Joint Base Pearl Harbor-Hickam Drinking Water Update

TOPIC: Granular Activated Carbon Systems

The United States Navy is committed to ensuring military personnel and families are safe while serving our country at home or overseas. As part of that commitment, we have pledged to share important health information with you. A rapid and comprehensive effort is being conducted to assess potential health risks due to the release of a jet fuel/water mixture at the Red Hill Shaft. The purpose of this fact sheet is to provide information about potential health risks for people living on JBPHH. We will continue to update you as new information is available.

What is Granular Activated Carbon Treatment?

Granular Activated Carbon (GAC) treatment is a proven technology used to remove organic chemicals from water. As water is filtered through the system, the GAC material adsorps the chemicals in the water.

The GAC filters are made from organic materials high in carbon such as coconut shells, coal, peat, and/or wood. In most cases, heat is used to increase the surface area of and activate the carbon.

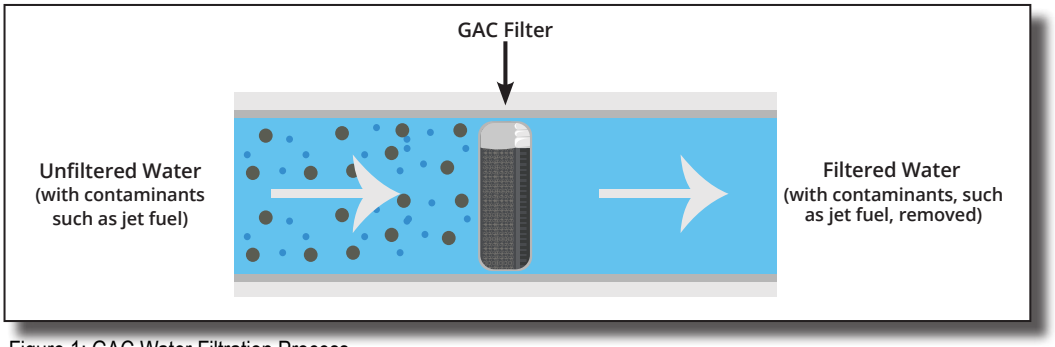

Figure 1: GAC Water Filtration Process

Types of GAC Systems

There are two common types of GAC filter systems: point-of-use and point-of-entry systems. The most common (and familiar) point-of-use systems are GAC pitchers, which are sold at local grocery and department stores. For these systems, water is filtered as it enters the pitcher. Point-of-use filters are commonly used to protect people from inhaling and/or consuming chemicals; therefore, you are most likely to find point-of-use filters in the kitchen.

Another point-of-use filter is a GAC filter installed right before the faucet or fixture. One example of this type of point-of-use system is an under-sink unit, which is installed in the kitchen or bathroom. With this system, water from the main supply line is only filtered at the kitchen or bathroom faucet.

A point-of-entry filter is installed at the water supply source. For these systems, the water is treated prior to use in faucets or fixtures. A mobile point-of-entry GAC system is being used to filter water at JBPHH and is discussed on Page 2.

For more information, go to: www.cpf.navy.mil/JBPHH-Water-Updates

Mobile GAC Treatment Overview

In accordance with the Hawaii Department of Health (HDOH) and United States Environmental Protection Agency (USEPA) approved Sampling and Analysis Plan (SAP), starting after December 18, 2021 the Navy will begin flushing water-supply lines with clean water from the Waiawa Shaft. Water flushed from the supply lines will be treated using a mobile GAC unit and discharged in accordance with HDOH requirements. These mobile units will be placed at designated flushing zones at fire hydrants throughout the JBPHH Water Distribution System. The purpose of the GAC treatment is to ensure that water being discharged to the storm drains is clean and does not pose a threat to the environment.

Once the lines have been flushed, water samples will be collected and analyzed per the SAP. Next steps (e.g., performing addtional zone flushing or proceeding to home-by-home water flushing) will be determined by the Interagency Drinking Water System Team (IDWST) based on the decision criteria presented in the SAP. The mobile GAC unit will be relocated to another flushing zone upon direction from the IDWST.

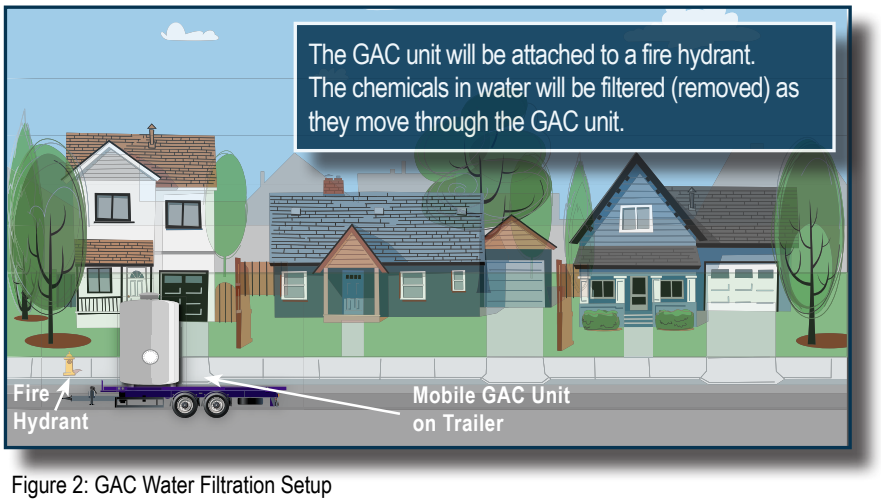

Figure 2: GAC Water Filtration Setup

HDOH Tier 1 EAL Overview

Tier 1 EALs are established health-based soil, soil vapor, or groundwater concentrations at which a contaminant could pose a potential adverse threat to human health and/or the environment. Exceeding a Tier 1 EAL does not necessarily mean contamination poses an unacceptable risk to human health; however, it is a reliable indicator that additional evaluation is needed. Tier 1 EALs are used to quickly identify potential environmental hazards. Concentrations below EALs, even if detected in soil, soil vapor, or groundwater, are assumed to not pose a significant risk to human health or the environment (HDOH 2017).

USEPA MCL Overview

The MCLs are the USEPA-established maximum permissible level of a contaminant that can be present in a drinking water source. The MCLs were established under the National Primary Drinking Water Regulations (NPDWR); the NPDWR are legally enforceable primary standards and treatment techniques for public water systems. The purpose of MCLs is to protect public health by limiting the allowable contaminant levels in drinking water. MCLs are based on the maximum concentration at which no significant effect would occur if contaminated water is consumed over an entire lifetime.

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