

## Department of Defense



# Installation Restoration Program Update Status of Investigation and Cleanup

Naval Air Station Joint Reserve Base  
Air Force Reserve Station  
Willow Grove, Pennsylvania

Fact Sheet No. 4  
SEPTEMBER 2000

## INTRODUCTION

This is the fourth in a series of fact sheets to inform the public and community leaders of environmental activities at the Naval Air Station Joint Reserve Base (NASJRB) and Air Force Reserve Station (ARS), Willow Grove, Pennsylvania. This fact sheet provides information about Navy and Air Force Installation Restoration Program (IRP) activities. The purpose of the IRP is to identify and clean up former waste disposal sites at Department of Defense installations. The status of environmental investigations, clean-up actions, and other IRP developments at NASJRB and Air Force Reserve Station, Willow Grove is summarized below.

## ACTIVITIES OF THE RESTORATION ADVISORY BOARD (RAB)

Based on joint guidelines issued by the Department of Defense and the United States Environmental Protection Agency (EPA), a RAB

was established in 1996 at NASJRB and ARS, Willow Grove to promote public involvement in environmental clean-up activities. The RAB replaced the previous Technical Review Committee (TRC), which was a group composed of Navy and Air Force representatives, their consultants, EPA, the Pennsylvania Department of Environmental Protection (PADEP), and representatives of local government who met periodically to discuss facility environmental developments. The RAB includes those agencies but also encourages participation by community residents, business people, and representatives of civic groups. The RAB's intent is to bring together community members who reflect the diverse interests of the local community to promote direct two-way communication between the local community and the facility.

Since August 1996, the RAB has met quarterly to receive updates on Navy and Air Force IRP activities. Active RAB members receive reminders of upcoming RAB meetings in the

mail as well as environmental program documents for review. RAB meetings, which are advertised in local newspapers, are open to the public and community members are encouraged to attend.

## **ENVIRONMENTAL ACTIVITY**

The principal Navy IRP sites include NAS Site 1 - Privet Road Compound, Site 2 - Antenna Field Landfill, Site 3 - Ninth Street Landfill, Site 5 - Fire Training Area, and Site 10 - Navy Fuel Farm. Figure 1 shows the locations of the Navy IRP sites. Table 1 summarizes previous investigations and current program status. The principal Air Force sites include ARS Site 1 - Petroleum, Oil and Lubricants (POL) Area and ARS Site 4 - Aircraft Washrack Area.

### **Phase II Remedial Investigation (RI)**

The Navy conducted Phase II RI field activities in the spring and summer of 1997 at NAS Sites 1, 2, 3, and 5. The goal of the Phase II RI was to fill data gaps identified from previous investigations and collect additional information needed to perform human health and ecological risk assessment for these sites. Field work was completed in August 1997. The Phase II RI Report (draft) was submitted for regulatory review in April 1998. Copies of the Phase II RI report (or the "Executive Summary" of the Phase II RI report) were distributed to RAB members according to their preference. A summary of Phase II RI results was presented to the RAB on September 10, 1998.

Comments from RAB members and partial review comments from EPA have been received. Final disposition of the Phase II RI Report (draft) depends on receipt of final comments from the regulatory community.

### **Navy Fuel Farm (NAS Site 10)**

This site is the location of a fuel spill discovered in 1988. Remedial investigations and pilot clean-up studies were implemented at the site. Since 1997, the Navy has operated a clean-up system consisting of contaminant extraction wells in a network, vacuum pumps to move contaminated liquids and vapor, and a treatment system using liquid-phase activated carbon to capture the contaminants for disposal.

The goal of the cleanup at the Navy Fuel Farm is to remove the spilled fuel from the soil and groundwater in the vicinity of the Navy Fuel Farm Site to reduce potential risks to people and the environment.

### **Privet Road Compound (NAS Site 1)**

Site 1 was formerly used as a waste-handling and transfer station. In response to the findings of the RI, approximately 1,100 tons of soil containing low levels of polychlorinated biphenyls (PCBs) was removed off-station. Soil excavation and removal began on June 2, 1999. Contaminated soil was removed from the excavation area until clean-up confirmation samples taken within the excavation area showed that the remaining soil complied with the strictest clean-up guideline for soil found in residential areas. Clean soil was backfilled into the excavation beginning on August 7, 1999. Final grading and landscaping were completed in October 1999. The contaminated soil was sent to Clean Earth, of New Castle, Delaware, for thermal treatment and disposal. The Navy plans no further action for PCBs in this area.

### **Antenna Field Landfill (NAS Site 2)**

Site 2 was once used for solid waste disposal. The Phase II RI report concluded that there was no substantial concern from any site conditions

to humans, animals or plants residing at the area or passing through. No further action is deemed necessary at Site 2.

### **Ninth Street Landfill (NAS Site 3)**

Site 3 is an area formerly used to dispose of solid waste and conduct salvage yard operations. The Phase II RI report noted concerns with sediments in the pond near this site and with groundwater in the vicinity. The report recommends that further investigation and analysis of options for pond sediments be discussed with the U.S. Government Biological Toxicity Assessment Group (BTAG). For groundwater found to be contaminated with chlorinated solvents, the report recommends additional monitoring well installation, sampling and analysis, and development of a feasibility study (FS) to evaluate remedial options.

### **Former Fire Training Area (NAS Site 5)**

The fire training area is a grass-covered and overgrown area where flammable liquids were stored in drums and later burned as part of fire training exercises. The Phase II RI report noted concerns with compounds in surface soils near the former burning area and with groundwater contaminated with chlorinated solvents. The Phase II RI recommended an FS to consider risks from site soils to humans, animals or plants residing at the area or passing through, and to evaluate options for Site 5 groundwater.

Informal comments from EPA questioned the extent of the volatile solvent plume in groundwater. EPA also suggested the possibility that chlorinated solvent from the former solvent storage area, located in the northwestern corner of the site, could have moved against the predominant groundwater flow direction to a position upgradient of the main contamination plume.

At the RAB meeting held on June 7, 2000, the Navy described additional monitoring well installation and hydrogeological investigation planned to respond to EPA concerns at Site 5.

### **Water-Level Studies**

At the request of the Navy, the United States Geological Survey (USGS) has performed hydrogeological studies in the general vicinity of NASJRB Willow Grove sites. Water levels facility-wide and in nearby wells were measured to produce a water-level map for the vicinity of the Air Station.

A municipal water supply well owned by Horsham Township [Horsham Township well number 26 (H-26)] is located near NAS Site 5, the (former) Fire Training Area. A temporary shut-down test was performed at H-26 to measure the effects of the shutdown on nearby wells. Measurable impacts on monitoring wells 02MW011 at NAS Site 2 and 05MW111 at NAS Site 5 were recorded among other less notable effects. The results of this study confirmed the conclusion in the Phase II RI report that contaminated groundwater from Site 5 does not reach off-station water supply wells.

USGS and the Navy also studied water levels, geology, and water quality in the vicinity of two Navy production wells (NW-1 and NW-2) located near NAS Site 1. These studies were performed during the replacement of the two Navy water supply pumps in those wells. Both old groundwater supply pumps had been installed over 50 years ago. Replacement of those old pumps enabled the Navy to perform the hydrogeological studies in NW-1 and NW-2 recommended by the Phase II RI report.

Results of the USGS studies were summarized at the June 7, 2000 RAB meeting and will be

documented in a report from USGS this autumn (2000).

#### **Washrack Area Site (ARS Site 4)**

The Air Force performed investigations in 1997 at and near the washrack area (an aircraft washing facility where paint stripping has been performed in the past), where residual cleaning solvents such as trichloroethene (TCE) exist in the groundwater. The washrack is part of Site SD-04, which included the washrack, associated structures, an oil/water separator, a trickling filter bed, two storage buildings, and a ditch located to the east. Conclusions in the draft source identification report state that:

- Soils at SD-04 are not the source of chlorinated solvents in the groundwater.
- Groundwater flow conditions indicate that Site SD-04 is not the source of chlorinated solvents in the Navy supply wells.
- Site SD-04 is not the source of chlorinated solvents in groundwater.

Final disposition of the draft source identification report depends on the receipt of final comments from the regulatory community.

#### **Air Force POL Area (ARS Site ST-01)**

ARS Site 1 is the location of leaks and spills of JP-4 and sludge disposal from the POL area, located adjacent to this site, prior to 1979. The Air Force is moving ahead with on-base testing and evaluation of methods to remove remaining oil from the fuel spills. A system with a biological treatment approach that utilizes indigenous bacteria, which are enhanced by increasing the available oxygen in the groundwater was installed on-base only in 1998. Pilot-scale tests to evaluate the effectiveness of

oxygen release compound (ORC) treatment to promote natural biodegradation will be completed by the end of the calendar year 2000. Collection and analysis of groundwater samples demonstrate that the plume continues to shrink. A report of findings will follow completion of the pilot test next year. In calendar year 2001, the ORC approach will also be applied to the off-base properties after the new lease/access is obtained for these properties.

#### **Navy Jet Mishap Site**

During the Air Show hosted by the Navy in June 2000 there was a mishap involving a Navy F-14 Tomcat off-station near the intersections of Horsham Road and Norristown Road. Sampling and analysis performed by the Navy after the mishap detected fuel-type residues in the soil of the site. Concentrations of fuel compounds found in the surface soil exceeded the most stringent PADEP clean-up criteria for impacts from subsurface soil to groundwater. The Navy proposed a voluntary clean-up and verification program that was accepted by PADEP. Clean-up of soils at the site began in July 2000 with Phase I clean-up completed by Fall. Tree planting in the Spring of 2001 will complete the Navy response in the area.

#### **UPCOMING ACTIVITIES**

- The Navy will prepare and submit a feasibility study (FS) for groundwater at NAS Site 5.
- The Navy will prepare and submit a Preferred Remedial Action Plan (PRAP) recommending no further action (NFA) for soils at NAS Site 1. If approved, then a NFA Record of Decision (ROD) would be pursued.

- The Navy will finalize the RI for NAS Site 2 and initiate discussions with the regulatory community regarding the need for further investigations at NAS Site 3.
- The Navy will continue operation, evaluation, and optimization of groundwater remediation at NAS Site 10.
- The Air Force will review the pilot-scale groundwater ORC program results at the POL Area.
- NASJRB Willow Grove will perform clean-up and verification analysis of fuel in the soil at the F-14 crash site. Cleanup will be followed by landscaping and planting of trees to replace those damaged in the crash.

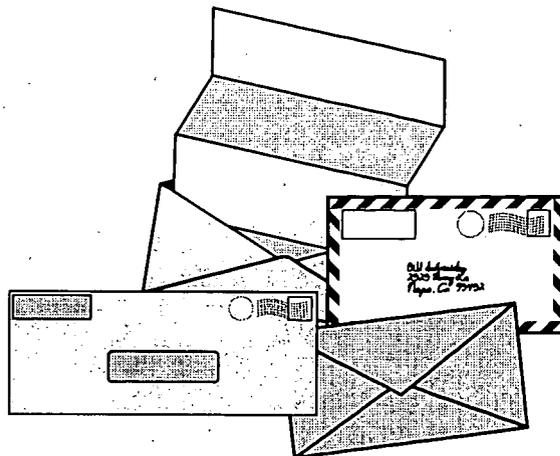
Community interest in environmental restoration at NASJRB and ARS, Willow Grove continues. The Navy and Air Force consider this interest a positive statement with regards to the role the air station plays in the local community. Through regular meetings of the RAB, it has been possible to engage interested community members in the discussions regarding environmental issues at the air station. In order to inform and thereby involve even more interested community members, this and subsequent fact sheets will be prepared to disseminate the news of IRP activities at NASJRB and ARS, Willow Grove.

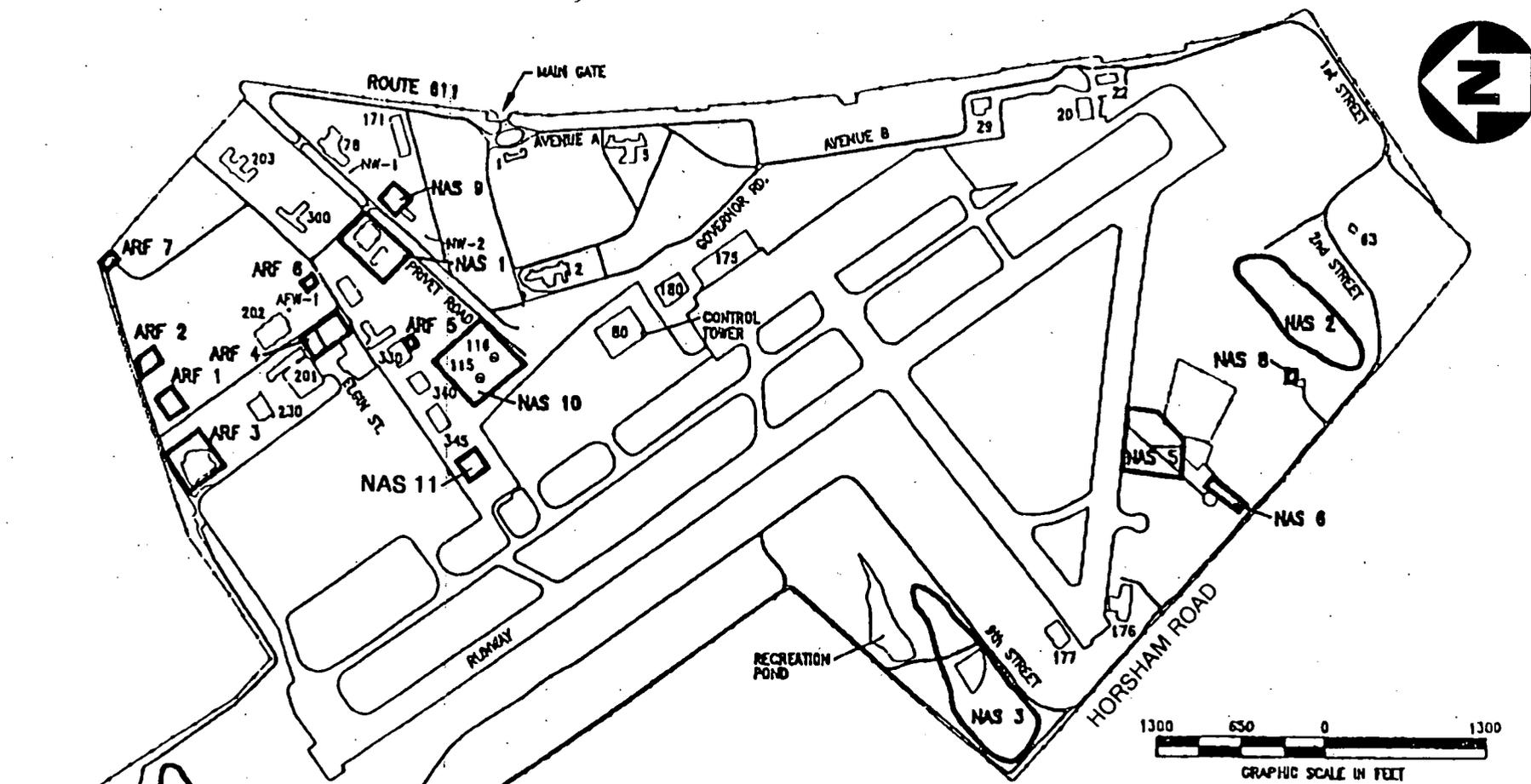
As always, the Navy's and Air Force's primary concern is the protection of the health and welfare of our people and our neighbors. We will continue to keep you informed of progress, and we encourage you to continue active interest and participation in our efforts to safeguard our shared environment.

## POINTS OF CONTACT

For more information regarding the RAB, contact Jim Edmond of the NASJRB Willow Grove Environmental Office. He can be reached at (215) 443-6939. The Navy point of contact for all other environmental issues regarding the NASJRB IR program is Jim Colter, of the Northern Division, Naval Facilities Engineering Command, at (610) 595-0567, extension 163.

The Air Force point of contact is Charanjit Gill. He can be reached at (215) 443-1105. The Air Force Public Affairs Office contact person is Major Marge McGlenn at (215) 443-1100.





**INSTALLATION RESTORATION PROGRAM SITES**

**INVESTIGATED AND CLEARED**

- NAS 4 - NORTH END LANDFILL
- NAS 6 - ABANDONED RIFLE RANGE NO. 1
- NAS 7 - ABANDONED RIFLE RANGE NO. 2
- NAS 8 - BLDG. 118 ABANDONED FUEL TANK
- NAS 9 - STEAM PLANT BLDG. 6 TANK OVERFILL
- ARF 5 - BLDG. 330 WASTE OIL STORAGE AREA
- ARF 6 - HEATING PLANT
- ARF 7 - OLD WELL HOUSE

**INVESTIGATION ONGOING**

- NAS 1 - PRIVET ROAD COMPOUND
- NAS 2 - ANTENNA FIELD LANDFILL
- NAS 3 - 9TH STREET LANDFILL
- NAS 5 - FIRE TRAINING AREA
- ARF 4 - WASHRACK AREA

**CLEANUP UNDERWAY**

- NAS 10 - NAVY FUEL FARM
- ARF 1 - POL AREA
- ARF 2 - OPEN STORAGE AREA NO. 42
- ARF 3 - PONDING BASIN

**NAVAL AIR STATION JOINT RESERVE BASE  
WILLOW GROVE, PENNSYLVANIA  
FIGURE 1**

**TABLE 1  
SUMMARY OF IR PROGRAM STATUS**

Potentially Contaminated Site	PA Recommendation for SI	SI Performed	SI Recommendation	ESI Recommendation Result	Phase I RI Performed	Phase II RI Performed
NAS Site 1, Privet Road Compound	Yes	Yes	RI/FS		X	X
NAS Site 2, Antenna Field Landfill	Yes	Yes	RI/FS		X	X
NAS Site 3, 9th Street Landfill	Yes	Yes	RI/FS		X	X
NAS Site 4, North End Landfill	Yes	Yes	NFI			
NAS Site 5, Fire Training Area	Yes	Yes	RI/FS		X	X
NAS Site 6, Abandoned Rifle Range No. 1	No	No	NFI			
NAS Site 7, Abandoned Rifle Range No. 2	No	Yes	ESI	NFI		
NAS Site 8, Building No. 118 Abandoned Fuel Tank	No	Yes	NFI			
NAS Site 9, Steam Plant Building No. 6 Tank	No	Yes	NFI			
NAS Site 10, Navy Fuel Farm	NA	Yes	RI/FS		Remediation underway	
NAS Site 11, Aircraft Apron Parking	NA	Yes	RI/FS		Jet fuel suspected in soil	
ARS Site 1, POL Area	Yes	An RI/FS managed by the Air Force has been completed			Remediation underway	
ARS Site 2, Open Storage Area No. 42	Yes	An RI/FS managed by the Air Force has been completed			NFRP recommended	
ARS Site 3, Ponding Basin	Yes	An RI/FS managed by the Air Force has been completed			X	NFRP recommended
ARS Site 4, Washrack Area	Yes	Yes	ESI	Continue Grounwater Monitoring	X	X
ARS Site 5, Building No. 330 Waste Oil Storage Area	Yes	Yes	*		NFRP recommended	
ARS Site 6, Heating Plant	Yes	Yes	NFI		NFRP recommended	
ARS Site 7, Old Well House	Yes	No	NFI		NFRP recommended	

PA = Preliminary Assessment  
 ESI = Extended Site Inspection  
 NFI = No Further Investigation  
 VOC = Volatile Organic Compounds

SI = Site Inspection  
 RI/FS = Remedial Investigation/Feasibility Study  
 \* = Further investigation within the scope of NAS Site 10  
 PCB = Polychlorinated Biphenyls

NA = Not Applicable  
 RI = Remedial Investigation  
 NFRAP = No Further Response Action Planned

Department of the Navy  
NASJRB Willow Grove  
Code 005  
Willow Grove, Pennsylvania 19090-5010

## FOR FURTHER INFORMATION

If you did not receive this fact sheet in the mail and wish to be placed on the mailing list for future information pertaining to this base, please fill out, detach, and mail this form to

Public Affairs Officer  
NASJRB, Code 005  
Willow Grove, Pennsylvania 19090-5010

Name \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
Affiliation \_\_\_\_\_  
Phone (    ) \_\_\_\_\_