



POLYCYCLIC AROMATIC
HYDROCARBONS
DETECTED IN BOARD OF
WATER SUPPLY
AIEA WELLS

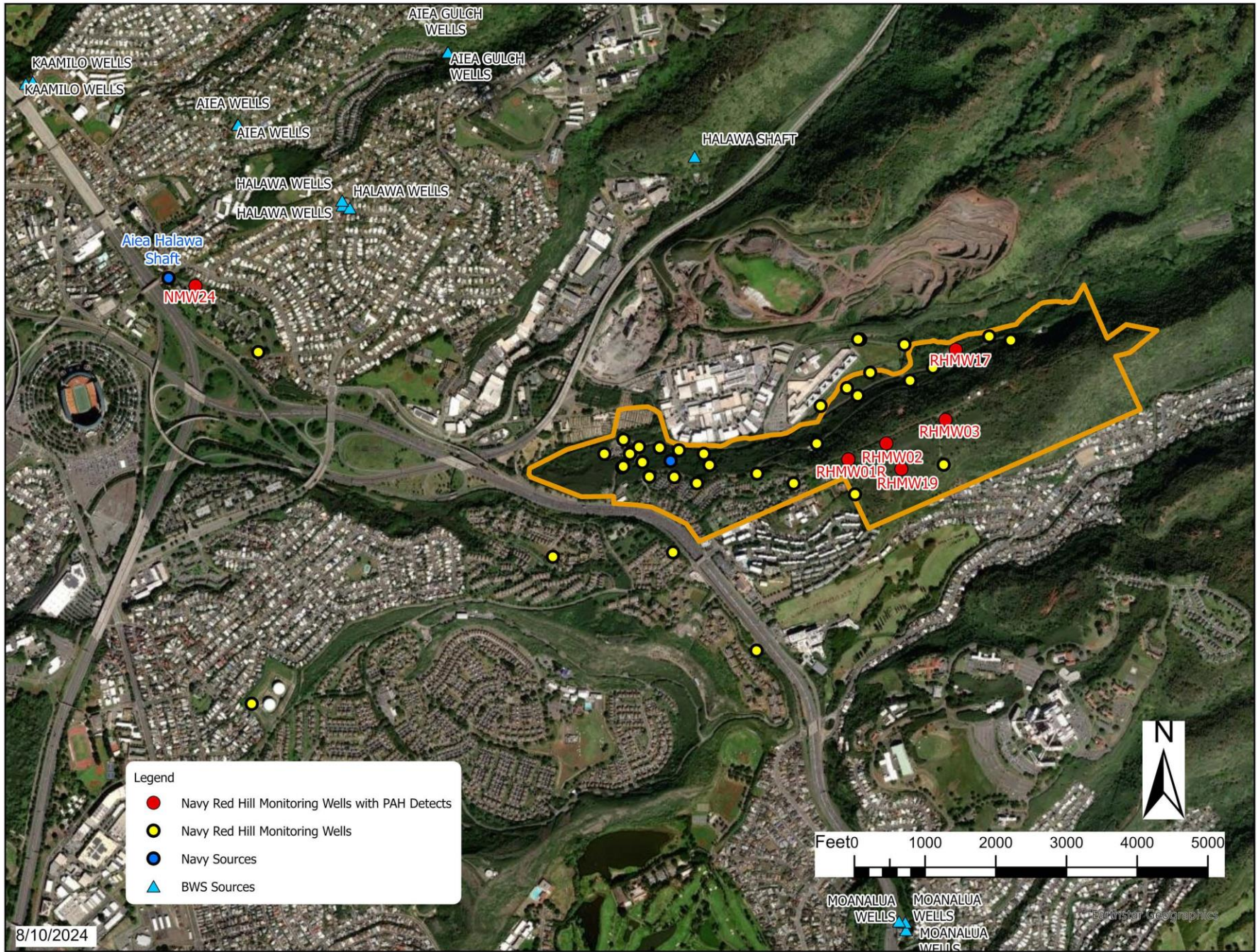
August 2024

boardofwatersupply.com

POLYCYCLIC AROMATIC HYDROCARBONS (PAH) DETECTED IN BWS AIEA WELLS

- Polycyclic aromatic hydrocarbons (PAHs) are a class of chemicals that occur naturally in coal and petroleum products like crude oil, and gasoline.
- PAH occur as complex mixtures of multiple related compounds and are persistent in groundwater.
- The PAH detections at BWS Aiea Wells (inactive wells) are the first time that BWS has observed PAHs in this well.





Navy Monitoring Well (NMW24)		BWS Aiea Wells		8/14/2024		
Sample date: 6/26/2024		Sample Date: 6/4/2024				
Analyte	Results	EPA Method 525.2 Result	EPA Method 625 Result	Navy SL ¹	EPA MCL ²	Hawaii DOH EAL ³
1-Methylnaphthalene	ND	<0.098	0.0113	10	none	10
2-Methylnaphthalene	ND	NA	NA	10	none	10
Anthracene	ND	<0.020	0.00852	0.18	none	1,600
Benzo(a)anthracene	0.099	0.2	0.27	0.029	none	0.052
Benzo(a)pyrene	0.092	0.13	0.0999	0.2	0.2	0.2
Benzo(b)fluoranthene	0.1	0.19	0.213	0.22	none	0.058
Benzo(e)pyrene	ND	NA	0.0857	NA	none	None
Benzo(g,h,i) perylene	0.065	<0.049	0.0489	0.13	none	65
Benzo(k)fluoranthene	0.099	0.077	0.189	0.4	none	0.36
Chrysene	0.09	0.11	0.199	1	none	0.24
Dibenz(a,h)anthracene	0.06	<0.049	0.0269	0.22	none	0.0048
Dibenzo(a,l)pyrene	ND	NA	0.0172	NA	none	None
Fluoranthene	0.23	0.33	0.324	13	none	110
Indeno(1,3,4-c,d)pyrene	0.08	<0.049	0.0786	0.095	none	0.018
Naphthalene	ND	NA	NA	17	none	17
Perylene	ND	NA	0.0361	NA	none	None
Phenanthrene	ND	<0.039	0.0231	214.076	none	250
Pyrene	ND	0.31	0.356	67.5	none	110

Note: all values in ppb or ug/L

1: Screening Level

2: Maximum Contaminant Level

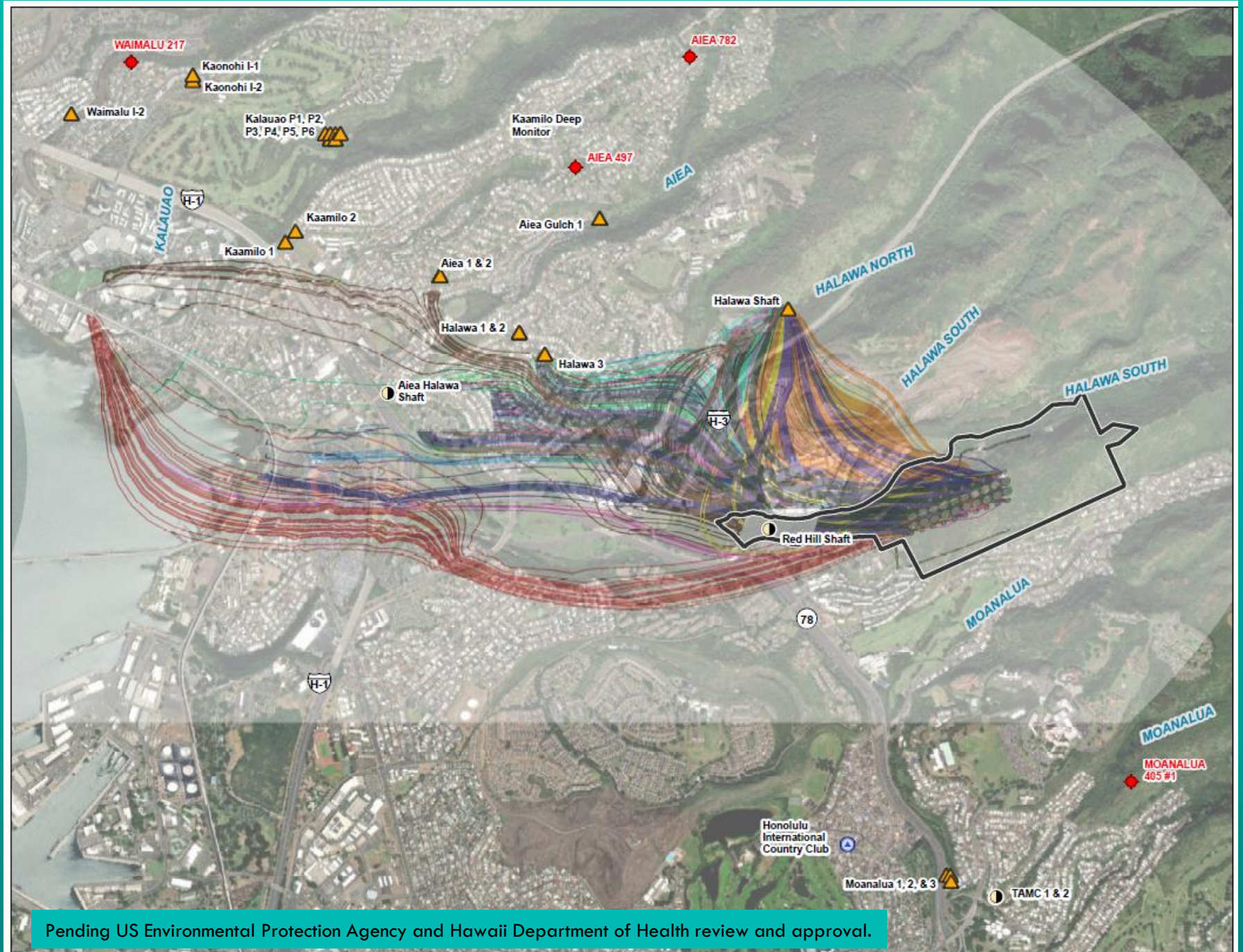
3: Department of Health Environmental Action Level



Navy groundwater model predicts possible directions of contamination from Red Hill facility.

Navy particle track show BWS Aiea Wells to be potential receptor.

BWS stopped pumping Aiea Wells on December 8, 2021, soon after the Navy Red Hill Shaft contamination incident on November 20, 2021.



WHAT DOES THE PAH RESULTS MEAN?

- Reaffirms BWS concerns with past fuel releases from Red Hill and impact to aquifer and environment.
- Reaffirms decision to shut down three BWS wells (Halawa Shaft, Aiea Wells and Halawa Wells) soon after JBPHH water crisis.
- The three BWS wells to remain shut down indefinitely – Restart is uncertain.



WHAT DOES THE PAH RESULT MEAN? – CONT.

- Need better understanding of groundwater flow direction in the aquifer and how past fuel releases can be cleaned up.
- Further study is warranted to assess the potential long-term impact to the aquifer.
- Every Navy monitoring well and water source needs to be tested weekly for all PAHs using EPA method 525.2 and 625.



WHAT DOES THE PAH RESULTS MEAN? – CONT.

- Reaffirms the Red Hill WAI Alliance call for remediation and monitoring in the region.



QUESTIONS / DISCUSSION

