



FACT SHEET: GROUNDWATER REMEDIAL ACTION AT OPERABLE UNIT 2B



Alameda, California

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PROJECT CONTACTS

If you have any questions or concerns about environmental activities, please feel free to contact any of the project representatives:

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INTRODUCTION/SELECTED REMEDY

The U.S. Department of the Navy (Navy) has an ongoing cleanup program at sites located throughout the former Naval Air Station (NAS) Alameda, also known as Alameda Point, in Alameda, California. This Fact Sheet provides information on upcoming cleanup activities related to the groundwater underneath Operable Unit (OU)-2B.

OU-2B is located in the east of Alameda Point, to the east of Seaplane Lagoon (see **Figure 1**). This remedial action is being performed at Installation Restoration (IR) Sites 4, 11, and 21. The groundwater plume does not extend beneath IR Site 3, which has been transferred to the City of Alameda. Buildings 360 (IR Site 4), Building 14 (IR Site 11) and Building 162 (IR Site 21) are within the OU-2B boundary.

A plume of volatile organic compounds (VOCs) (primarily trichloroethene and its degradation byproducts) has been identified in groundwater beneath OU-2B. Remedial goals (RGs) specified in the Record of Decision (ROD) address vapor intrusion risk associated with contaminated groundwater from the water table to 30 feet below ground surface, which is the targeted groundwater zone of the remedial action.

In addition to the RGs intended to address vapor intrusion, the ROD, also identifies goals for potential groundwater discharge to the Seaplane Lagoon. Based on modeling conducted during the feasibility study, the ROD estimates that it will take between 25 and 40 years for the RGs to be achieved.

The selected remedy for OU-2B includes treatment of hot spots and remaining shallow groundwater plume using in situ bioremediation (ISB), groundwater long-term monitoring (LTM), and institutional controls (ICs).

The Navy plans to apply ISB at OU-2B through a network of injection wells. A total of 386 injection wells will be installed across the plume area. They will be used to distribute lactose and/or emulsified vegetable oil throughout the targeted treatment zone.

A map showing the overview of the groundwater remediation layout at OU-2B is presented on **Figure 2**.

SITE HISTORY

Former NAS Alameda was an active military installation from the 1930s to 1997. The facility served as a naval air station, with runways, hangars, fuel storage facilities, and aircraft maintenance and overhaul facilities providing support for fleet aviation activities. Standard activities associated with metal plating and paint stripping, aircraft and ship repair, fueling, and engine testing resulted in environmental contamination. NAS Alameda was closed in 1997, and Navy operations within OU-2B ceased at that time.

IR Site 4 is the former aircraft engine facility and is approximately 22.7 acres. Building 360 housed multiple process shops including blast shop, cleaning shop, paint shop, machine shop, welding shop, sheet metal/metal spray/rubber room, various aircraft component repair areas, and testing facilities.

IR Site 11 is the former engine test cell and is approximately 5.4 acres. Building 14 was operated as an aircraft testing and repair facility.

IR Site 21 is the former ship fitting and engine repair facility and is approximately 5.1 acres. Building 162 was operated as a ship and aircraft maintenance shop.

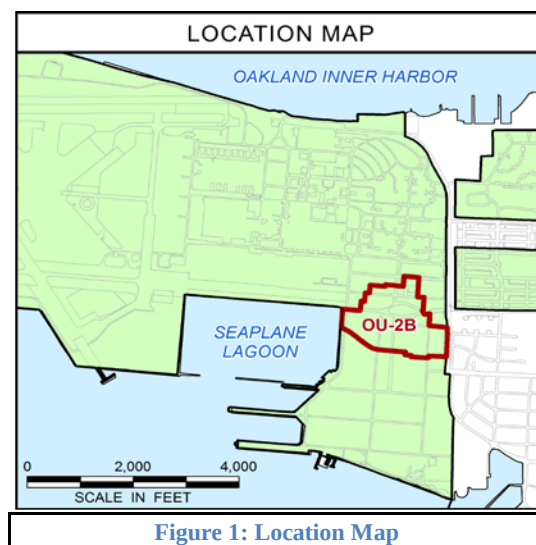


Figure 1: Location Map

REMEDIAL ACTION

This cleanup includes treatment of groundwater using ISB, groundwater LTM, and ICs. Specifically, the cleanup activities include: 1) installation of injection wells; 2) installation of soil gas sampling wells and monitoring wells; 3) injection of lactose and/or emulsified vegetable oil into the subsurface to create a biological in situ reactive zone; and 4) monitoring and reporting.

These cleanup activities are expected to: 1) reduce VOCs concentrations; 2) the LTM will monitor for the residual VOCs in groundwater until the RGs are met; 3) ICs will be implemented to prohibit domestic use of shallow groundwater until the RGs are met; 4) ICs will require vapor mitigation systems for buildings constructed over the shallow groundwater plume plus a 100-foot buffer until VOC concentrations in groundwater do not pose an unacceptable risk due to the vapor intrusion pathway; and 5) ICs will prohibit construction of buildings with ground-floor residential units or occupancies with sensitive receptors (including schools, child care facilities, hospitals, and senior care facilities) overlying the impacted shallow groundwater plus the 100-foot buffer area until RGs are met.

There are a total of four ISB injection events currently scheduled, in April 2018, October 2018; April 2020, and September 2021,

respectively. During each injection event, the lactose and/or emulsified vegetable oil will be injected into wells located in the groundwater plume areas (see figure below). Based on the modeling conducted during the feasibility study, it will take between 25 to 40 years for the RGs to be achieved. As necessary based on monitoring data, injections will be conducted after 2021.

The cleanup plan was approved by federal and state regulatory agencies in November 2017. During all phases of the remediation, health and safety protocols will be in place to protect workers and the community.

PROJECT SCHEDULE AND TRAFFIC IMPACTS

The cleanup activities will commence in December 2017. The majority of activities will be within the OU-2B site boundary with minimal impact to tenants and the public. The work will require the use of heavy equipment during installation of the wells; tank trucks and hoses will be used during injections. Fieldwork will be sequenced by areas to minimize necessary road closures and provide continued access to the area. No significant impact to traffic is expected. Appropriate traffic controls will be used in active work areas, which may have limited access. Traffic controls (e.g., detours, markers, signs) will be positioned before initiating the work.

Figure 2: Groundwater Remediation Layout—Overview

