



**TETRA TECH**

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Subject: Distribution of RAB Meeting Minutes, September 17, 2008  
NAS JRB Willow Grove, Pennsylvania

Dear Restoration Advisory Board (RAB) Member:

At the request of Curt Frye of the Navy's Base Realignment and Closure (BRAC), Program Management Office (PMO), Northeast, copies of the RAB meeting minutes for the RAB meeting held on September 17, 2008 are enclosed. Questions should be addressed to Gloria Abarca, the RAB Coordinator for the Naval Air Station Joint Reserve Base, Willow Grove, at (215) 773-2106.

Sincerely,

Russell E. Turner  
Project Manager

RET/cc

Enclosure: RAB Meeting Minutes  
Presentation Handouts  
Distribution List

c: Garth Glenn (Tetra Tech)  
File 3.2

**DISTRIBUTION LIST  
NASJRB WILLOW GROVE  
RESTORATION ADVISORY BOARD MEETING  
SEPTEMBER 17, 2008**

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Choate, Peter and Margaret  
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Cunningham, Lisa  
Downs, William L.  
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Frye, Curt  
Gemmill, Mary (Liz)  
Glemser, Tina Marie  
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Vetrini, James, J  
Vine, Eleanor  
William, Robert P.

## NAS JRB WILLOW GROVE RAB MEETING No. 36 (IR SITE TOUR) MINUTES

Meeting Date: September 17, 2008  
 Meeting Time: 6:00 p.m.  
 Meeting Place: NAS JRB Willow Grove Orion Club Parking Area

	<u>Name</u>	<u>Organization</u>
Attendance:	Mary (Liz) Gemmill (R)	Community Co Chair
	Peter J. Choate (R)	RAB Member
	Margaret E. Choate (R)	RAB Member
	Rick Myers (R)	RAB Member
	Eric Humphreys (R)	NAS JRB Willow Grove Executive Officer, RAB Co Chair
	Curtis J. Koval	Navy, Willow Grove
	Bob Lewandowski (R)	Navy, BRAC, PMO
	Curt Frye (R)	Navy, NAVFAC
	Gloria Abarca (R)	Navy, Willow Grove
	Hal Dusen (R)	Navy, Willow Grove
	Richard Frattarelli	Air National Guard
	Charles Clark (R)	PADEP
	Jessica Kasmari (R)	PADEP
	Russ Turner	Tetra Tech NUS, Inc
	(R) Designates RAB Member	

Bob Lewandowski welcomed everyone and thanked them for coming to the 36th Restoration Advisory Board (RAB) meeting, mentioning that the meeting would consist of an Installation Restoration (IR) program site tour as requested by RAB members.

Russ Turner introduced himself as the project manager for the Navy's consulting contractor, Tetra Tech and provided a brief historical background of the Air Station, beginning as a small air field purchased in the early 1940's by the government to support war efforts. In the execution of its assigned Department of Defense (DoD) missions supporting training and warfare efforts over the years, some waste handling practices lead to contamination of Base property. The Navy is currently actively working together with the community, EPA and PADEP to remedy IR program sites that were contaminated by past practices. Mr. Turner explained that there has been progress made toward remediation at each of the Navy's sites under the Navy's IR site cleanup program. Three site operable units (OUs), Site 1 soil, Site 5 soil and Site 1 groundwater have progressed to signed Records of Decision (RODs).

Curt Frye provided each tour attendee with a copy of a printed handout (attached), consisting of a short written synopsis of activities completed at each of the four Navy sites and one Air Force site to be visited. The handouts included figures helpful to visualize each site and its location on the Air Station property. Before the bus moved to the first site, Site 1 - Privet Road Compound, Mr. Frye mentioned that the historical off-Base source of groundwater contamination beneath Site 1 is suspected to be near the north end of the commercial facility east of Route 611, across from the parking area where the bus tour began, possibly near the former Kellett Aircraft manufacturing facility.

At Site 1 Mr. Frye referred to the handout sheet for Site 1, pointing out monitoring wells, the Bowling Alley, the Navy potable water supply wells, the water treatment air stripper tower, and discussed contaminants in groundwater as well as the previous soil removal action for PCBs in soil. A general discussion ensued with RAB community member questions and answers.

Lt. Col. Richard Frattarelli provided an update on investigations and pending remedial action at the Air Force POL (fuel spill site) at the northern end of the Base. Historically, this area resulted from a jet fuel spill in the late 1970's. Over the last five to ten years, the Air Force developed a remedial strategy of combining chemical oxidation in-situ and biosparging. Lt. Col. Frattarelli mentioned that site remediation

work will concentrate on removal and segregation of contaminated soil along the natural gas right-of-way, adjacent to the Base north of the fuel storage tanks. Contaminated soil will be placed in a currently disused hangar for bioremediation. Soil that is deemed uncontaminated according to chemical analysis, will be returned to the excavation after the pipeline owner completes maintenance activities on each section of the exposed pipeline. Clean soil will be purchased and placed into the excavation as necessary to replace soil removed for bioremediation. The Air Force Reserve is currently seeking permit approval to treat water from the planned excavation in a treatment plant placed on the site for that purpose. Treated water would be discharged to the creek if the permit is approved by PADEP.

Referring to the Base-wide figure in the handout, Mr. Frye stopped the bus and pointed to Site 4- the former North End Landfill, located north of the runway. This was a potential IR site investigated by the Navy, EPA and PADEP, that has been found to not require further action under the CERCLA (superfund) program. The Navy is preparing paperwork for a no action consensus agreement to be signed along with EPA and PADEP.

Referring again to the Base-wide figure in the handout, Mr. Frye stopped the bus and pointed to Site 7- Abandoned Rifle Range Number 2, located near the northwest corner of the Base, above the gas pipeline right-of-way. A consensus agreement for no action was signed for Site 7 in August 2008.

Mr. Frye gave a brief summary of recent events relating to the discovery process and delineation investigation underway for landfill activities discovered at Site 3 - Ninth Street landfill this past year or more. Mr. Frye mentioned that groundwater is also contaminated with chlorinated compounds. Mr. Frye summarized the rationale for performing the recent test pit investigation that resulted in the discovery of significant evidence of historical landfill operations. Sampling performed in conjunction with the test pit program verified that the site was not contributing to the (solvent) contamination found in groundwater. Debris encountered seemed to be inert metal-type debris that came out of the shops and food service kitchens, like soda cans, glass bottles, china serving ware, eating utensils and that type of thing. Some lead was measured in a sample at a concentration at around 4,000 ppm, and some pesticides were found, leading the Navy to conclude that some sort of active remedy may be required. We are currently working to delineate the extent of former landfill operations. The historical source of groundwater contamination below Site 3 is thought to have been an oil/water separator operating at the Army Reserve Hangar upgradient of Site 3. There is no record of soil or source removal, but apparently the source of solvent contamination was removed when the oil/water separator was removed and replaced in the mid 1990's.

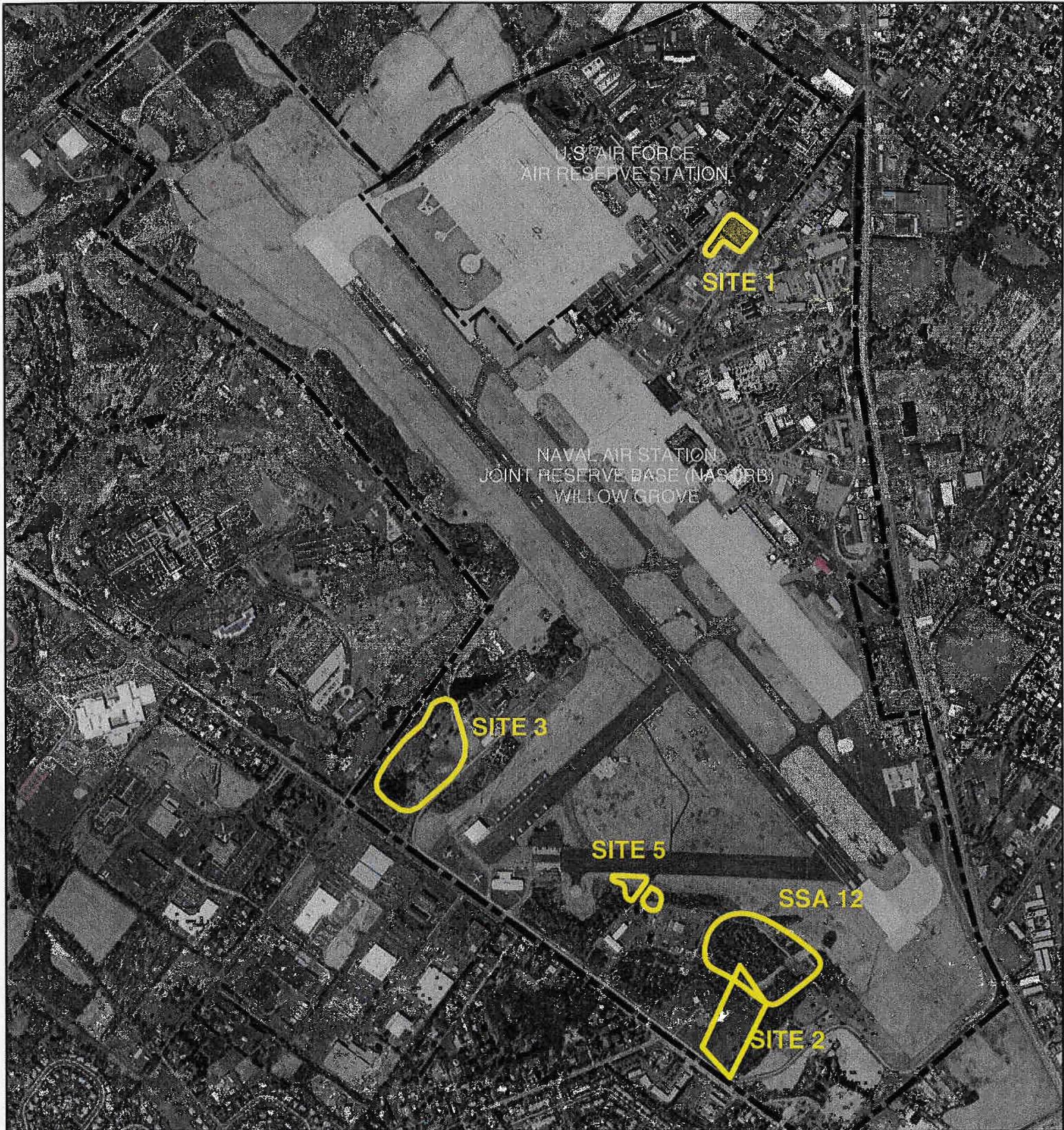
At Site 5 - Fire training Area, Mr. Frye provided a discussion of the soil removal action completed, as well as the nature and extent of chlorinated solvent groundwater contamination at the site, and a historical perspective of discovery, and subsequent groundwater investigations, then handed over to Russ Turner to discuss pilot bioremediation activities completed and planned. Mr. Turner distributed a second handout (attached) showing the planned layout of the bioremediation pilot test facilities. Based on RAB member input to the Site 5 groundwater Feasibility Study (FS), the Navy has prepared a proposed sampling and analysis plan (SAP) for a pilot test of bioremediation of Site 5 groundwater. Preliminary testing of aquifer characteristics has been performed, including an extended groundwater pumping test to help design the pilot bioremediation system. The handout shows the proposed layout of the process trailer, injection wells and extraction wells for the proposed "closed loop" system. Mr. Turner discussed how the treatment system is planned to operate and the types of questions it is designed to answer for design of the eventual full-scale system.

Mr. Frye gave a summary of the status of Site 2 - Antenna Field Landfill. The draft RI report for this site was recently distributed for comments. Very little contamination or evidence of waste disposal was actually found at this site, leading the Navy to speculate that this area was never really a disposal site. The RI report concludes that there is not sufficient risk from this area to require remediation. At this moment, we expect that Site 2 will be recommended for "no further action." However, adjacent to what we have labeled Site 2, there is another area we refer to as SSA 12. SSA 12 was identified by Navy follow-up to EPA photographic interpretation center (EPIC) identification of anomalies in historical aerial photographs. The Navy found and removed drums and surface debris in about 2003 and obtained soil

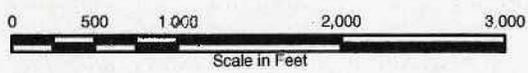
samples for analysis. When we cleared some of the brush, we encountered site conditions such as uneven terrain and protruding materials, possibly aircraft parts, that reminded the Navy of what was encountered at some of the locations at Site 3. The Navy thought that this SSA 12 area may actually have been what was reported as the landfill in the earliest site discovery phase. Mr. Frye summarized current investigations consisting of soil sample confirmation sampling and electromagnetic (EM) geophysical survey here at SSA 12. These investigation efforts will likely be followed by additional RI-type effort at SSA 12, depending on the availability of funds in FY (fiscal year) 2009.

Upon arriving back at the Orion Club parking area, Mr. Lewandowski proposed that the next RAB meeting be held on January 21, 2009, pending verification of the Horsham Sewer and Water Authority meeting schedule. After a period of general discussion among those in attendance, Mr. Lewandowski thanked everyone for coming and adjourned the 36<sup>th</sup> Restoration Advisory Board meeting.

**AIR STATION WILLOW GROVE  
RESTORATION ADVISORY BOARD (RAB)  
MEETING 36 - SEPTEMBER 17, 2008  
INSTALLATION RESTORATION SITES**



SOURCE:  
DELAWARE VALLEY REGIONAL PLANNING  
COMMISSION 2005 DIGITAL ORTHOPHOTOGRAPHY



LEGEND  
[Yellow outline symbol] INSTALLATION RESTORATION SITE

## SITE 1- PRIVET ROAD COMPOUND (OU 1- SOIL, OU 3- GROUNDWATER):

### SITE HISTORY

The Privet Road Compound was constructed as a transfer station to handle materials as part of the trash pickup service. Wastes were temporarily stored on site to await off-site disposal or reportedly burned and/or buried on site. Activities terminated and waste material was completely removed from the site by 1977. Wastes reportedly handled at the site included paint wastes, paint stripper and solvents, Freon, general refuse, asbestos, battery acid, sewage sludge containing heavy metals, oils and lubricants, and mercury-containing dental amalgam. Transformers (containing polychlorinated biphenyls (PCBs) were also stored at the site. PCB-containing liquids reportedly spilled when stored electrical transformers overturned during an incident at the compound.

The Remedial Investigation (RI) indicated PCBs in the soil and chlorinated solvents in the groundwater were of concern.

### SITE STATUS

In June 1999, a removal action for PCB-contaminated soil at Site 1 was performed. A total of approximately 1,100 tons of soil was removed for disposal off-site. Cleanup was performed to a residential use level. The Site 1 Soil (OU 1) Record of Decision (ROD), specifying no further action for Site 1 soil, was accepted by PADEP and signed by the Navy and EPA in September 2006.

An Addendum RI Report submitted in 2004 confirmed the RI report conclusion that chlorinated solvents found in the local groundwater do not originate from the Privet Road Compound area, but appear to be from an off-Base location southeast of Site 1 across Pennsylvania Route 611. A Focused Feasibility Study (FFS) for OU 3 was completed in February 2008. The Proposed Plan (April 2008) and ROD (September 2008) followed. The Navy and EPA, in consultation with PADEP, selected an interim remedy that addresses groundwater contamination including solvents, by instituting land use controls (LUCs), long-term monitoring, and five-year reviews. EPA will pursue the off-Base source issue.



### SITE 1 - PRIVET ROAD COMPOUND

SOURCE  
DELAWARE VALLEY REGIONAL PLANNING COMMISSION  
2005 DIGITAL ORTHOIMAGERY

0 100 200 400 600  
Scale in Feet

#### LEGEND

● SUPPLY WELL LOCATION  
● MONITORING WELL LOCATION

## SITE 2 - ANTENNA FIELD LANDFILL (OU 5 - SOIL, OU 9 - GROUNDWATER):

### SITE HISTORY

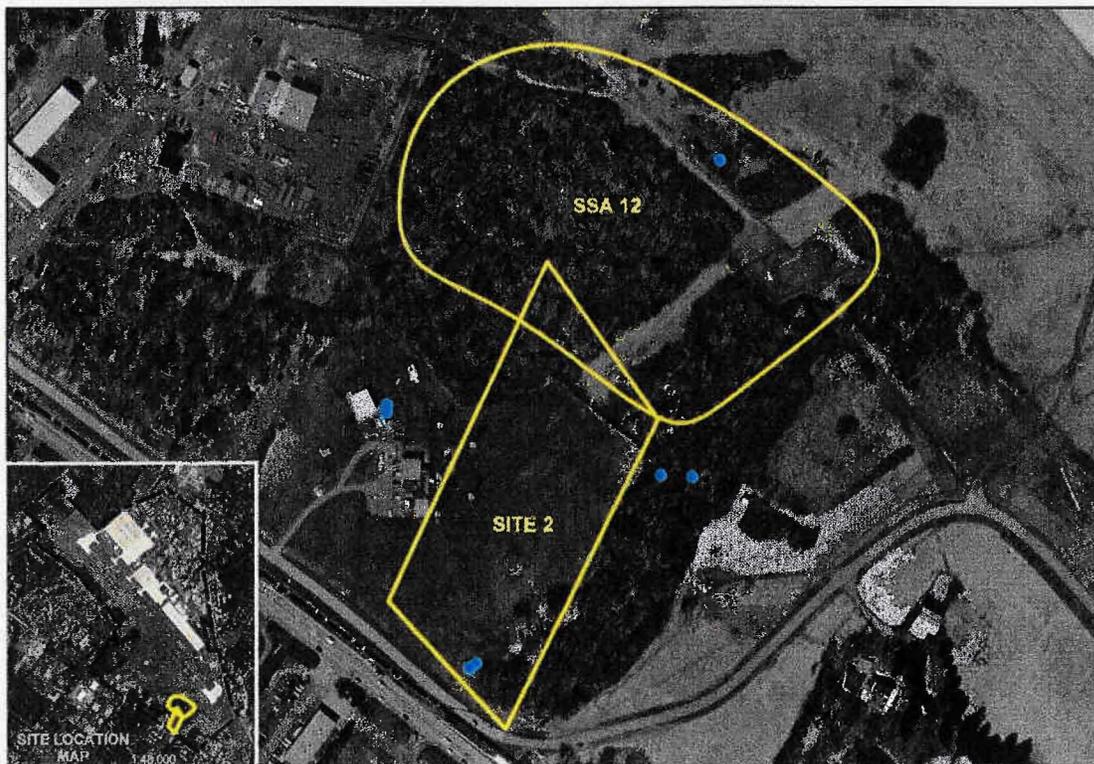
The Antenna Field Landfill was used between 1948 and 1960 as the principal disposal area for solid waste generated by the facility. Wastes consisting of general refuse, paint wastes, sewage and industrial pretreatment plant sludge, and solvents were reported to have been deposited, burned, and buried at the site.

The RI encountered very limited evidence of past landfill activities at the Antenna Field Landfill. Limited concentrations of metals, polycyclic aromatic hydrocarbons (PAHs) and pesticides were found at the site. Media investigated included surface and subsurface soil, seeps emanating from the landfill, surface water, sediments and groundwater.

### SITE STATUS

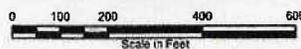
The draft Site 2 RI report (August 2008) concluded that inorganic and organic constituents were detected in all environmental media at the Antenna Field Landfill Site, generally at low levels, infrequently distributed over the site, and generally below the corresponding site-specific background concentration or regulatory limit. The human health risk assessment and the ecological screening assessment found that the site does not pose a threat to current or future human or ecological receptors. Depending on regulatory agency and public comment, a Proposed Remedial Action Plan (PRAP), and eventually, a ROD for no further action at this site is anticipated.

The Navy now suspects that the landfill activities may have actually taken place in the Site Screening Area (SSA) 12, Drum and Debris Removal Area, based on field reconnaissance and initial electromagnetic induction (EM) geophysical survey. Navy will follow-up with additional investigation in SSA-12 to verify this suspicion.



### SITE 2 - ANTENNA FIELD LANDFILL

SOURCE:  
DELAWARE VALLEY REGIONAL PLANNING COMMISSION  
2005 DIGITAL ORTHOPHOTOGRAPHY



#### LEGEND

● MONITORING WELL LOCATION

## SITE 5 - FIRE TRAINING AREA (OU 4 - SOIL, OU 2 - GROUNDWATER):

### SITE HISTORY

The Fire Training Area was used from 1942 to 1975 for firefighting exercises, which involved burning of flammable liquid wastes generated by the Air Station. Solvents, paint chemicals, xylenes, toluene, and various petroleum compounds, were consumed at the rate of up to 4,000 or more gallons per year in these firefighting exercises. The area was also reportedly used for drum storage of flammable materials during periods between burning exercises.

Fire training activities resulted in soil contaminated with PAHs and groundwater contaminated by chlorinated VOCs.

### SITE STATUS

A soil removal action for PAH-contaminated soil at Site 5, consisting of excavation, off-Base disposal, and confirmation samples, was completed upon placement of clean soil backfill in October 2006. The Site 5 Soil (OU 4) ROD, specifying no further action for Site 5 soil, was accepted by PADEP and signed by the Navy and EPA in September 2007.

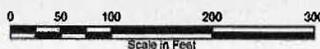
A Feasibility Study (FS) for Site 5 Groundwater (OU 2) was completed in July 2008. A SAP for OU 2 bioaugmentation field demonstration testing was submitted to regulators for review comment. Preliminary soil sampling and monitoring well installation for bioaugmentation testing commenced in May 2008.

Groundwater bioaugmentation treatment operations are anticipated to begin with system construction and well installation in October, followed by system start up in late November.



### SITE 5 - FIRE TRAINING AREA

SOURCE:  
DELAWARE VALLEY REGIONAL PLANNING COMMISSION  
2003 DIGITAL ORTHOIMAGERY



### LEGEND

- MONITORING WELL LOCATION
- PROPOSED MONITORING WELL LOCATION

## SITE 3 - NINTH STREET LANDFILL (OU 6 - SOIL, OU 10 - GROUNDWATER):

### SITE HISTORY

The Ninth Street Landfill was used as a disposal area following the phase-out of the Antenna Field Landfill in 1960. The landfill was operational from 1960 until its official closure in 1967. Wastes reportedly disposed in the landfill include solvents, paint wastes, asbestos, PCB fluids, general refuse, metal scrap, sewage sludge, and industrial pretreatment plant sludge. Wastes were reportedly dumped in trenches, burned, and buried. Subsequent to the landfill's closure, a salvage yard was established over a large portion of the landfill for the handling of empty drums, discarded equipment, and transformers containing PCBs.

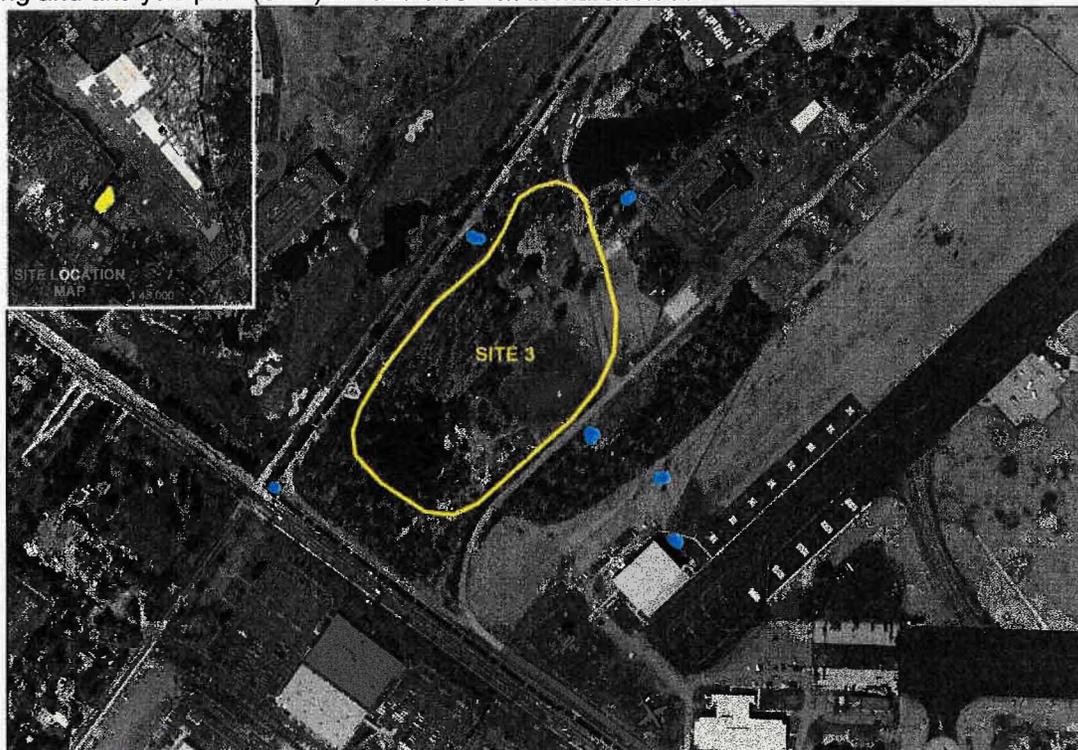
Contaminants associated with Site 3 are volatile organic carbon compounds (VOCs) in groundwater, and PAHs in soils and sediments. Pesticides were detected in sediment samples but do not appear to be site related.

### SITE STATUS

In May 2007, significant quantities of buried waste material at several Site 3 locations were encountered during a test pit and soil sampling investigation. Soil samples associated with some of the buried waste contained elevated levels of semivolatile organic compounds (SVOCs), pesticides, PCBs, dioxin, and metals.

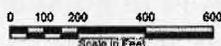
A landfill delineation investigation is underway to determine the extent of historical landfill operations. An EM geophysical survey was performed in April 2008. Additional test pits and soil samples, as well as surface soil samples and surface water/sediment samples for ecological risk screening are planned for 2008.

The Navy performed Round 1 of Interim Groundwater Monitoring (IGWM) according to the approved sampling and analysis plan (SAP) for Site 3 IGWM in March 2008.



**SITE 3 - 9th STREET LANDFILL**

SOURCE  
DELAWARE VALLEY REGIONAL PLANNING COMMISSION  
2005 DIGITAL ORTHOIMAGERY



**LEGEND**

● MONITORING WELL LOCATION

## Willow Grove ARS POL Site Restoration – ROW Removal Action



Beginning in October 2008, the Air Force is conducting a removal action at the natural gas pipeline right-of-way (ROW) located in the off-Base portion of the Petroleum, Oil, and Lubricants (POL) Site (ST-01). This action continues environmental restoration program (ERP) activities at the site that have included in-situ chemical oxidation and biosparge treatment of jet-fuel contaminated groundwater. There are two purposes for removing potentially contaminated media from the ROW: (1) perform remedial actions identified in the alternatives analysis section of the Right-of-Way Follow-on Investigation Report prepared in April 2008, and (2) remove soils and groundwater in order for maintenance to be performed by an independent party on the natural gas pipelines (the pipeline owner/operator, Williams Transco [Transco]). The top left photograph provides a preliminary layout of the site showing the approximate excavation area and ROW crossing, a likely location for a water treatment system, and where other components of the action may be staged around the existing treatment areas (A – G) where groundwater remediation is occurring as part of the ERP.

The technical support task areas associated with the removal action are: (1) field screening of soil (to be excavated from the ROW by Transco) to determine if it is potentially contaminated, (2) limited excavation of potentially contaminated soil in locations immediately adjacent to the ROW, (3) visual inspection of all areas exposed during excavation, (4) handling and management of potentially contaminated soil, (5) handling and management of water and wastewater, (6) treatment and/or disposal of potentially contaminated soil to be stored in an unused hangar on Base (see top right photograph), (7) pilot and (if warranted) full-scale treatment of potentially contaminated soil, and (8) restoration of areas of the site and Base impacted by the removal action.

In addition, the Air Force plans to continue restoration of groundwater in the off-Base portion of the site with the continuous operation of a biosparging system. It is anticipated that the system will operate initially in treatment area G (see top left photograph). The Air Force Point of Contract is Mr. Bill Downs, (478) 327-1073.

