



NAVAL AIR STATION ALAMEDA

FACT SHEET #4: INSTALLATION RESTORATION PROGRAM UPDATE

MARCH 1993

The U.S. Navy is continuing to investigate 20 sites with actual or potential contamination at the Naval Air Station (NAS) in Alameda, California. The purpose of this fact sheet is to update you on activities that have been conducted at NAS Alameda and future activities that are planned.

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*Terms highlighted in boldface type are explained in the glossary on page 5 of this fact sheet.

Background

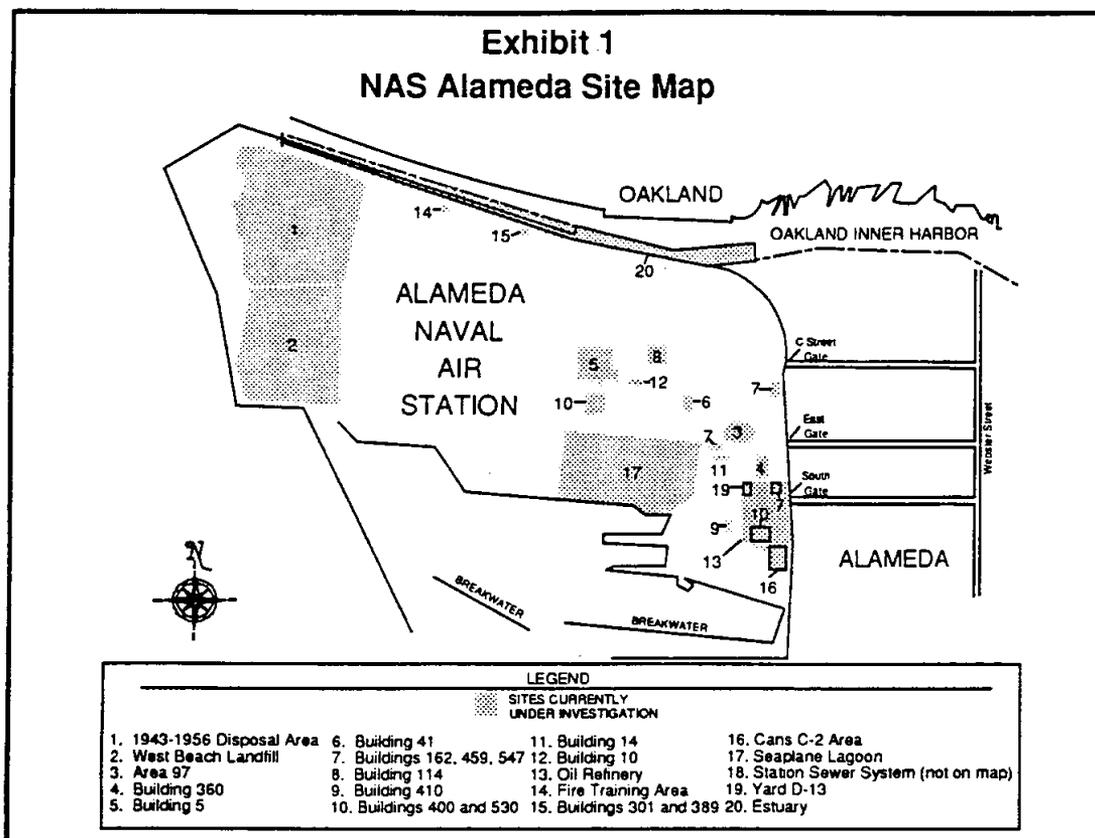
Since the early 1980s, the U.S. Navy has been investigating potential contamination of the environment from past use of hazardous materials at NAS Alameda. These investigations are being conducted under the U.S. Department of Defense's Installation Restoration (IR) program, overseen by the California Department of Toxic Substances Control (DTSC) and the California Regional Water Quality Control Board (RWQCB). The IR program is explained more fully in the article on page 4.

NAS Alameda has sampled soil and groundwater* at the 20 sites. This process is referred to as the Remedial Investigation and involves collecting and analyzing information to determine the nature and extent of any contamination, and how these conditions may affect human health or the environment. A Remedial Investigation may take a few months or several years to complete, depending on the size and complexity of the site being investigated.

The 20 sites are illustrated in Exhibit 1. They can be divided into four broad categories:

- **LANDFILLS:** The landfill areas, including the 1943-1956 Disposal Area and the West Beach Landfill (numbers 1 and 2 on Exhibit 1).
- **INDUSTRIAL SITES AND TRAINING AREAS:** The areas around buildings and training areas, including Area 97, Building 360, Building 5, Building 41, Buildings 162 & 459, Building 114, Building 410, Buildings 400 & 530, Building 14, Building 10, the Oil Refinery area, the Fire Training Area, Buildings 301 & 389, the Cans C-2 area, and Yard D-13 (numbers 3-16 & 19 on Exhibit 1, respectively).
- **SEAPLANE LAGOON AND ESTUARY:** The water areas including the Seaplane Lagoon and the Estuary (numbers 17 & 20 on Exhibit 1).
- **STATION STORM DRAIN SYSTEM:** The Station sewer system (number 18 on Exhibit 1).

In addition to the sites being investigated as part of the Remedial Investigation, NAS Alameda has investigated a jet fuel spill at Building 397 and potential contamination at the Intermediate Maintenance Facility.



What's Been Done To Date

Soil, groundwater, and air samples have been analyzed to determine the nature and extent of contamination at NAS Alameda. Based on the information gathered, the Navy has identified areas that will require further sampling to give a clearer definition of the areas needing cleanup. A sampling plan for new work will be submitted to the regulatory agencies and additional work will begin in early 1993.

The results of all investigations will be available in a final Remedial Investigation/Feasibility Study (RI/FS) report. The feasibility study part of the report will identify and evaluate clean-up alternatives for contamination that has occurred at NAS Alameda.

A detailed explanation of activities at the landfills, around the buildings, and in the water areas follows.

Landfills:

The investigations at the landfills areas include what is known as a Solid Waste Assessment Test, or SWAT. The SWAT uses soil and groundwater sample data to analyze the potential for materials in the landfills to get into the groundwater or the Bay. NAS Alameda installed 72 groundwater monitoring wells at the two landfills and con-

ducted other surveys and analyses to assess groundwater quality and hydrogeological conditions underneath the landfills. A draft final SWAT report is currently being reviewed and the information from the final SWAT report will be included in the RI/FS report. The final SWAT report will be available for public review by mid-1993.

In addition to the SWAT, NAS Alameda conducted a Tidal Influence Study to see how tidal movements in the Bay affect the groundwater underneath the landfills and to see if the chemicals in the groundwater could contaminate the Bay. The study also investigated what direction the groundwater flows. The results of the Tidal Influence Study will be included in the SWAT report.

Industrial Sites and Training Areas:

The first phase of the soil and groundwater sampling for the Remedial Investigation has been completed. After the regulatory agencies approve the sampling plan for additional work, NAS Alameda will take more samples, prepare a risk assessment to evaluate the potential effects of contamination on public health and the environment, analyze clean-up options, and design the cleanup, if necessary.

(continued on page 4)

Future Activities

Investigations of the seaplane lagoon and estuary, the JP-5 jet fuel spill at Building 397, and the Intermediate Maintenance Facility site have begun.

Seaplane Lagoon and Estuary:

Investigations at the Seaplane Lagoon and along the estuary began early this year. The Ecological Assessment will identify possible effects from contamination at NAS Alameda on living things within the area including the Seaplane Lagoon, the Western Bayside, the Oakland Inner Harbor, the Runway Wetland, and the West Beach Landfill Wetland. These investigations will last about one year.

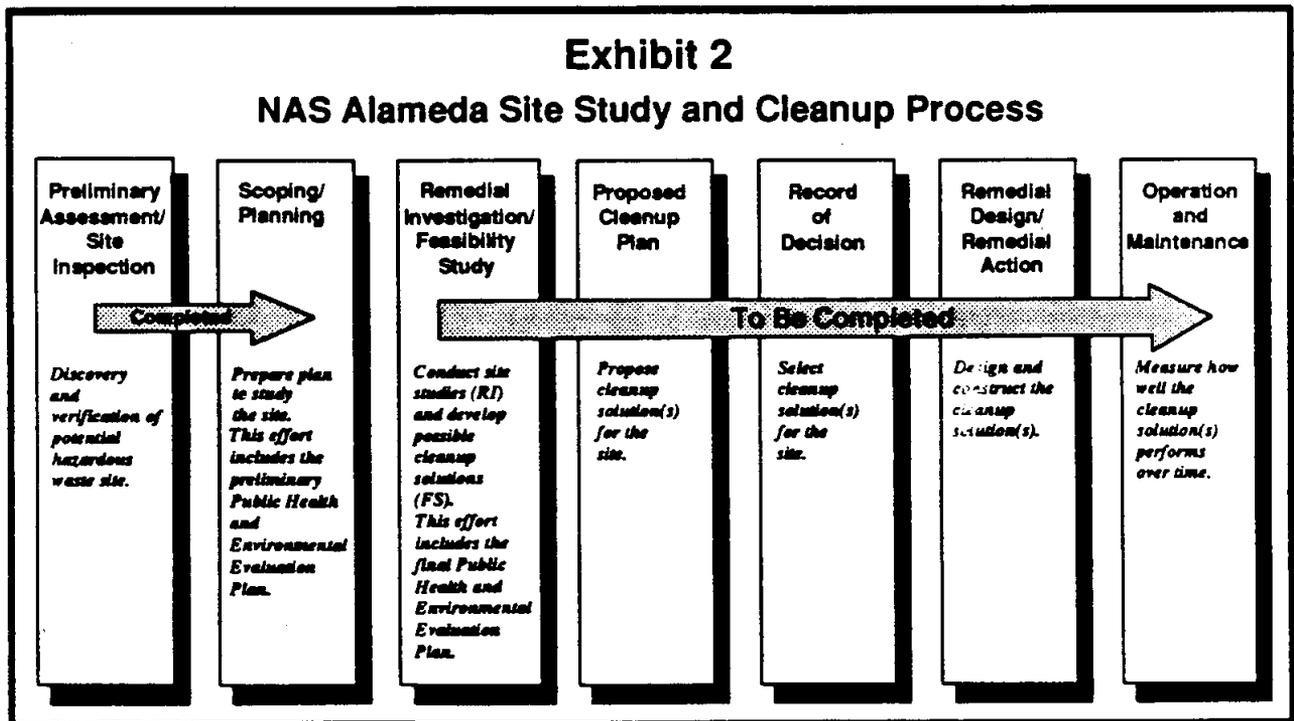
JP-5 Jet Fuel Spill at Building 397:

There was a spill of approximately 17,000 gallons of jet fuel at Building 397 as the result of an open valve. An investigation of the JP-5 jet fuel spill at Building 397 was completed in Fall 1991. A report summarizing the findings and making recommendations for further work was submitted to the agencies in March 1992. The report concluded that JP-5 was in the storm and industrial drain system and may be in the surrounding soil and groundwater.

NAS Alameda is currently removing contaminated soil and an extraction well will be installed to remove additional contaminated groundwater.

Intermediate Maintenance Facility Site:

Sampling conducted at the Intermediate Maintenance Facility (IMF) site in April 1992 indicated the presence of low pH (acidic) conditions and elevated levels of lead in soil and groundwater. Further investigations also indicated the presence of petroleum hydrocarbons. DTSC requested that the Navy perform an evaluation to determine alternatives for cleanup at the IMF. The evaluation will be submitted to DTSC for approval before any cleanup work is begun. The Navy will also prepare a public notice in the form of a fact sheet to let the community know about the interim remedial approach for the IMF site.



The Installation Restoration (IR) Program

The IR program is the U.S. Department of Defense's effort to identify and clean up environmental contamination from past operations at all U.S. military installations across the country. The IR program complies with all State and federal laws regarding cleanup of hazardous waste sites. Since 1980, the Navy has been actively involved in the IR program and has taken an aggressive approach to addressing the problem of hazardous wastes sites at Navy installations nationwide.

The IR process involves seven steps, as illustrated in Exhibit 2. At NAS Alameda, the first two steps -- the Preliminary Assessment/Site Inspection and Scoping/Planning -- have been completed. The next major milestone will be the completion of the Remedial Investigation and Feasibility Study (RI/FS). The RI/FS is a process that involves collecting and analyzing information at a site to determine the type and extent of contamination at a site; establish criteria for cleaning up the site; identify and screen cleanup alternatives for remedial action; and analyze in detail the technology and costs of the alternatives.

The California Department of Toxic Substances Control (DTSC) is the lead regulatory agency for the IR cleanup at NAS Alameda. DTSC reviews work plans and reports and meets with the Navy to ensure that all cleanup activities continue to comply with State and federal laws.

Site Overview

NAS Alameda is located at the west end of the island of Alameda, in Alameda and San Francisco Counties, California. NAS Alameda occupies 2,634 acres and is approximately two miles long and one mile wide. Most of the eastern portion of the Air Station has been developed with offices and industrial facilities, while runways and support facilities occupy the western part. (See Exhibit 1).

Hazardous waste contamination at NAS Alameda is the result of numerous routine operations conducted at the facility between the 1940s and late 1970s. This was a period when relatively little was known about the impacts of hazardous materials and when stringent federal and State hazardous waste disposal regulations were not in effect. Typical NAS Alameda operations during this time included: metal plating; paint removal; aircraft maintenance, fueling and engine testing; vehicle fueling; pest control; missile reworking; operation of a power plant and a fire station; and waste disposal at two landfill sites on base.

The known or suspected contaminants that have been identified to date at NAS Alameda

include **heavy metals** (such as lead and cadmium); some **organic compounds** including petroleum products (aviation fuel, oil, and grease), solvents, pesticides, and the chemicals **benzene, toluene, and xylene**; plating chemicals; paint; and **polychlorinated biphenyls (PCBs)**. The preliminary studies indicate that none of the identified sites poses an immediate threat to public health. NAS Alameda has distributed a fact sheet to workers on the base that gives details on the areas of contamination and proper safety procedures to avoid exposure to contaminated materials.

What's Been Done To Date (continued from page 2)

Water Areas:

Studies are currently being made in the Seaplane Lagoon and the Estuary. NAS Alameda submitted an Ecological Assessment Plan to the agencies to address both public health and environmental concerns. The Ecological Assessment Work Plan was approved by the agencies in June 1992.

Glossary

Benzene

A highly flammable chemical compound found in dyes, varnishes, and lacquers. Inhaling or swallowing benzene can irritate the linings of the lungs and stomach, and can cause restlessness and convulsions. Exposure to benzene over a long period of time can harm bone marrow and can cause leukemia on rare occasions.

Groundwater

Water beneath the earth's surface that flows through spaces between soil and rock. Groundwater supplies wells and springs.

Heavy Metals

Any of the high atomic weight metals such as lead, mercury, cadmium and zinc. All constitute a serious pollution threat because of their toxicity in relatively low concentrations and their tendency to accumulate in living tissues.

Hydrogeological/Hydrogeology

A branch of science that studies how water flows on the surface and through the ground.

Monitoring Well

Special groundwater wells installed to sample groundwater from various depths. Samples from monitoring wells are analyzed to determine the direction of groundwater movement, the types of contamination present, and how far the contamination has traveled.

Organic compounds

One of two classes of chemicals, organic and inorganic. Organic compounds are distinct from inorganic chemicals because they contain both carbon and hydrogen. Petroleum, solvents, and pesticides are examples of organic compounds.

pH

A measure of the acidity or alkalinity of a substance. The pH scale goes from 0 to 14, with 0 being the most acidic and 14 being the most alkaline. Water has a pH of 7, which is neutral.

Petroleum hydrocarbons

Organic compounds found in fossil fuels, some of which are major contributors to air pollution.

Polychlorinated biphenyls (PCBs)

PCBs are a family of chemical compounds used from 1926 to 1976 in electric transformers as insulators and coolants, in adhesives, and in caulking compounds. PCBs were banned in 1976 by the U.S. Environmental Protection Agency due to hazard to human health. PCBs are stored in the fatty tissues of humans and animals, and large doses or exposure over a long period of time can lead to liver damage; they also are suspected to cause cancer.

Remedial Design

The engineering phase when technical drawings and design plans are developed for the remedial action chosen for a site.

Remedial Investigation/Feasibility Study

A two-part study in which information is gathered and analyzed to define the nature and extent of contamination at a site, to identify and screen cleanup alternatives for remedial action, and to analyze in detail the technology and costs of the alternatives.

Risk Assessment

A study performed to determine the actual or possible risks to human health and the environment posed by hazardous substances at a site. The risk assessment evaluates both cancerous and non-cancerous health effects.

Toluene

A chemical compound found in solvents, medicines, dyes, airplane fuels, and explosives. Pregnant women exposed to toluene can increase the chance of cleft palate in their unborn babies.

Xylene

A chemical compound commonly found in airplane fuel, solvents, enamels, and rubber cement. Exposure to xylene can damage the brain and spinal cord and can irritate the lungs, nose, and throat.

Where To Get More Information

This fact sheet is part of the on-going community relations program to keep individuals informed of cleanup activities at NAS Alameda.

If you have any questions about the upcoming investigations at NAS Alameda or would like to be placed on our mailing list, please contact:

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NAS Alameda, (Code 524)
Building 114, Room 209
Alameda, CA 94501-5000
(510) 263-3724

or

Lt. Mike Petouhoff
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NAS Alameda, (Code 52)
Building 114, Room 211
Alameda, CA 94501-5000
(510) 263-3726

Copies of the community relations plan and all site-related documents are available at the information repository in Alameda:

Alameda Public Library
Main Branch
2264 Santa Clara Avenue
Alameda, CA 94501
(510) 522-5413

Hours: Monday and Wednesday – 9:30 a.m. to 9 p.m.
Tuesday, Thursday, Friday and Saturday – 9:30 a.m.
to 5:30 p.m.
Sunday – closed

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