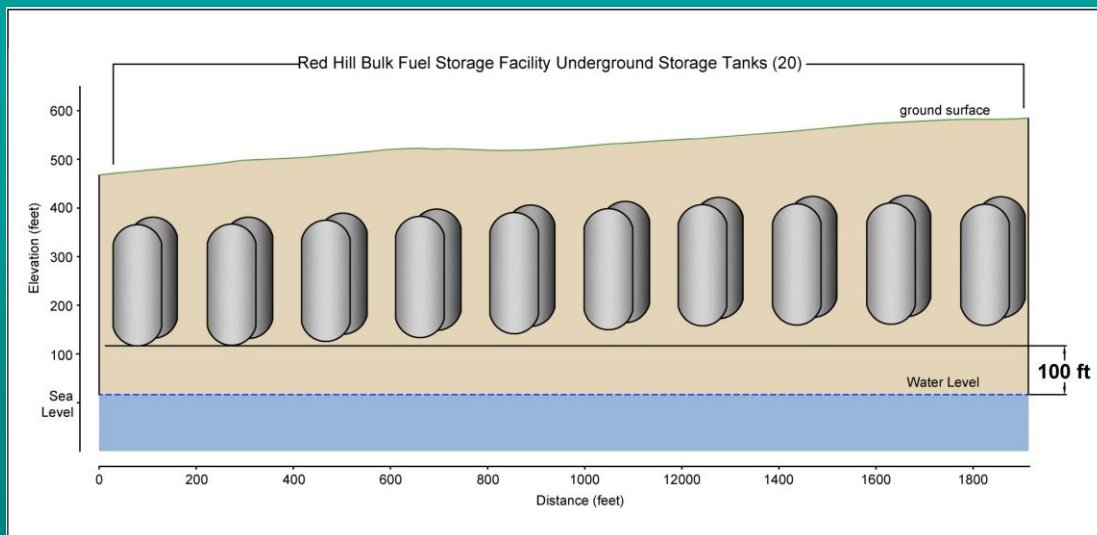
November 19, 2025

www.boardofwatersupply.com

DEPT. COM. 817 ITT

RED HILL BULK FUEL STORAGE FACILITY

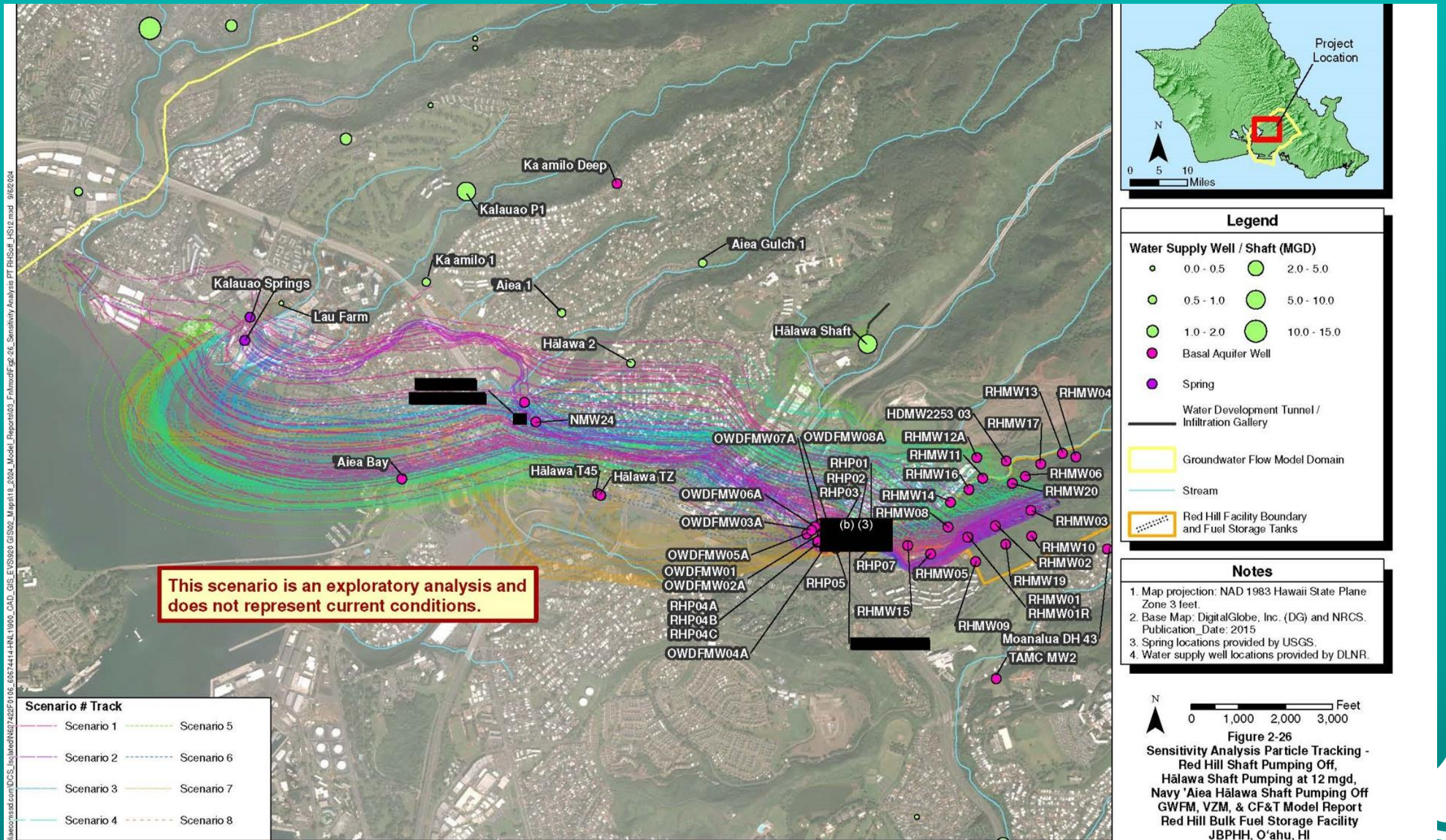
- Constructed in 1940s
- 20 field-constructed underground storage tanks
- Each tank approximately 250 feet tall, 100 feet in diameter
- Each tank has 12.5 to 12.7 million gallons of fuel capacity when operational

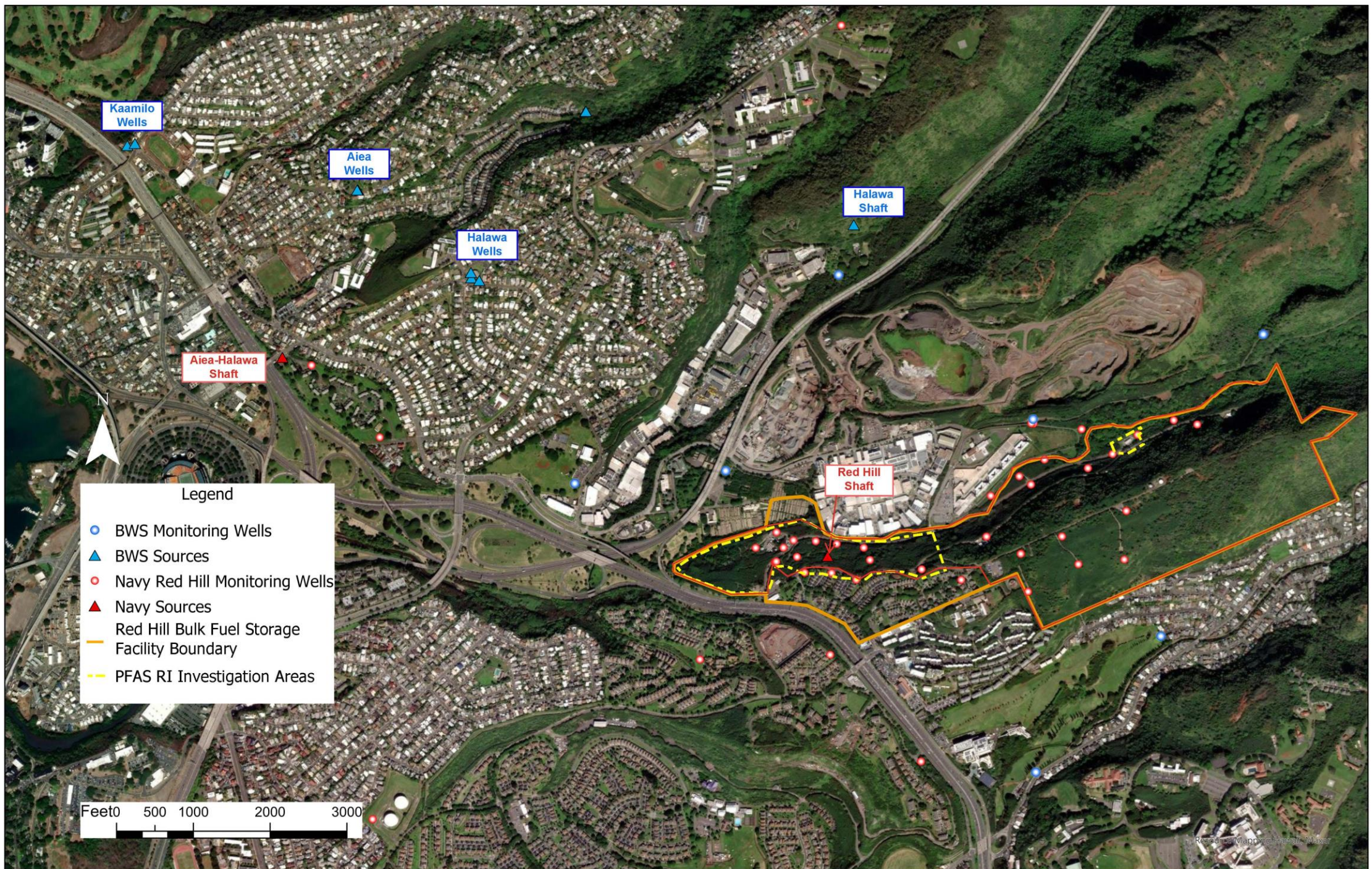


SUMMARY OF RECENT RELEASE AND RESPONSE

Date	Description
1/2014	Navy releases 27,000 gallons of fuel from Tank 5 at Red Hill Facility
9/15/2015	2015 Administrative Order on Consent
5/6/2021	Navy releases 20,000 gallons of jet fuel at Red Hill Facility during refilling of tanks
11/20/2021	Navy releases 19,000 gallons of jet fuel at Red Hill Facility directly contaminating the Red Hill Shaft and aquifer
11/28/2021	Navy shuts off Red Hill Shaft
12/2/2021	BWS shuts off Hālawā Shaft
12/3/2021	Navy shuts off ‘Aiea-Hālawā Shaft
12/8/2021	BWS shuts off ‘Aiea Wells 1 and 2; Hālawā Wells 1, 2, and 3
5/6/2022	Department of Health Final Emergency Order requiring Navy to provide plan and schedule for defueling and permanent closure of Red Hill Facility
11/29/2022	Navy releases 1,300 gallons of aqueous film forming foam (AFFF) concentrate containing per- and poly fluoroalkyl substances (PFAS)
6/2/2023	Administrative Consent Order addressing defueling / closure of site







FEDERAL FUNDING ON RED HILL REMEDIATION

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MILITARY CONSTRUCTION—Continued

(Amounts in thousands)

	FY 2026 Request	Final Bill
AIR NATIONAL GUARD		
SAVANNAH/HILTON HEAD INTERNATIONAL AIRPORT		
C-130J CORROSION CONTROL FACILITY		11,400
DINING HALL & SERVICES TRAIN FACILITY	27,000	27,000
AIR FORCE RESERVE		
DOBBINS AIR RESERVE BASE		
NEW ENTRY CONTROL FACILITY: DESIGN		3,200
TOTAL, GEORGIA	467,405	511,205
HAWAII		
ARMY		
SCHOFIELD BARRACKS		
UNACCOMPANIED ENLISTED PERSONNEL HOUSING: DESIGN		18,000
WHEELER ARMY AIRFIELD		
CLEARWATER RINSE FACILITY: DESIGN		2,100
NAVY AND MARINE CORPS		
JOINT BASE PEARL HARBOR-HICKAM		
DDG-1000 SHIP SUPPORT INFRASTRUCTURE UPGRADES	83,000	83,000
DRY DOCK 3 REPLACEMENT (INC)	553,720	553,720
WATER TREATMENT PLANT (INC)	141,650	141,650
KANEHOE BAY		
WATER RECLAMATION FACILITY COMPLIANCE UPGRADE (INC)	108,350	108,350
KAUAI		
PDI: AIRFIELD PAVEMENT UPGRADES	235,730	155,730
AIR FORCE		
JOINT BASE PEARL HARBOR-HICKAM		
COMBINED OPERATIONS CENTER: DESIGN		5,000
GENERAL PURPOSE MAINTENANCE HANGAR: DESIGN		4,200
TOTAL, HAWAII	1,122,450	1,071,750

Joint Base Pearl Harbor-Hickam Water Treatment.—The Committees remain supportive of remediation efforts at Red Hill Bulk Fuel Storage Facility and the impacted surrounding areas. Accordingly, the agreement includes \$141,650,000 for the Water Treatment Plant project at Joint Base Pearl Harbor-Hickam and encourages the Navy to continue working closely with local governments and communities to accelerate remediation efforts.

Shipyard Infrastructure Optimization Plan (SIOP). The Com-

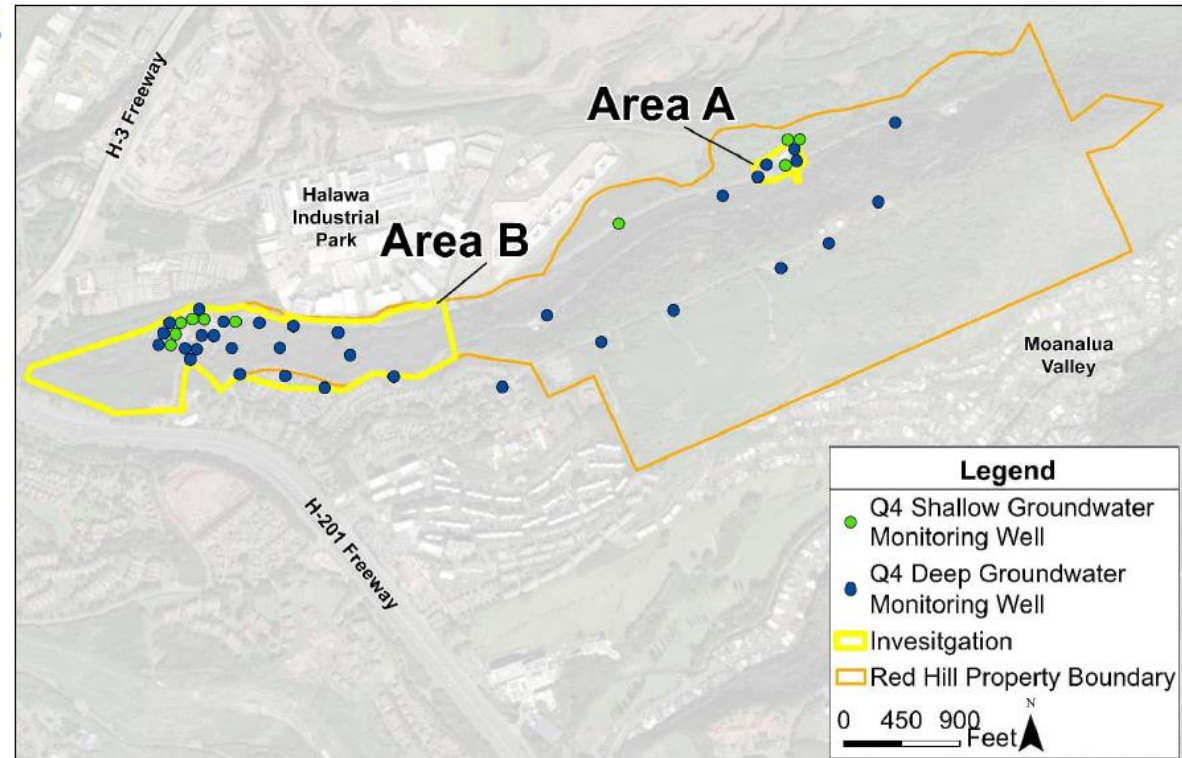
Source: [Joint Explanatory Statement to Division D of H.R. 5371, the Military Construction, Veterans Affairs, and Related Agencies Act, 2026.](#)



PFAS INVESTIGATION AT RED HILL

Groundwater Monitoring Events

- **Q1: September–December 2024**
 - 34 wells sampled
- **Q2: January–April 2025**
 - 40 wells sampled
 - 34 wells from Q1 plus 6 additional wells
- **Q3: April–July 2025**
 - 41 wells sampled
 - 40 wells from Q2 plus 1 newly installed shallow well
- **Q4: July 2025–Present**
 - 43 wells being sampled
 - 41 wells from Q3 plus 2 newly installed deep wells



Q = quarter

August 2025

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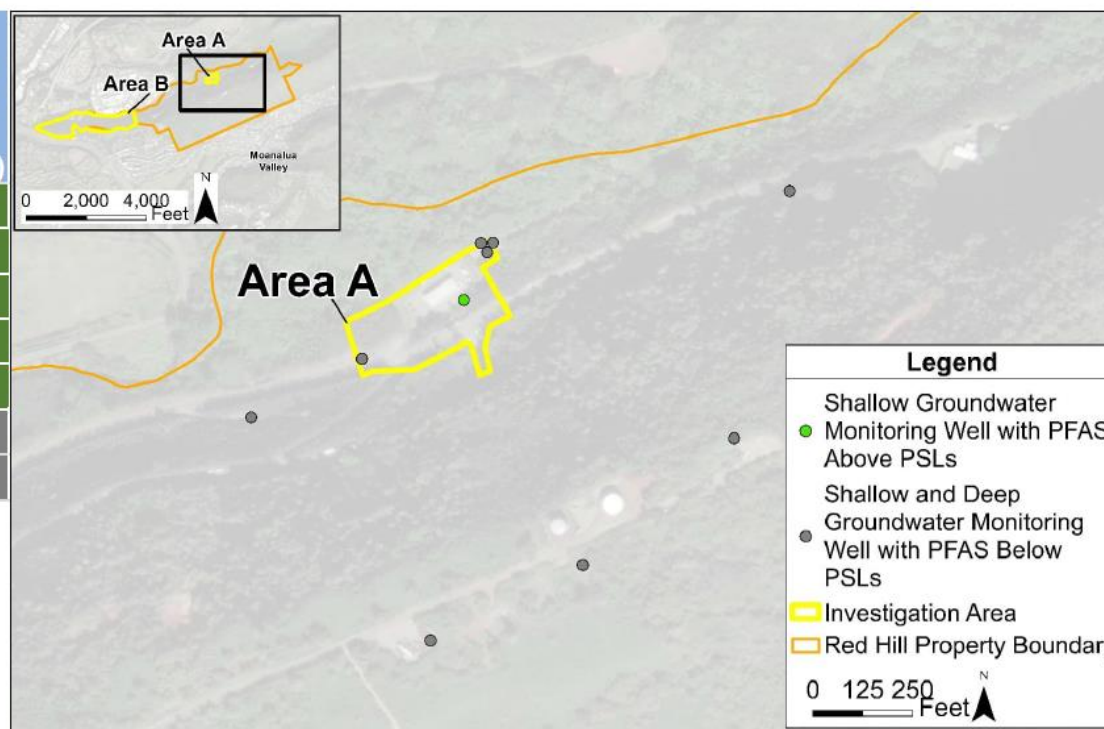
Source: August 27, 2025, Joint Base Pearl Harbor –Hickam –Kalaheo Restoration Advisory Board Meeting Material



PFAS INVESTIGATION AT RED HILL CONT.

Q1 through Q3 Summary of PFAS Results, Area A

PFAS	Minimum – Maximum (parts per trillion)			PSLs (parts per trillion)
	Q1	Q2	Q3	
Shallow Groundwater				
PFHxA	0.083 – 1	0.068 – 0.35	ND – 1,300	990
PFHxS	0.084 – 0.35	0.072 – 0.083	ND – 240	10
PFOA	ND – 0.68	ND – 0.19	ND – 29	4
PFOS	0.12 – 0.65	0.072 – 0.25	ND – 290	4
Deep Groundwater				
No PFAS detected above PSLs				



Notes:

1. The Navy uses EPA-approved methods of sampling and analysis with an EPA-certified laboratory.
2. The table above only includes PFAS that were detected above project screening levels in one or more wells.

EPA = Environmental Protection Agency, United States; ND = not detected; PFAS = per- and polyfluoroalkyl substances; PFHxA = perfluorohexanoic acid; PFHxS = perfluorohexanesulfonic acid; PFOA = perfluorooctanoic acid; PFOS = perfluorooctanesulfonic acid; PSL = project screening level; Q = quarter

August 2025

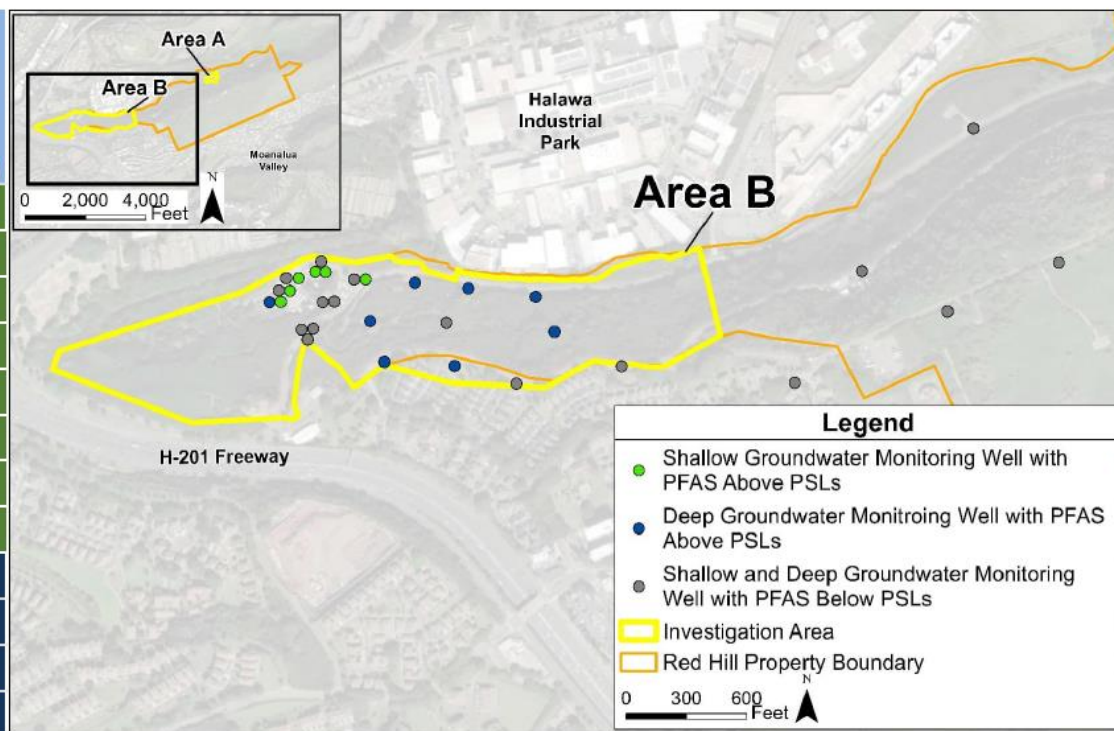
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PFAS INVESTIGATION AT RED HILL CONT.

Q1 through Q3 Summary of PFAS Results, Area B

PFAS	Minimum – Maximum (parts per trillion)			PSLs (parts per trillion)
	Q1	Q2	Q3	
Shallow Groundwater				
PFBA	26 – 2,000	4.8 – 2,100	3.9 – 2,200	1,800
PFHxA	27 – 4,900	1.5 – 4,900	1 – 5,000	990
PFHxS	12 – 62	8.5 – 58	9.6 – 43	10
PFOA	18 – 29	2.3 – 27	3 – 35	4
PFOS	17 – 69	4.3 – 73	5.5 – 64	4
PFNA	1.6 – 2.9	0.75 – 8.2	ND – 7.4	5.9
PFPrA	NA	NA	9.8 – 1,600	980
Deep Groundwater				
PFOA	ND – 8.1	ND – 7.5	ND – 10	4
PFOS	ND – 19	ND – 15	ND – 16	4
PFDA	ND – 0.42	ND – 0.44	ND – 0.56	0.52



Notes:

1. The Navy uses EPA-approved methods of sampling and analysis with an EPA-certified laboratory.
2. The table above only includes PFAS that were detected above project screening levels in one or more wells.

EPA = Environmental Protection Agency; United States; NA = not analyzed; ND = not detected; PFAS = per- and polyfluoroalkyl substances; PFBA = perfluorobutanoic acid; PFDA = perfluorodecanoic acid; PFHxA = perfluorohexanoic acid; PFHxS = perfluorohexanesulfonic acid; PFNA = perfluorononanoic acid; PFOA = perfluorooctanoic acid; PFOS = perfluorooctanesulfonic acid; PFPrA = perfluoropropanoic acid; PSL = project screening level; Q = quarter

August 2025

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PFAS DETECTIONS AT BWS KA‘AMILO WELLS

- Federal Maximum Contaminant Level (MCL) Finalized – April 2024
- Enforcement - April 2029

In this final rule, EPA is setting limits for five individual PFAS: PFOA, PFOS, PFNA, PFHxS, and HFPO-DA (known as GenX Chemicals). And EPA is also setting a hazard index level for two or more of four PFAS as a mixture: PFNA, PFHxS, HFPO-DA, and PFBS:

Chemical	Maximum Contaminant Level Goal (MCLG)	Maximum Contaminant Level (MCL)
PFOA	0	4.0 ppt
PFOS	0	4.0 ppt
PFNA	10 ppt	10 ppt
PFHxS	10 ppt	10 ppt
HFPO-DA (GenX chemicals)	10 ppt	10 ppt
Mixture of two or more: PFNA, PFHxS, HFPO-DA, and PFBS	Hazard Index of 1	Hazard Index of 1

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety and are non-enforceable public health goals.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards.

ppt: parts per trillion

- PFAS detected at levels near the MCL for PFOS (perfluorooctane sulfonic acid)
 - MCL is 4.0 ppt (parts per trillion)
 - One ppt is,
 - 30 seconds out of every million years
 - 1 drop in 20 Olympic sized swimming pools
- Triggered decision to build permanent facility and shut down the wells in May 2025
- In the interim, a temporary water treatment system is under construction



TEMPORARY TREATMENT FACILITY AT KA'AMILO WELLS

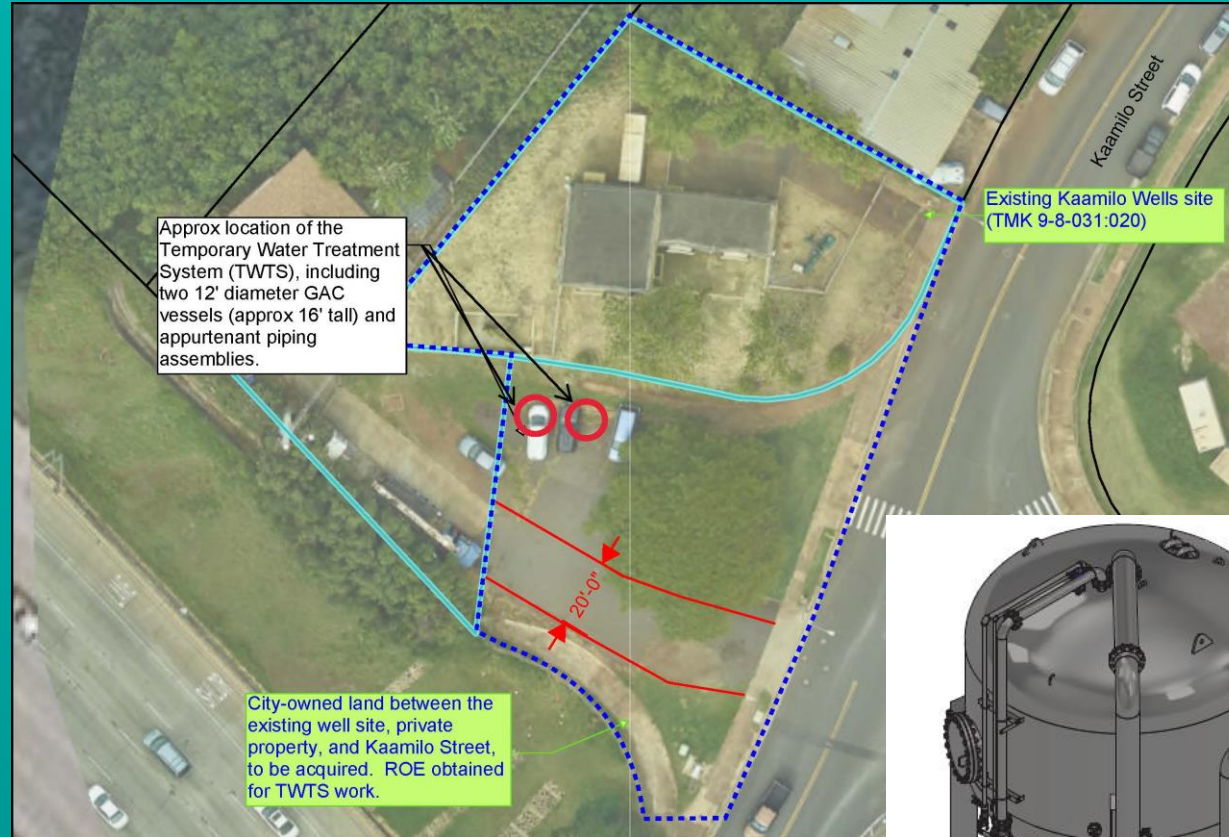
Long Term

Designing and Constructing a permanent water treatment system (Est. Cost \$20M)

Short Term

Installing a Temporary Water Treatment System until the permanent is constructed

- Granular Activated Carbon (GAC) filled metal vessels with piping
- Temporary security fencing



IN CONCLUSION

- Red Hill is NOT pau.
- Our water and land needs to be cleaned up.
- Full remediation of all known and unknown releases from the Red Hill Bulk Fuel Storage Facility will take years, if not decades.
- Further studies into the characteristics of the geology and hydrology of the area are needed.
- PFAS is an emerging contaminant that requires further investigation.
- Stay informed.

Resource:

Navy Closure Task Force –Red Hill:

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

NAVFAC Environmental Restoration:

<https://redhillern.com/>

Environmental Protection Agency:

<https://www.epa.gov/red-hill>

Hawai'i State Department of Health:

<https://health.hawaii.gov/about/red-hill-water-information/>

Board of Water Supply

<https://www.boardofwatersupply.com/protectoahuwater>





Questions?

MAHALO!

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