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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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JUL 28 2002

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Mr. Albert F. Lowas  
Director  
AFBCA/DR  
1700 North Moore Street, Suite 2300  
Arlington, VA 22209-2802

Re: Records of Decision for Three Areas of Concern  
Griffiss Air Force Base

Dear Mr. Lowas:

This is to inform you that after considering public comments on the Proposed Plans, Griffiss Air Force Base's responsiveness summary to those comments, the Draft Records of Decision and other supporting documents, the U.S. Environmental Protection Agency (EPA) concurs with the Records of Decision for Building 26, Building 117, and the Bulk Fuel Storage Area. Enclosed is a copy of the Records of Decision, which I have co-signed on behalf of EPA.

These Records of Decision address only the above mentioned areas of concern. All other areas of Griffiss Air Force Base are being addressed under separate operable units.

If you have any questions regarding the subject of this letter, please contact me at (212) 637-5000 or have your staff contact Douglas Pocze at (212) 637-4432.

Sincerely,

*Jane M. Kenny*  
Jane M. Kenny  
Regional Administrator

enclosure

cc: Erin M. Crotty, NYSDEC w/encl.

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**Final Records of Decision for  
Areas of Concern (AOCs)  
at the  
Former Griffiss Air Force Base  
Rome, New York**

**April 2002**

**AIR FORCE BASE CONVERSION AGENCY**


**Final Record of Decision for  
Building 26 Source Removal  
Area of Concern  
(ST-35) at the  
Former Griffiss Air Force Base  
Rome, New York**

**April 2002**

**AIR FORCE BASE CONVERSION AGENCY**

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# List of Abbreviations and Acronyms

AFB	Air Force Base
AFBCA	Air Force Base Conversion Agency
AOC	Area of Concern
AOI	Area of Interest
ARAR	Applicable or Relevant and Appropriate Requirement
ATSDR	Agency for Toxic Substances and Disease Registry
BGS	below ground surface
BRAC	Base Realignment and Closure Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DoD	United States Department of Defense
DFAS	Defense Finance and Accounting Services
EPA	United States Environmental Protection Agency
ESI	Expanded Site Investigation
FFA	Federal Facility Agreement
FOST	Finding of Suitability to Transfer
IRP	Installation Restoration Program
µg/L	micrograms per liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEADS	Northeast Air Defense Sector
NPL	National Priorities List
NYANG	New York Air National Guard
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PDI	Predesign Investigation
RAGS	Risk Assessment Guidance for Superfund
ROD	Record of Decision
SAC	Strategic Air Command
SARA	Superfund Amendments and Reauthorization Act
STARS	Spill Technology and Remediation Series
SVOC	semivolatile organic compound
TCLP	toxicity characteristic leaching procedure
TRPH	total recoverable petroleum hydrocarbons
UST	underground storage tank
VOC	volatile organic compound

### **1.1 Site Name and Location**

The Building 26 Source Removal Area of Concern (AOC) (site identification designation ST-35) is located at the former Griffiss Air Force Base (AFB) in Rome, Oneida County, New York.

### **1.2 Statement of Basis and Purpose**

This Record of Decision (ROD) presents no further action for soil and groundwater as the selected remedy for the Building 26 Source Removal AOC at the former Griffiss AFB. This alternative has been chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The remedy has been selected by the United States Air Force (Air Force) in conjunction with the United States Environmental Protection Agency (EPA) and with the concurrence of the New York State Department of Environmental Conservation (NYSDEC) pursuant to the Federal Facility Agreement (FFA) among the parties under Section 120 of CERCLA. This decision is based on the administrative record file for this site.

### **1.3 Description of Selected Remedy**

The selected remedy for the Building 26 Source Removal AOC is no further action for soil and groundwater. Residual levels of contaminants in the soil do not exceed

the NYSDEC Spill Technology and Remediation Series (STARS) soil cleanup values. Therefore, since residual levels of contaminants in the soil are limited in extent and do not pose a risk for continued groundwater contamination, the soil is not considered to represent a current or potential threat to public health or the environment.

Two volatile organic compounds (VOCs) slightly exceeded the New York State (NYS) Class GA groundwater standards and guidance values, but a risk screening analysis indicated no risk to potential future residents from ingestion of groundwater at this site. In addition, these constituents were not detected in the soil leachate at concentrations exceeding the Spill Technology and Remediation Series (STARS) Memo No. 1 guidance values, indicating there is no existing source of groundwater contamination at the Building 26 Source Removal AOC. Under the Base Realignment and Closure Act (BRAC) 1993 realignment, this site is located on property that is being retained by the Department of Defense (DoD) and is being utilized by the Air Force Research Laboratory as a research and development facility. Notwithstanding this determination, future landowners will be notified in the property deed that the groundwater at the site contained two contaminants that exceeded the NYS groundwater standards and guidance values. The NYSDEC spill number 9111732 associated with this site was closed as "meeting state standards" on December 7, 2000.

#### **1.4 Statutory Determinations**

It has been determined that no remedial action is necessary at the Building 26 Source Removal AOC. The Air Force Base Conversion Agency (AFBCA) and EPA, with concurrence from NYSDEC, have determined that no further action for soil and groundwater is warranted for this site. Future landowners will be notified in the property deed that the groundwater at the site contained two contaminants that exceeded the NYS groundwater standards and guidance values.

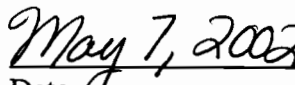
#### **1.5 Authorizing Signatures**

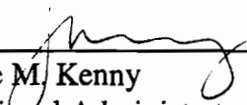
On the basis of the previous removal action and subsequent investigations performed at the Building 26 Source Removal AOC, there is no evidence that residual contamination at this site poses a current or future potential threat to human health or the environment. Future landowners will be notified in the property deed that the groundwater

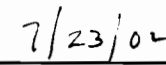


at the site contained two contaminants that exceeded the NYS groundwater standards and guidance values. New York State Department of Environmental Conservation has concurred with the selected remedy presented in this Record of Decision.

  
\_\_\_\_\_  
Albert F. Lowas, Jr.  
Director  
Air Force Base Conversion Agency

  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Jane M. Kenny  
Regional Administrator  
United States Environmental Protection Agency, Region 2

  
\_\_\_\_\_  
Date

## **2.1 Site Name, Location, and Brief Description**

The Building 26 Source Removal AOC (site identification designation ST-35) is located at the former Griffiss AFB in Rome, Oneida County, New York. Pursuant to Section 105 of CERCLA, Griffiss AFB was included on the National Priorities List (NPL) on July 15, 1987. On August 21, 1990, the EPA, NYSDEC, and the Air Force entered into an FFA under Section 120 of CERCLA.

The Building 26 Source Removal AOC is a grass-covered area located in the central portion of the former base (see Figure 1). The former Oil Storage and Dispensing Station (Building 26) began operating in the early 1940s. Five former 12,000-gallon petroleum product underground storage tanks (USTs) located at the site (see Figure 2) contained a variety of petroleum products over the years, including No. 2 heating oil (FS-2), engine oil, and diesel fuel.

## **2.2 Site History and Enforcement Activities**

### **2.2.1 The Former Griffiss AFB Operational History**

The mission of the former Griffiss AFB varied over the years. The base was activated on February 1, 1942, as Rome Air Depot, with the mission of storage, maintenance, and shipment of material for the U.S. Army Air Corps. Upon creation of the Air Force in 1947, the depot was renamed Griffiss AFB. The base became an electronics center in 1950, with the transfer of Watson Laboratory Complex (later Rome Air Development Center [1951], Rome Laboratory, and then the Information Directorate at Rome Research

Site, established with the mission of accomplishing applied research, development, and testing of electronic air-ground systems). The 49th Fighter Interceptor Squadron was also added. The Headquarters of the Ground Electronics Engineering Installations Agency was established in June 1958 to engineer and install ground communications equipment throughout the world. On July 1, 1970, the 416th Bombardment Wing of the Strategic Air Command (SAC) was activated with the mission of maintenance and implementation of both effective air refueling operations and long-range bombardment capability. Griffiss AFB was designated for realignment under the BRAC in 1993 and 1995, resulting in deactivation of the 416th Bombardment Wing in September 1995. Rome Laboratory and the Northeast Air Defense Sector (NEADS) will continue to operate at their current locations; the New York Air National Guard (NYANG) operated the runway for the 10th Mountain Division deployments until October 1998, when they were relocated to Fort Drum; and the Defense Finance and Accounting Services (DFAS) has established an operating location at the former Griffiss AFB.

## **2.2.2 Environmental Background**

As a result of the various national defense missions carried out at the former Griffiss AFB since 1942, hazardous and toxic substances were used, and hazardous wastes were generated, stored, or disposed at various sites on the installation. The defense missions involved, among others, procurement, storage, maintenance, and shipping of war materiel; research and development; and aircraft operations and maintenance.

Numerous studies and investigations under the DoD Installation Restoration Program (IRP) have been carried out to locate, assess, and quantify the past toxic and hazardous waste storage, disposal, and spill sites. These investigations included a records search in 1981 (Engineering Science 1981), interviews with base personnel, a field inspection, compilation of an inventory of wastes, evaluation of disposal practices, and an assessment to determine the nature and extent of site contamination; Problem Confirmation and Quantification studies (similar to what is now designated a Site Investigation) in 1982 (Weston 1982) and 1985 (Weston 1985); soil and groundwater analyses in 1986; a basewide health assessment in 1988 by the U.S. Public Health Service, Agency for Toxic Substances and Disease Registry (ATSDR) (ATSDR 1988); base-specific hydrology investigations in 1989 and 1990; a groundwater investigation in 1991 (Geotech 1991); and

site-specific studies and investigations between 1989 and 1995. ATSDR issued a Public Health Assessment for Griffiss AFB dated October 23, 1995 (ATSDR 1995), and an addendum dated September 9, 1996.

In March 1992, the agencies modified the FFA in resolving a dispute concerning the Draft Final Primary Document "Identification of AOCs." Article II of the "Resolution of Disputes" identified nine sites (including the Building 26 site) to be designated as Source AOCs for the purposes of coordinating and implementing source removal actions. Pursuant to Section 300.5 of the NCP and Section 101 of CERCLA, the Air Force was required to conduct a source removal action at each of the nine sites.

An investigation known as a Pre-design Investigation (PDI) was conducted in 1993 and 1994. Results from this investigation covering the Building 26 Source Removal AOC were issued to the EPA and NYSDEC in February 1995 (Law 1995) and can be found in the document entitled, "Final Technical Memorandum/PDI Report."

## **2.3 Community Participation**

A proposed plan for the Building 26 Source Removal AOC (AFBCA 2002), indicating no further action for soil and groundwater at the site, was released to the public on Wednesday, January 23, 2002. The document was made available to the public in both the administrative record file located at 153 Brooks Road in the Griffiss Business and Technology Park and in the Information Repository maintained at the Jervis Public Library. The notice announcing the availability of this document was published in the *Rome Sentinel* on Monday, January 21, 2002. A public comment period lasting from January 23, 2000 to February 21, 2002, was set up to encourage public participation in the alternative selection process. In addition, a public meeting was held on Thursday, February 7, 2002. The AFBCA, the New York State Department of Health (NYSDOH), and NYSDEC were present at the meeting and the AFBCA answered questions about issues at the AOC and the proposal under consideration. A response to the comments received during this period is included in the Responsiveness Summary, which is part of this ROD (see Section 3).

## 2.4 Scope and Role of Site Response Action

The decision for no further action encompasses both soil and groundwater at the Building 26 Source Removal AOC. The site does not pose an unacceptable risk to human health and the environment.

## 2.5 Site Characteristics

The former Griffiss AFB covered approximately 3,552 contiguous acres in the lowlands of the Mohawk River Valley in Rome, Oneida County, New York. Topography within the valley is relatively flat, with elevations on the former Griffiss AFB ranging from 435 to 595 feet above mean sea level. Three Mile Creek, Six Mile Creek (both of which drain into the NYS Barge Canal, located to the south of the base), and several state-designated wetlands are located on the former Griffiss AFB, which is bordered by the Mohawk River on the west. Due to its high average precipitation and predominantly silty sands, the former Griffiss AFB is considered a groundwater recharge zone.

The Building 26 Source Removal AOC is a grass-covered area located in the central portion of the former base (see Figure 1). Groundwater flow in this area is in a southwesterly direction, and the depth to groundwater ranges from 6.0 to 7.5 feet below ground surface (BGS). The soil is generally fine sand to silty fine sand.

The former Oil Storage and Dispensing Station (Building 26) began operating in the early 1940s. Five former 12,000-gallon petroleum product USTs located at the site (see Figure 2) contained a variety of petroleum products over the years, including No. 2 heating oil (FS-2), engine oil, and diesel fuel. The tanks are estimated to have been buried at a depth of approximately 12 feet below grade. Building 26 was the pumphouse for these tanks and pumped petroleum products to railcars or trucks for distribution on the base. In an undated internal memo to base personnel, Tank 5 was reported to be in poor condition and was abandoned in place and filled with sand.

In 1987, the pumphouse, pumps, associated piping, and all five USTs were removed, and the area was reportedly backfilled with clean fill. Also in 1987, an oil/water separator, which had been installed to pump contaminated groundwater from the excavation to a holding tank, clogged with soil and overflowed (NYSDEC spill number 87-6109). On the same day, the area around the separator was cleaned, water from the site was discharged into the sewer system, and the spill number was closed. An inactive re-

covery well exists at the site, but its period of operation is unknown. According to former base personnel, the recovery well had been used to monitor for free product at the groundwater table.

Prior to the 1987 pumphouse demolition and removal activities at Building 26, three soil borings were drilled to determine the vertical extent of contamination. The borings were advanced to 12 feet BGS, and contamination was indicated to depths of 11 feet. Oil and grease concentrations ranged from 3,000 parts per million to 71,000 parts per million. The original excavation plans called for removal of 1,800 cubic yards of soil to an average depth of 10.5 feet. During excavation, however, additional contaminated soil was encountered, and an additional 2,200 cubic yards of soil were removed at depth for a total of 4,000 cubic yards.

In 1992, during modification of the FFA, it was determined that this site was not properly closed, and a new NYSDEC spill number (911732) was assigned for tracking purposes.

### **2.5.1 Predesign Investigation**

A PDI was conducted at this AOC in 1993 and 1994 to determine whether residual petroleum-contaminated soil and groundwater were present following the 1987 removal actions and whether the site was a continuing source of contamination. Seven soil borings were advanced to depths ranging from 6 to 14.6 feet in the area of the excavated USTs to evaluate the conditions of subsurface soil and to collect samples for chemical and geotechnical analyses. Three borings were subsequently converted to groundwater monitoring wells (26MW-1 [26MB-1A], 26MW-2 [26MB-2], and 26MW-3 [26MB-3]), as indicated on Figure 2.

Two soil borings (26SB-2 and 26SB-4) were used as temporary groundwater observation wells to monitor for the presence of free product in the surficial aquifer beneath the site. Based on the results of soil headspace screening, two soil samples from each borehole were selected for chemical analysis; the sample with the highest headspace reading from the vadose zone and the sample from the groundwater interface. If organic compounds were not detected during the headspace screening, the interval from 0 to 2 feet and the groundwater interface were sampled and analyzed.

### **2.5.1.1 Soil Leachate Results**

Soil samples collected during the PDI were analyzed for VOCs and semivolatile organic compounds (SVOCs) using the toxicity characteristic leaching procedure (TCLP) extraction process. A comparison of the analytical results to regulatory standards and guidance values is provided in Section 2.7. Ten VOCs (m-xylene, o-xylene, p-xylene, trichloroethylene, naphthalene, hexachlorobutadiene, isopropyl-benzene, p-cymene, sec-butylbenzene, and n-butylbenzene) were detected below groundwater and drinking water standards and guidance values in TCLP leachate from subsurface soil samples collected from borings 26MB-1, 26MB-2, 26MB-3, and 26SB-4. Concentrations of these compounds ranged from 0.20 micrograms per liter ( $\mu\text{g/L}$ ) for trichloroethylene to 3.7  $\mu\text{g/L}$  for hexachlorobutadiene. In addition, the VOC analytical results for a majority of the soil samples indicated the presence of carbon tetrachloride and chloroform at low concentrations. An investigation of these results determined that laboratory-introduced contamination was the source for these two compounds. The analytical results for a confirmatory sample collected in May 1994 provided further evidence that carbon tetrachloride and chloroform were not present in the soil at this source removal AOC.

Three SVOCs (acenaphthene, fluorene, and phenanthrene) were detected below groundwater and drinking water standards and guidance values in the TCLP leachate from one subsurface soil sample collected from boring 26SB-4 at concentrations of 4  $\mu\text{g/L}$ , 4  $\mu\text{g/L}$ , and 2  $\mu\text{g/L}$ , respectively.

### **2.5.1.2 Groundwater Results**

Thirteen VOCs (benzene, naphthalene, 1,2,4-trimethylbenzene, 1,3,5 trimethylbenzene, chloroform, ethylbenzene, isopropylbenzene, p-cymene, sec-butylbenzene, xylenes, n-butylbenzene, n-propylbenzene, and vinyl chloride) were detected at low concentrations in groundwater samples collected during the PDI from monitoring well 26MW-1 and 26MW-2. All of the compounds were below NYS Class GA groundwater standards except benzene (see Section 2.7). Naphthalene was detected at the highest concentration (19  $\mu\text{g/L}$ ) in 26MW-2 and exceeded the NYS guidance value (see Section 2.7). The original SVOC data were rejected due to the high turbidity of the groundwater samples and an error in the laboratory SVOC extraction method. The wells were redeveloped and sampled again for SVOC analysis. Five SVOCs (acenaphthylene, anthracene,

fluoranthene, fluorene, and pyrene) were detected at low concentrations in the groundwater samples collected from 26MW-1 and 26MW-2. No free product was detected in either the temporary observation wells or the three groundwater monitoring wells.

## **2.5.2 Further Investigation and Results**

In December 1997, an Expanded Site Investigation (ESI) was performed at Area of Interest (AOI) 58, which is adjacent to the Building 26 Source Removal AOC (see Figure 3). A groundwater sample was collected from well 26MW-3 and analyzed for total recoverable petroleum hydrocarbons (TRPH); the results were nondetect. A downgradient well (G058-MW02) was also sampled during the ESI and analyzed for VOCs, SVOCs, TRPH, and polychlorinated biphenyls (PCBs); all results were nondetect.

On December 7, 2000, NYSDEC spill number 9111732 at the former Building 26 Oil Storage and Dispensing Station (associated with five former USTs) was closed as “meeting state standards.”

## **2.6 Current and Potential Future Site Use**

The current and future land use designations for the Building 26 Source Removal AOC are commercial/administrative. This building is part of an Air Force research and development complex at the former Griffiss AFB.

## **2.7 Comparison of Analytical Results and Regulatory Standards**

### **2.7.1 Soil Leachate Comparison**

Soil analytical results from the PDI were compared to cleanup values published in the NYSDEC STARS Memo No. 1, as applicable. This document, which sets forth the criteria for addressing these types of constituents, states that constituent concentrations in soil should not exceed levels where soil leachate might exceed groundwater standards. For fuel- or gasoline-contaminated soil, the policy further states that if the concentrations of volatile hydrocarbons or semi-volatile hydrocarbons in the leachate do not exceed the NYS groundwater standards or guidance values, the soil is not considered to impact groundwater quality.



The concentrations of all VOCs and SVOCs detected in the soil leachate were below the NYS groundwater standards and guidance values published in the STARS Memo No. 1 as TCLP extraction guidelines. As such, the soil at the Building 26 Source Removal AOC does not pose a risk for continued groundwater contamination.

## 2.7.2 Groundwater Comparison

The NYS Class GA Groundwater Standards were used to assess groundwater quality. Class GA waters are defined as fresh groundwater found in the saturated zone of unconsolidated deposits, consolidated rock, and bedrock. The best use of Class GA waters is as a source of potable water. Therefore, comparison of the groundwater sample analytical results for the Building 26 Source Removal AOC to Class GA standards is a conservative approach because it is unlikely that groundwater at the former base will be used as a source of potable water. Another Applicable or Relevant and Appropriate Requirement (ARAR) would be the NYS Drinking Water Standards.

Benzene, which was detected at a concentration of 3  $\mu\text{g/L}$  in one well (26MW-2) during the PDI, was the only VOC that exceeded the NYS Class GA groundwater standard of 1  $\mu\text{g/L}$ . The NYS Drinking Water Standard for benzene is 5  $\mu\text{g/L}$ . Naphthalene, for which there is no Class GA standard, exceeded the NYS guidance value of 10  $\mu\text{g/L}$  with a concentration of 19  $\mu\text{g/L}$  in the same well. The NYS Drinking Water Standard for naphthalene is 50  $\mu\text{g/L}$ .

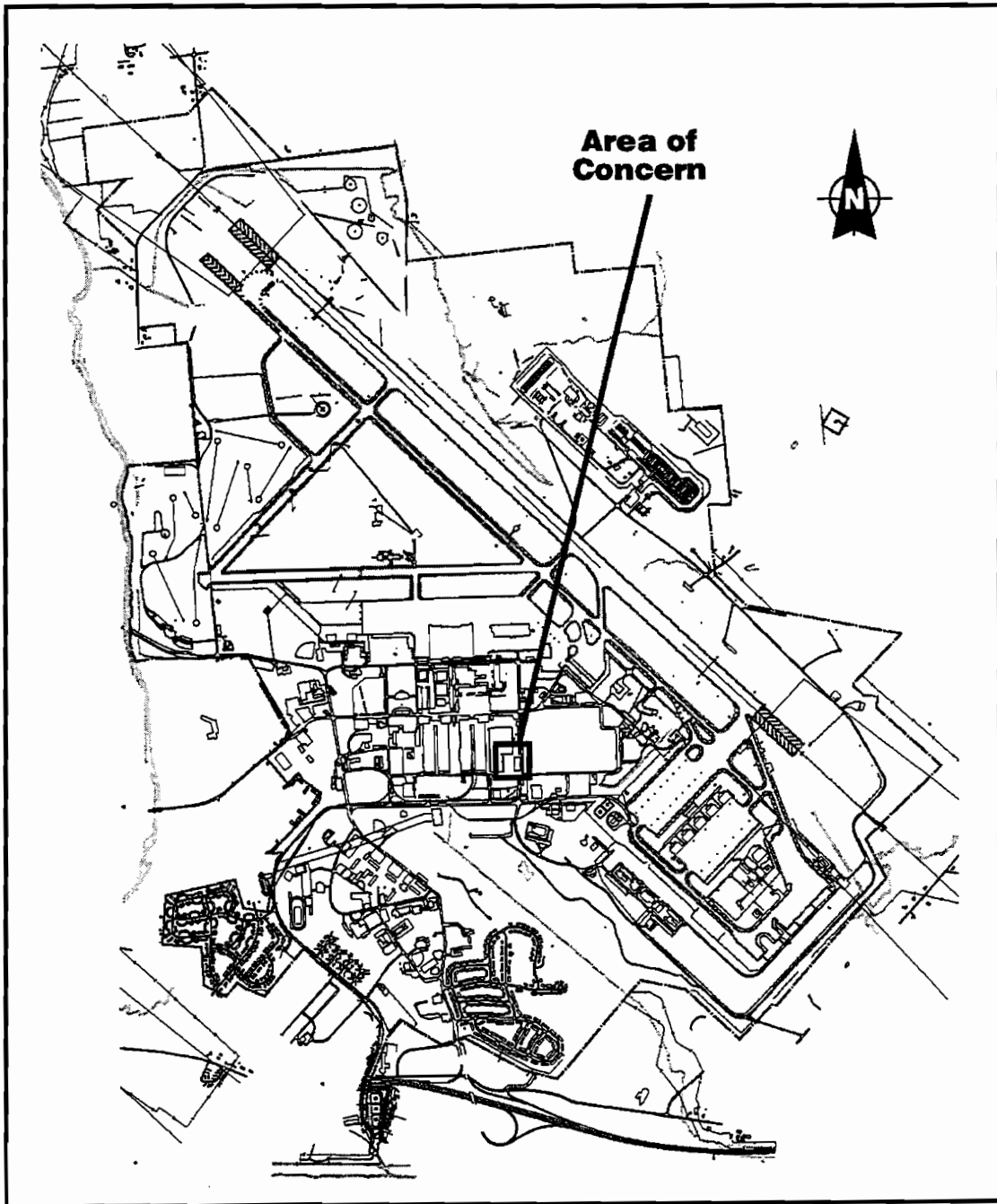
Although it is unlikely that groundwater will be used as a source of potable water, and this site is designated for commercial/industrial use, a simple risk screening was performed to determine the carcinogenic risk to any potential future residents from ingestion of the groundwater.

EPA's range of acceptable risk is generally considered to be 1 in 10,000 ( $1 \times 10^{-4}$ ) to 1 in 1,000,000 ( $1 \times 10^{-6}$ ) of an individual developing cancer over a 70-year lifetime from exposure to contaminants sometime during their lifetime (cancer toxicity values were derived assuming a lifetime of 70 years). Standard exposure assumptions are generally used for specific scenarios. For this risk screening, the standard exposure assumptions for residential use of groundwater were used, which included an ingestion rate of 2 liters of water per day for a 30-year exposure duration (the high end residence time in an owner-occupied home). Using the approach documented in EPA's Risk Assessment

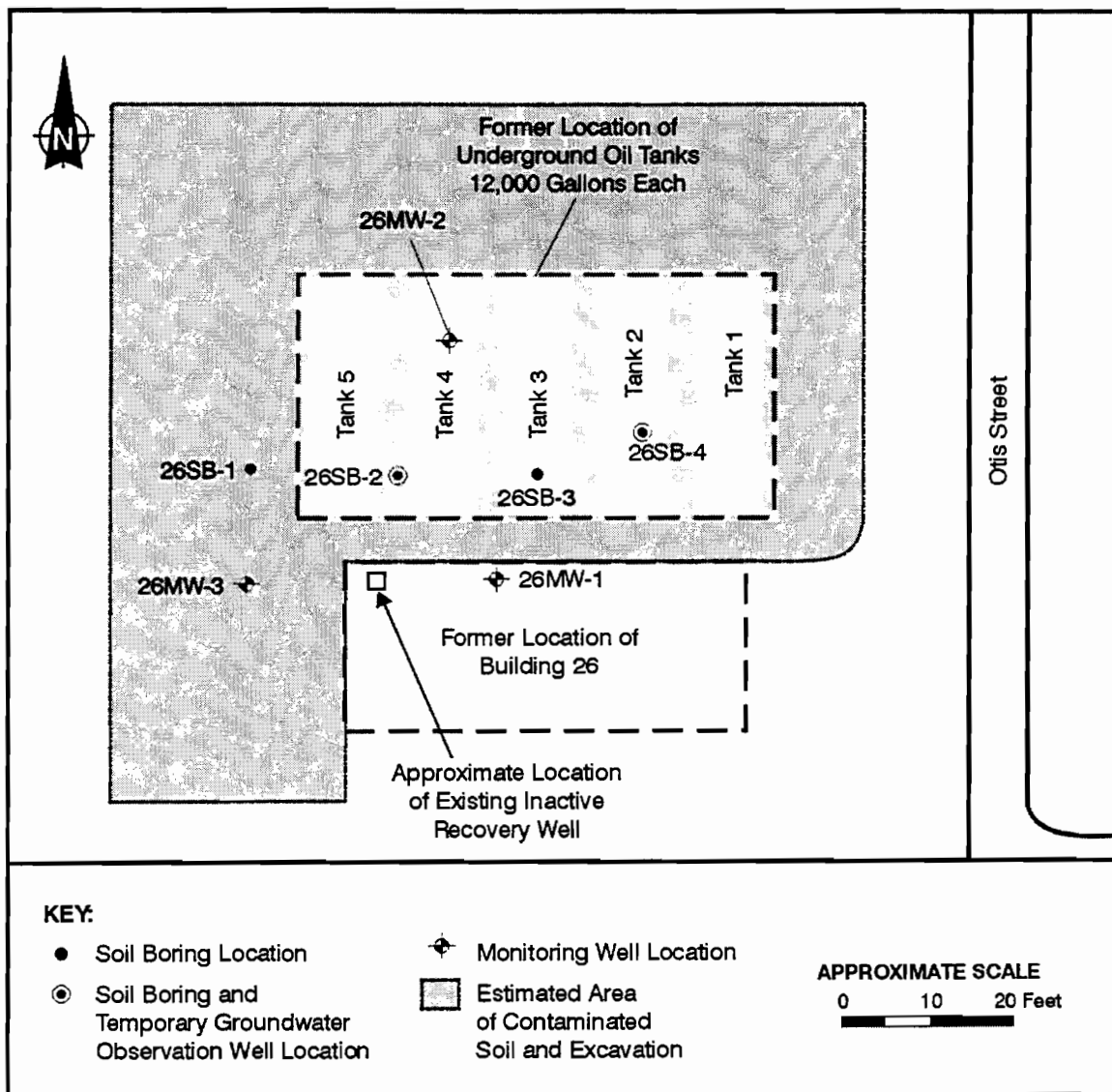
Guidance for Superfund (RAGS), Human Health Evaluation Manual Part B, December 1991, the total risk associated with ingesting groundwater containing benzene at a concentration of 3  $\mu\text{g/L}$  was calculated as 2 in 1,000,000 ( $2 \times 10^{-6}$ ), which is within EPA's acceptable risk range. Naphthalene is not a carcinogen. Using the standard RAGS risk screening approach for noncarcinogens, based on drinking water ingestion, the risk-based concentration (i.e., the concentration of concern) for naphthalene is calculated as 730  $\mu\text{g/L}$ . Therefore, no ill effects would be expected from ingestion of groundwater due to the concentration of naphthalene at this site.

## **2.8 Documentation of Significant Changes**

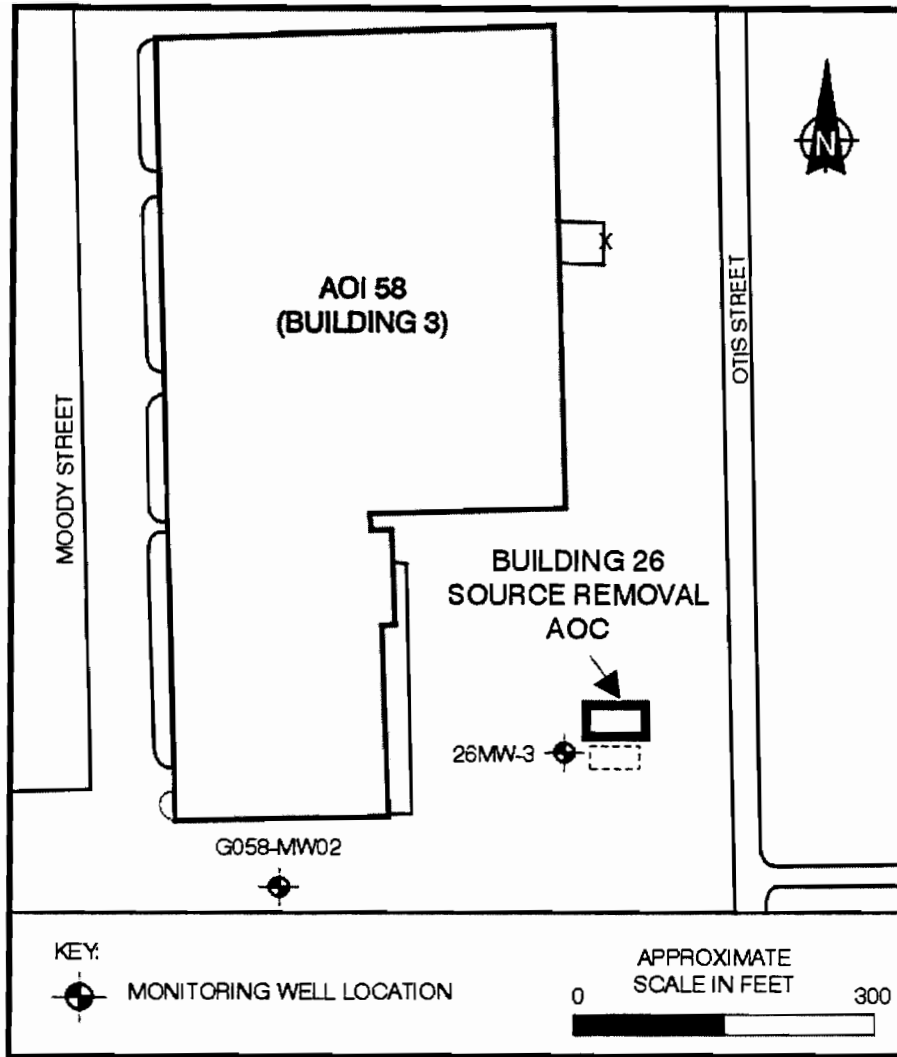
No significant changes have been made to the selected remedy from the time the proposed plan was released for public comment.



**Figure 1 Location of Building 26 Source Removal AOC**



**Figure 2 Building 26 AOC Source Removal Area**



**Figure 3 Location of Area of Interest 58**

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### 3

## Responsiveness Summary

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On Wednesday, January 23, 2002, AFBCA, following consultation with and concurrence of the EPA and NYSDEC, released for public comment the proposed plan for no further action at the Building 26 Source Removal AOC at the former Griffiss AFB. The release of the proposed plan initiated the public comment period, which concluded on February 21, 2002.

During the public comment period, a public meeting was held on Thursday, February 7, 2002, at 5:00 p.m. at the Floyd Town Hall located at 8299 Old Floyd Road, Rome, New York. A court reporter recorded the proceedings of the public meeting. A copy of the transcript and attendance list are included in the Administrative Record. The public comment period and the public meeting were intended to elicit public comment on the proposal for remedial action at the site.

This document summarizes and provides responses to the verbal comments received at the public meeting and the written comments received during the public comment period. Several of the oral and written comments do not pertain to the six proposed plans that were issued for public comment but do relate to the base closure in general. Responses to such general comments, however, are also provided in this Responsiveness Summary.

## ORAL COMMENTS

### Comment #1 (Mark Reynolds)

Mr. Reynolds asked how a deed restriction would be implemented at some date in the future (say 2020) if Rome Lab were to excess the Building 26 property.

### Response #1

With regards to CERCLA, there are no land use restrictions on the Building 26 property. However, there may be other use restrictions associated with the property that must be followed. Regarding how those restrictions would be implemented, Rome Lab would be required to follow regulations and issue a Finding of Suitability to Transfer (FOST). The FOST would identify all environmental factors associated with the property and list any applicable deed restrictions. The Record of Decision will be permanently associated with the property.

### Comment #2 (Freda Melkun)

- a) Mrs. Melkun asked a general question regarding potential movement of contamination off base and asked if any off-base investigations will take place.
- b) She stated that Three Mile Creek and Six Mile Creek are contaminated, so their groundwater wells should be contaminated, and asked what the chemical effects are when you start mixing everything together.
- c) She stated that ethylene glycols were found in some of the off-base wells and her well was supposed to be tested and it never was.
- d) She stated that children are still swimming in the creeks.

### Response #2

- a) Several off-base investigations have been completed and it has been determined that there is no contamination at levels of health concern affecting off-base property, with the possible exception of Three Mile and Six Mile Creeks. Twenty-seven monitoring wells were sampled as part of the Off-Base Groundwater Contamination Area of Concern. Also, more than 300 domestic wells were sampled.

Reference report: Volume 32 of the Draft-final Remedial Investigations Report dated December 1996.

- b) There has been contamination found in both Six Mile and Three Mile Creeks. As part of our assessment of the creeks, we have evaluated the effects of individual and combined chemicals on various receptors. However, such chemical effects, whether dealing with one or several chemicals, are unique and must be evaluated on a case-by-case basis. For the off-base portion of Six Mile Creek, the contaminants include low-level concentrations of polycyclic aromatic hydrocarbons

(PAHs) and polychlorinated bi-phenyls (PCBs) in the surface water and sediments. For the off-base portion of Three Mile Creek, the contaminants include moderate level concentrations of VOCs, SVOCs, metals, PAHs and PCBs in the surface water and sediments. Remedies are being evaluated for these sites and proposed plans will be issued within the next year. Several of the off-base monitoring wells and private wells that were sampled were adjacent to the creeks. The results showed that contamination has not traveled from the creeks to the wells. Furthermore, during the investigations, it was found that groundwater in the area south and southeast of the base flows into Six Mile Creek and not from the creek into the surrounding groundwater, therefore, it is extremely unlikely that contaminants in the creek would be transferred to adjacent homeowner wells.

Reference reports: Volumes 6 and 11 of the Draft-final Remedial Investigations Report dated December 1996, Draft Feasibility Study Report for Three Mile Creek AOC and Six Mile Creek AOC dated January 1999, Six Mile Creek Summary Report dated March 2000.

- c) The off-base investigations that sampled monitoring wells and private wells concluded that there is no evidence that people were exposed to ethylene glycol in drinking water at levels of health concern in the Griffiss area. The results of the investigations were well publicized. Several fact sheets were issued and several public meetings were held. Although NYSDOH acknowledges that Mrs. Melkun's well was not tested, it was not a deliberate oversight. Results of the sampling in the early 1980s in the vicinity of Mrs. Melkun's home did not indicate any pattern of groundwater contamination, nor were results above drinking water standards and, therefore, the sampling effort was discontinued. As a result, further testing of wells, including Mrs. Melkun's well, was not performed.

Reference reports: Volume 32 of the Draft-final Remedial Investigations Report dated December 1996; Public Health Assessment Addendum for Griffiss AFB, dated September 9, 1996 (Agency for Toxic Substances and Disease Registry).

- d) The water and the sediments of Six Mile and Three Mile Creeks were thoroughly tested. The results analyzed under the CERCLA program showed that there is no significant risk to adults or children when playing or fishing in the creeks. However, NYSDOH does include state-wide fish advisories for all stream, creeks and water bodies. These restrictions known as the NYSDOH Fish Consumption Advisories provide general warnings or restrictions for recreational fishers who may eat the fish. The NYSDOH Fish Consumption Advisories are provided to all individuals who seek a NYS fishing license and a copy can be obtained by contacting the NYSDOH. The NYSDOH Fish Consumption Advisories are issued independent of the CERCLA process.

Reference reports: Volumes 6 and 11 of the Draft-final Remedial Investigations Report dated December 1996, Draft Feasibility Study Report for Three Mile Creek AOC and Six Mile Creek AOC dated January 1999, Six Mile Creek Summary Report dated March 2000.



### **Comment #3 (Paul Landry)**

Mr. Landry asked for a summary of the overall status of base cleanup.

### **Response #3**

A brief summary was provided after the meeting. The status will be documented and passed out at the next Restoration Advisory Board meeting.

### **WRITTEN COMMENTS**

One letter was received during the public comment period. That letter was sent by Mrs. Freda Melkun and was dated February 14, 2002. The comments in the letter have been summarized below. Many of the comments are general comments not related to a specific proposed plan. Two comments are related to specific proposed plans that were presented at the February 7, 2002, public meeting.

**Comment 1:** Mrs. Melkun stated that her well was not tested, although she requested the Health Department to sample.

**Response 1:** The NYSDOH acknowledges that Mrs. Melkun's well was not tested. It was not a deliberate oversight. Results of the sampling in the early 1980s in the vicinity of Mrs. Melkun's home did not indicate any pattern of groundwater contamination, nor were results above drinking water standards and the sampling effort was discontinued.

**Comment 2:** Mrs. Melkun reported suspecting chemical contamination to be the source of an illness in 1980 and also reported green bath water, dead fish and animals.

**Response 2:** There are reports that occasionally the green dye used to mark the runways in winter appeared in Six Mile Creek. NYSDOH and the Air Force have no records of reports of dead fish and animals in the vicinity of the base. As stated above, the off-base investigations that sampled monitoring wells and private wells concluded that there is no evidence that people were exposed to ethylene glycol or other contaminants in drinking water at levels of health concern in the Griffiss area.

**Comment 3:** Mrs. Melkun witnessed run-off from spraying planes going into the ground along with trichloroethylene.

**Response 3:** A comprehensive environmental investigation has been completed at Griffiss Air Force Base and no records exist of trichloroethylene being sprayed on the planes. De-icing sprays comprised of glycols were used at various parts of the base. The status of the projects and maps of the contaminated areas are regularly reported at Restoration Advisory Board Meetings. The Apron areas where planes were parked do have petroleum and solvent contamination and these areas of contamination have been defined. However, please note that these areas are located well within the base boundary and are being addressed by the Air Force.

**Comment 4: Comment on Building 3 Drywell Proposed Plan:** Mrs. Melkun repeated her concern with contamination from the drywell moving to the air or groundwater.

**Response 4:** Groundwater samples were taken near the location of the former drywell. The results from sampling efforts in 1994 and 1997 are presented on page 6 of the proposed plan. The 1997 groundwater sampling indicated the presence of four VOCs and one SVOC, however, none of the concentrations exceeded the most stringent criterion. The risk assessment associated with the chemical concentrations found during the Remedial Investigations is presented on page 10 of the proposed plan. The results of the human health baseline risk assessment indicate that chemicals in the soil and groundwater should not present a risk under the current and future scenarios. The drywell and surrounding soils were totally removed in 1987. There is no contamination present to move from soil to air or soil to groundwater. The most recent groundwater sampling detected concentrations of TCE less than the most stringent drinking water standards. Contamination at levels equal to or less than the drinking water standards pose no threat to indoor air quality.

**Comment 5:** Mrs. Melkun stated her disappointment that no further sampling will be performed as contamination has shifted from Griffiss to her area.

**Response 5:** As stated above, extensive off-base investigations have been completed and it has been determined that there is no contamination at levels of health concern affecting off-base property, with the possible exception of Three Mile and Six Mile Creeks. Twenty-seven monitoring wells were sampled as part of the Off-Base Groundwater Contamination Area of Concern. Also, more than 300 domestic wells were sampled.

**Comment 6:** Mrs. Melkun repeated her concern for swimmers in Six Mile Creek and requested the posting of notices.

**Response 6:** The water and the sediments of Six Mile and Three Mile Creeks were thoroughly tested. The results were analyzed and showed that there is no significant risk to adults or children when playing or fishing in the creeks provided adherence to the NYSDOH Fish Consumption Advisories. Therefore, there are no additional restrictions or warnings beyond the fishing health advisory required for recreational use of the creeks.

**Comment 7:** Mrs. Melkun stated there should have been compensation for the health problems resulting from contaminated water.

**Response 7:** There is no documentation that contamination released by Griffiss AFB has caused health problems to off-base residents.

**Comment 8: Comment on Electrical Power Substation Proposed Plan:** Mrs. Melkun is concerned about the dioxins and furans and wants to know the cause.

**Response 8:** When transformer fluids get extremely hot, dioxins and furans are released. They are also associated with PCBs. Therefore, the dioxins and furans were associated with PCB transformer spills. Dioxin (2,3,7,8-TCDD) concentrations did not exceed the

40 nanograms per kilogram (ng/kg) soil guidance value in any sample. There were no high levels detected.

Agency for Toxic Substances and Diseases Registry (ATSDR), 1995, *Public Health Assessment for Griffiss Air Force Base, Rome, Oneida County, New York*, CERCLIS NY4571924451, prepared for U.S. Department of Health and Human Services, Public Health Service, Albany, New York.

\_\_\_\_\_, 1988, *Health Assessment for Griffiss Air Force Base, Rome, New York*, prepared for U.S. Department of Health and Human Services, Public Health Service, Albany, New York.

Air Force Base Conversion Agency (AFBCA), January 2002, *Proposed Plan Building 26 AOC*, Rome, New York.

Engineering Science, July 1981, *Installation Restoration Program Phase I, Records Search, Hazardous Materials Disposal Site*, prepared for United States Air Force, AFESC/DEVP, Tyndall Air Force Base, Florida.

Geotech, February 1991, *Hydrogeology Study Report, Griffiss AFB, Rome, New York*, Grand Junction, Colorado.

Law Engineering and Environmental Services, Inc. (Law), February 1995, *Final Technical Memorandum Predesign Investigation Former Building 26, Griffiss Air Force Base, New York*, Kennesaw, Georgia.

Weston, November 1985, *Installation Restoration Program Phase II - Problem Confirmation and Quantification Study Stage 2, Griffiss Air Force Base, Rome, New York*, prepared for United States Air Force, Brooks AFB, Texas.

\_\_\_\_\_, December 1982, *Installation Restoration Program Phase II - Problem Confirmation and Quantification Study Stage 1, Griffiss Air Force Base, Rome, New York*, prepared for United States Air Force, Brooks AFB, Texas.

**Final Record of Decision for  
Building 117 Source Removal  
Area of Concern  
(ST-10) at the  
Former Griffiss Air Force Base  
Rome, New York**

**April 2002**

**AIR FORCE BASE CONVERSION AGENCY**

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# List of Abbreviations and Acronyms

AFB	Air Force Base
AFBCA	Air Force Base Conversion Agency
AOC	Area of Concern
ARAR	Applicable or Relevant and Appropriate Requirement
ATSDR	Agency for Toxic Substances and Disease Registry
BGS	below ground surface
BRAC	Base Realignment and Closure Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DFAS	Defense Finance and Accounting Services
DoD	Department of Defense
EPA	United States Environmental Protection Agency
FFA	Federal Facility Agreement
IRP	Installation Restoration Program
µg/L	micrograms per liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEADS	Northeast Air Defense Sector
NPL	National Priorities List
NYANG	New York Air National Guard
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PAH	polycyclic aromatic hydrocarbons
PDI	Predesign Investigation
ROD	Record of Decision
SAC	Strategic Air Command
SARA	Superfund Amendments and Reauthorization Act
SVOC	semivolatile organic compound
STARS	Spill Technology and Remediation Series
TCLP	toxicity characteristic leaching procedure
UST	underground storage tank
VOC	volatile organic compound



### **1.1 Site Name and Location**

The Building 117 Source Removal Area of Concern (AOC) (site identification designation ST-10) is located at the former Griffiss Air Force Base (AFB) in Rome, Oneida County, New York.

### **1.2 Statement of Basis and Purpose**

This Record of Decision (ROD) presents no further action for soil and groundwater as the selected remedy for the Building 117 Source Removal AOC at the former Griffiss AFB. This alternative has been chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The remedy has been selected by the United States Air Force (Air Force) in conjunction with the United States Environmental Protection Agency (EPA) and with the concurrence of the New York State Department of Environmental Conservation (NYSDEC) pursuant to the Federal Facility Agreement (FFA) among the parties under Section 120 of CERCLA. This decision is based on the administrative record file for this site.

### **1.3 Description of Selected Remedy**

The selected remedy for the Building 117 Source Removal AOC is no further action for soil and groundwater. Residual levels of contaminants in the soil do not exceed

the NYSDEC Spill Technology and Remediation Series (STARS) soil cleanup values, with the exception of naphthalene, which slightly exceeded the STARS value in one sample. Therefore, since residual levels of contaminants in the soil are limited in extent and do not pose a risk for continued groundwater contamination, the soil is not considered to represent a current or potential threat to public health or the environment.

Several semivolatile organic compounds (SVOCs) exceeded the New York State (NYS) Class GA groundwater standards and guidance values, but a risk screening analysis indicated no unacceptable risk to potential future residents from ingestion of groundwater at this site. In addition, none of these constituents were detected in the soil leachate, indicating that there is no existing source of groundwater contamination at the site. Under the 1993 Base Realignment and Closure Act (BRAC), this site is located on property that is being retained by the Department of Defense (DoD) and is being utilized by the Air Force Research Laboratory as a research and development facility.

#### **1.4 Statutory Determinations**

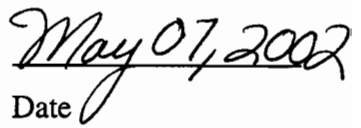
It has been determined that no remedial action is necessary at the Building 117 Source Removal AOC. The Air Force Base Conversion Agency (AFBCA) and EPA, with concurrence from NYSDEC, have determined that no further action is warranted for this site. Notwithstanding this determination, future landowners will be notified in the property deed that the groundwater at the site contained contaminants that exceeded the NYS groundwater standards and guidance values

#### **1.5 Authorizing Signatures**

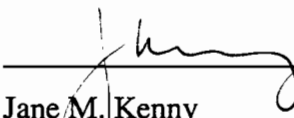
On the basis of the previous removal action and subsequent investigations performed at the Building 117 Source Removal AOC, there is no evidence that residual contamination at this site poses a current or future potential threat to human health or the environment. Future landowners will be notified in the property deed that the groundwater at the site contained contaminants that exceeded the NYS groundwater standards and guidance values. The New York State Department of Environmental Conservation has concurred with the selected remedy presented in this Record of Decision.

  
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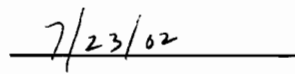
Albert F. Lowas, Jr.  
Director  
Air Force Base Conversion Agency

  
\_\_\_\_\_

Date

  
\_\_\_\_\_

Jane M. Kenny  
Regional Administrator  
United States Environmental Protection Agency, Region 2

  
\_\_\_\_\_

Date

## **2.1 Site Name, Location, and Brief Description**

The Building 117 Source Removal AOC (site identification designation ST-10) is located at the former Griffiss AFB in Rome, Oneida County, New York. Pursuant to Section 105 of CERCLA, Griffiss AFB was included on the National Priorities List (NPL) on July 15, 1987. On August 21, 1990, the EPA, NYSDEC, and the Air Force entered into an FFA under Section 120 of CERCLA.

The Building 117 Source Removal AOC consists of a parking lot and the former location of a large steam-generating plant that operated from the 1940s through 1986. The steam plant, which was located in the west-central portion of the base (see Figure 1), was demolished in 1988 and the parking lot was constructed. Two 25,000-gallon No. 6 fuel oil underground storage tanks (USTs), which were installed in 1964 (see Figure 2), were also removed in 1988.

## **2.2 Site History and Enforcement Activities**

### **2.2.1 The Former Griffiss AFB Operational History**

The mission of the former Griffiss AFB varied over the years. The base was activated on February 1, 1942, as Rome Air Depot, with the mission of storage, maintenance, and shipment of material for the U.S. Army Air Corps. Upon creation of the Air Force in 1947, the depot was renamed Griffiss AFB. The base became an electronics center in 1950, with the transfer of Watson Laboratory Complex (later Rome Air Development Center [1951], Rome Laboratory, and then the Information Directorate at Rome Research

Site, established with the mission of accomplishing applied research, development, and testing of electronic air-ground systems). The 49th Fighter Interceptor Squadron was also added. The Headquarters of the Ground Electronics Engineering Installations Agency was established in June 1958 to engineer and install ground communications equipment throughout the world. On July 1, 1970, the 416th Bombardment Wing of the Strategic Air Command (SAC) was activated with the mission of maintenance and implementation of both effective air refueling operations and long-range bombardment capability. Griffiss AFB was designated for realignment under the BRAC in 1993 and 1995, resulting in deactivation of the 416th Bombardment Wing in September 1995. Rome Laboratory and the Northeast Air Defense Sector (NEADS) will continue to operate at their current locations; the New York Air National Guard (NYANG) operated the runway for the 10th Mountain Division deployments until October 1998, when they were relocated to Fort Drum; and the Defense Finance and Accounting Services (DFAS) has established an operating location at the former Griffiss AFB.

## **2.2.2 Environmental Background**

As a result of the various national defense missions carried out at the former Griffiss AFB since 1942, hazardous and toxic substances were used and hazardous wastes were generated, stored, or disposed at various sites on the installation. The defense missions involved, among others, procurement, storage, maintenance, and shipping of war materiel; research and development; and aircraft operations and maintenance.

Numerous studies and investigations under the DoD Installation Restoration Program (IRP) have been carried out to locate, assess, and quantify the past toxic and hazardous waste storage, disposal, and spill sites. These investigations included a records search in 1981 (Engineering Science 1981), interviews with base personnel, a field inspection, compilation of an inventory of wastes, evaluation of disposal practices, and an assessment to determine the nature and extent of site contamination; Problem Confirmation and Quantification studies (similar to what is now designated a Site Investigation) in 1982 (Weston 1982) and 1985 (Weston 1985); soil and groundwater analyses in 1986; a basewide health assessment in 1988 by the U.S. Public Health Service, Agency for Toxic Substances and Disease Registry (ATSDR) (ATSDR 1988); base-specific hydrology investigations in 1989 and 1990 (Geotech 1991); a groundwater investigation in 1991; and

site-specific investigations between 1989 and 1993. ATSDR issued a Public Health Assessment for Griffiss AFB, dated October 23, 1995 (ATSDR 1995), and an addendum, dated September 9, 1996.

In March 1992, the agencies modified the FFA in resolving a dispute concerning the Draft Final Primary Document "Identification of AOCs." Article II of the "Resolution of Disputes" identified nine sites (including the Building 117 site) to be designated as Source AOCs for the purposes of coordinating and implementing source removal actions. Pursuant to Section 300.5 of the NCP and Section 101 of CERCLA, the Air Force was required to conduct a source removal action at each of the nine sites.

An investigation known as a Predesign Investigation (PDI) was conducted in 1993 and 1994. Results from this investigation covering the Building 117 Source Removal AOC were issued to the EPA and NYSDEC in February 1995 (Law 1995) and can be found in the document entitled, "Final Technical Memorandum/PDI Report."

## **2.3 Community Participation**

A proposed plan for the Building 117 Source Removal AOC (AFBCA 2002), indicating no further action, was released to the public on Wednesday, January 23, 2002. The document was made available to the public in both the administrative record file located at 153 Brooks Road in the Griffiss Business and Technology Park and in the Information Repository maintained at the Jervis Public Library. The notice announcing the availability of this document was published in the *Rome Sentinel* on Monday, January 21, 2002. A public comment period lasting from January 23, 2002 to February 21, 2002, was set up to encourage public participation in the alternative selection process. In addition, a public meeting was held on Thursday, February 7, 2002. The AFBCA, the New York State Department of Health (NYSDOH), and NYSDEC were present at the meeting and the AFBCA answered questions about issues at the AOC and the proposal under consideration. A response to the comments received during this period is included in the Responsiveness Summary, which is part of this ROD (see Section 3).

## **2.4 Scope and Role of Site Response Action**

The decision for no further action encompasses both soil and groundwater at the Building 117 Source Removal AOC. The site does not pose an unacceptable risk to human health and the environment.

## **2.5 Site Characteristics**

The former Griffiss AFB covered approximately 3,552 contiguous acres in the lowlands of the Mohawk River Valley in Rome, Oneida County, New York. Topography within the valley is relatively flat, with elevations on the former Griffiss AFB ranging from 435 to 595 feet above mean sea level. Three Mile Creek, Six Mile Creek (both of which drain into the New York State (NYS) Barge Canal, located to the south of the base), and several state-designated wetlands are located on the former Griffiss AFB, which is bordered by the Mohawk River on the west. Due to its high average precipitation and predominantly silty sands, the former Griffiss AFB is considered a groundwater recharge zone.

The Building 117 Source Removal AOC is located in the west-central portion of the base (see Figure 1). Groundwater in this area flows in a south and southwest direction, and the depth to groundwater ranges from 11.5 feet below ground surface (BGS) to 15 feet BGS. The soils are generally silty sand with some clay, cobbles, and gravel.

This AOC consists of a parking lot and the former location of a large steam-generating plant that operated from the 1940s through 1986. Two 25,000-gallon No. 6 fuel oil USTs were installed in 1964 northeast of the steam plant (see Figure 2). These steel tanks were 10 feet in diameter, 44 feet long, and 6 feet BGS. The steam plant was demolished in 1988 and the parking lot was constructed. Both tanks were removed during the steam plant demolition. According to interviews with base personnel, any contaminated soil found during excavation of the tanks was removed. There is no NYSDEC open spill associated with this site.

### **2.5.1 Predesign Investigation**

A PDI was conducted at this AOC in November and December 1993 to evaluate whether petroleum-contaminated soil was removed during the 1988 excavation of the two 25,000-gallon USTs. Five soil borings (117MB-1 and 117SB-2 through 117SB-5) were

drilled near the former location of the USTs. The soil borings were advanced to depths of 14 to 23 feet BGS to evaluate the conditions of subsurface soils and to collect samples for chemical and geotechnical analyses. Soil boring 117MB-1 was advanced to a depth of 23 feet BGS and was subsequently converted to monitoring well 117MW-1. Borings 117SB-2 and 117SB-5 were used as temporary groundwater observation wells to identify the presence of free product in the surficial aquifer at the site.

Samples were collected at 2-foot depth intervals in each soil boring. Based on the results of soil headspace screening, two soil samples from each borehole were then selected for chemical analysis; the sample with the highest headspace reading from the vadose zone and the sample from the groundwater interface. If organic compounds were not detected during the headspace screening, the interval from 0 to 2 feet and the groundwater interface were sampled and analyzed.

#### **2.5.1.1 Soil Leachate Results**

Soil samples collected during the PDI were analyzed for volatile organic compounds (VOCs) and SVOCs using the toxicity characteristic leaching procedure (TCLP) extraction process. A comparison of the analytical results to regulatory standards and guidance values is provided in Section 2.7. Twelve VOCs (1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, hexachloro-butadiene, trichloroethylene, m-xylene, naphthalene, o-xylene, p-xylene, toluene, n-butylbenzene, t-butylbenzene, and tetrachloroethylene) were detected in TCLP leachate from subsurface soil samples collected in November 1993 from borings 117MB-1, 117SB-2, and 117SB-3. Concentrations of these compounds ranged from 0.26 micrograms per liter ( $\mu\text{g/L}$ ) for toluene to 15  $\mu\text{g/L}$  for naphthalene. The majority of VOCs were detected in soil boring 117MB-1 from samples collected at 8 to 10 feet and 12 to 14 feet BGS. In addition, the VOC analytical results for a majority of the soil samples collected indicated the presence of carbon tetrachloride and chloroform at low levels. An investigation of these results determined that laboratory-introduced contamination was the source for these two compounds. A confirmatory sample collected in May 1994 provided further evidence that carbon tetrachloride and chloroform were not present in the soil. No SVOCs were detected in the 1993 soil samples.



### **2.5.1.2 Groundwater Results**

Thirteen VOCs (1,2,3-trimethylbenzene, 1,3,5-trimethylbenzene, benzene, chloroform, ethylbenzene, naphthalene, p-cymene, sec-butylbenzene, carbon tetrachloride, toluene, trichloroethylene, xylene, and n-propylbenzene) were detected at low concentrations in groundwater samples collected during the PDI from monitoring well 117MW-1 (see Section 2.7). Naphthalene was detected at the highest concentration of 4  $\mu\text{g/L}$ . The SVOC data was rejected due to the high turbidity of the groundwater samples and an error in the laboratory SVOC extraction method. The well was redeveloped and sampled again in April 1994 for SVOC analysis. Fourteen SVOCs were detected in the groundwater collected during this resampling effort. Free product was not detected in either of the temporary observation wells.

### **2.5.2 Further Investigation and Results**

Based on the results of the PDI, additional field activities were conducted in March and April 1995 at the Building 117 Source Removal AOC to further characterize surface and subsurface soils. Four additional borings (117SB-6, 117SB-7, 117SB-8, and 117SB-9) were installed at the former tank locations. Soil samples were collected at 2-foot intervals from borings 117SB-8 and 117SB-9 and subjected to soil headspace screening for VOCs. Based on the screening results, soil samples were then collected from borings 117SB-6 and 117SB-7 at the depth intervals with the highest headspace reading in the vadose zone. Soil samples also were collected from borings 117SB-6 and 117SB-7 at the groundwater interface. All four soil samples were submitted for TCLP VOC and SVOC analyses. Naphthalene was the only organic detected in the leachate from samples collected during the 1995 field effort; it was detected at a concentration of 6  $\mu\text{g/L}$  in one sample (soil sample 117SB-7, 10 to 12 feet BGS).

## **2.6 Current and Potential Future Site Use**

The current and future land use designations for the Building 117 Source Removal AOC are commercial/administrative. This building is part of an Air Force research and development complex at the former Griffiss AFB.

## **2.7 Comparison of Analytical Results and Regulatory Standards**

### **2.7.1 Soil Leachate Comparison**

Soil analytical results were compared to cleanup values published in the NYSDEC STARS Memo No. 1. This document, which sets forth the criteria for addressing these types of constituents, states that constituent concentrations in soil should not exceed levels where soil leachate might exceed groundwater standards. For fuel- or gasoline-contaminated soil, the policy further states that if the concentrations of volatile hydrocarbons or semi-volatile hydrocarbons in the leachate do not exceed the NYS groundwater standards or guidance values, the soil is not considered to impact groundwater quality.

Only one VOC, naphthalene, was detected ( $15 \mu\text{g/L}$ ) in the soil leachate during the PDI (sample 117MB-1F, 8 to 10 feet BGS) at a concentration above the STARS Memo No. 1 guidance value of  $10 \mu\text{g/L}$ . No SVOCs were detected in the leachate from the Building 117 Source Removal AOC soil at concentrations exceeding the guidance values.

### **2.7.2 Groundwater Comparison**

The NYS Class GA Groundwater Standards were used to assess groundwater quality. Class GA waters are defined as fresh groundwater found in the saturated zone of unconsolidated deposits, consolidated rock, and bedrock. The best use of Class GA waters is as a source of potable water. Therefore, comparison of the groundwater sample analytical results for the Building 117 AOC to Class GA standards is a conservative approach because it is unlikely that groundwater at the former base will be used as a source of potable water. Another Applicable or Relevant and Appropriate Requirement (ARAR) would be the NYS Drinking Water Standards.

None of the VOC concentrations detected in the 117MW-1 groundwater sample exceeded NYS groundwater standards or guidance values. In particular, naphthalene, which had been detected in the soil leachate, was not detected in the groundwater at concentrations exceeding the NYS groundwater standard, indicating that it does not represent a potential threat to the groundwater. Five SVOCs (benzo[a]anthracene, benzo[b]-fluoranthene, benzo[k] fluoranthene, chrysene, and indeno[1,2,3-cd]pyrene), with con-

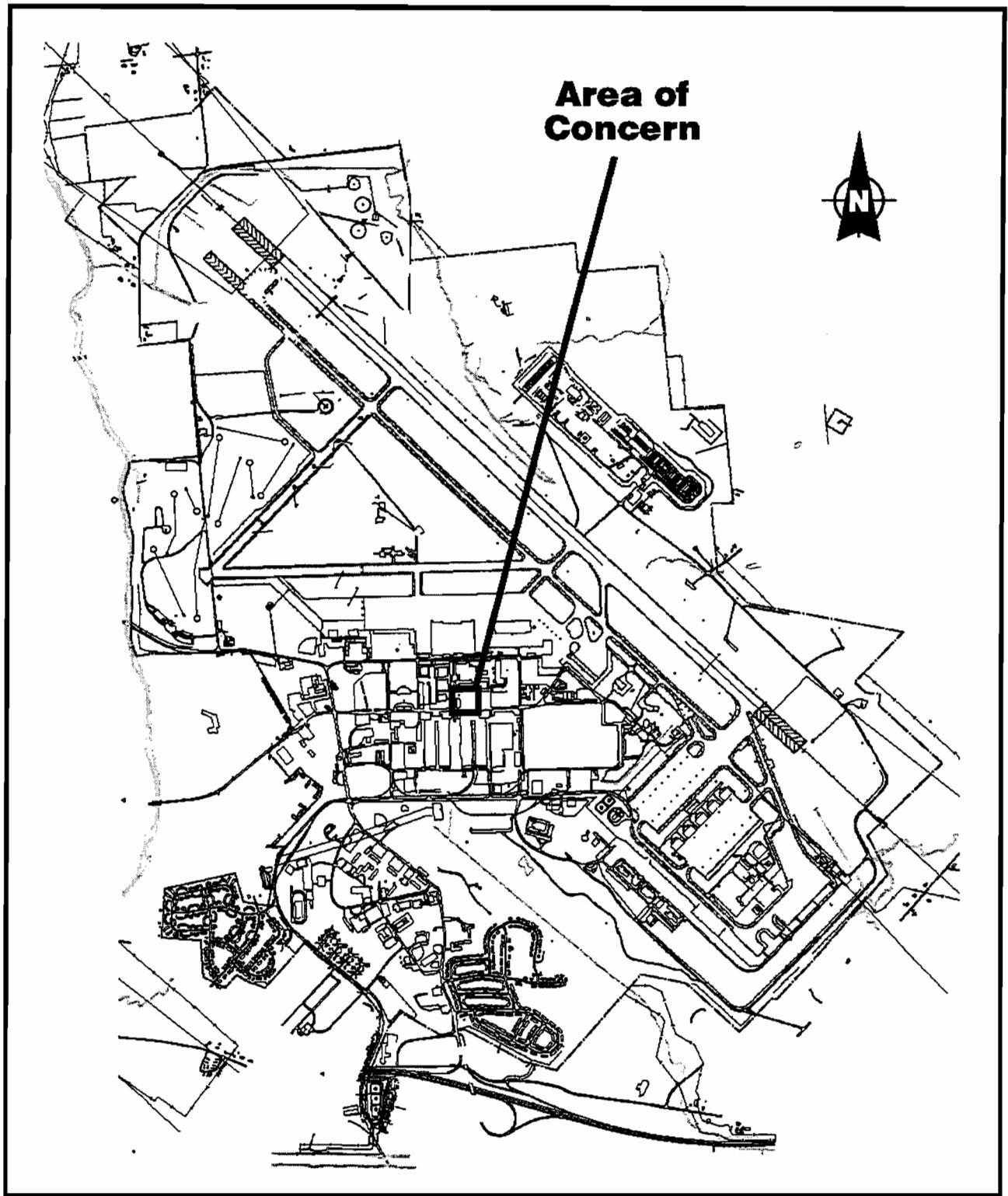
centrations ranging from 0.016 to 0.21  $\mu\text{g/L}$ , exceeded the NYS groundwater guidance value of 0.002  $\mu\text{g/L}$ . The NYS Drinking Water Standard for the five SVOCs is 50  $\mu\text{g/L}$ . The concentration of benzo(a)pyrene, (0.086  $\mu\text{g/L}$ ) exceeded the NYS groundwater standard of nondetect, but was below the NYS Drinking Water Standard of 0.2  $\mu\text{g/L}$ . None of these SVOCs were detected in the TCLP soil leachate at concentrations exceeding the STARS Memo No. 1 guidance values.

Although this site is designated for commercial/administrative use and it is unlikely that groundwater will be used as a source of potable water, a simple risk screening was performed for the SVOCs listed above to estimate the carcinogenic risk to any potential future residents from ingestion of the groundwater. A noncarcinogenic risk screening was not performed because there are no toxicity values for these SVOCs.

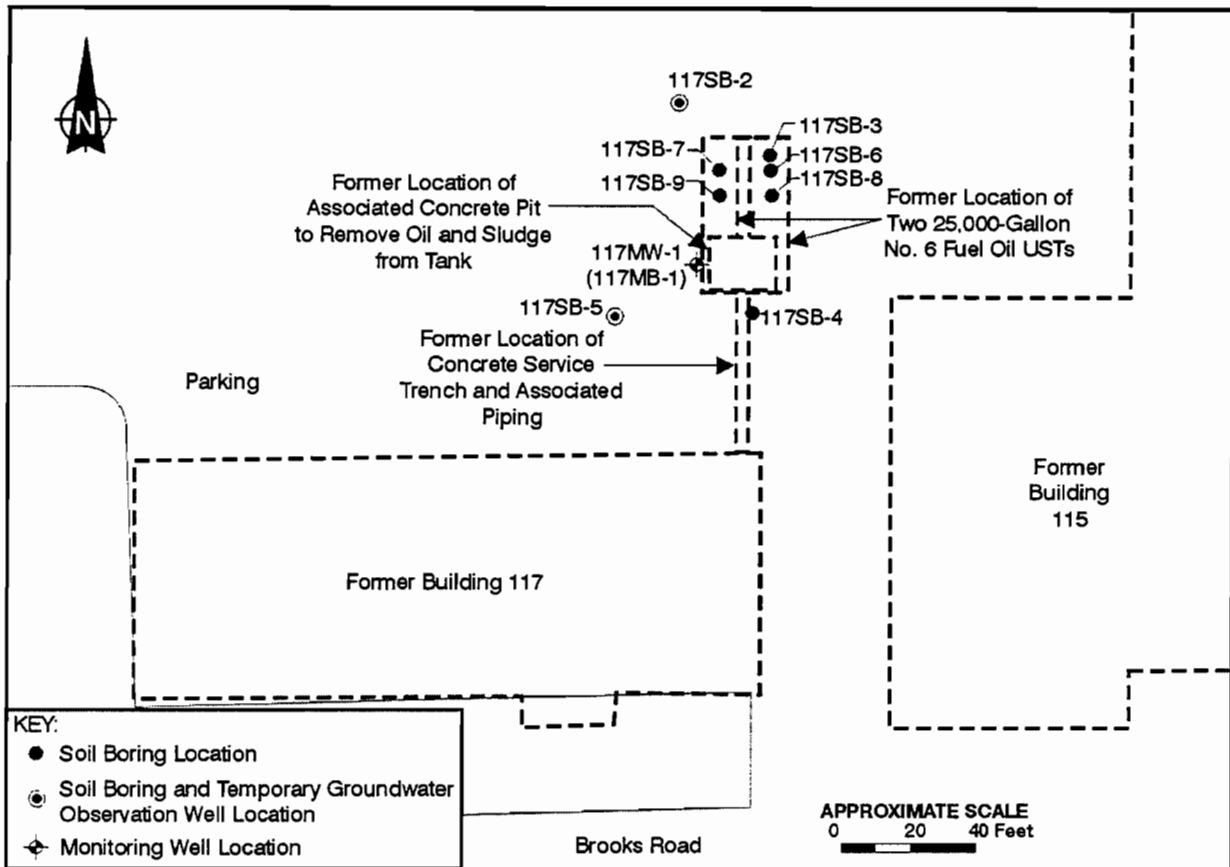
EPA's range of acceptable risk is generally considered to be 1 in 10,000 ( $1 \times 10^{-4}$ ) to 1 in 1,000,000 ( $1 \times 10^{-6}$ ) of an individual developing cancer over a 70-year lifetime from exposure to contaminants sometime during their lifetime (cancer toxicity values were derived assuming a lifetime of 70 years). Standard exposure assumptions are generally used for specific scenarios. For this risk screening, the standard exposure assumptions for residential use of groundwater were used, which included an ingestion rate of 2 liters of water per day for a 30-year exposure duration (the high end residence time in an owner-occupied home). Using the approach documented in EPA's Risk Assessment Guidance for Superfund, Human Health Evaluation Manual Part B, December 1991, the total risk associated with ingesting groundwater containing the five SVOCs listed above was calculated as 1 in 100,000 ( $1 \times 10^{-5}$ ), which is within EPA's acceptable risk range, and therefore no further action is necessary.

## **2.8 Documentation of Significant Changes**

No significant changes have been made to the selected remedy from the time the proposed plan was released for public comment.



**Figure 1 Location of Building 117 Source Removal AOC**



**Building 2 Building 117 Source Removal AOC**

On Wednesday, January 23, 2002, AFBCA, following consultation with and concurrence of the EPA and NYSDEC, released for public comment the proposed plan for no further action with land use restrictions at the Building 117 AOC at the former Griffiss AFB. The release of the proposed plan initiated the public comment period, which concluded on February 21, 2002.

During the public comment period, a public meeting was held on Thursday, February 7, 2002, at 5:00 p.m. at the Floyd Town Hall located at 8299 Old Floyd Road, Rome, New York. A court reporter recorded the proceedings of the public meeting. A copy of the transcript and attendance list is included in the Administrative Record. The public comment period and the public meeting were intended to elicit public comment on the proposal for remedial action at the site.

This document summarizes and provides responses to the verbal comments received at the public meeting and the written comments received during the public comment period. Several of the oral and written comments do not pertain to the six proposed plans that were issued for public comment but do relate to the base closure in general. Responses to such general comments, however, are also provided in this Responsiveness Summary.

## ORAL COMMENTS

### Comment #1 (Mark Reynolds)

Mr. Reynolds asked what the source of fuel was at the Building 117 site before 1964 and where it was stored.

### Response #1

Coal was the fuel source for the Building 117 steam plant from the 1940s through the 1960s. There are several former coal storage areas on the base. All were sampled during the Area of Interest program.

### Comment #2 (Freda Melkun)

- a) Mrs. Melkun asked a general question regarding potential movement of contamination off base and asked if any off-base investigations will take place.
- b) She stated that Three Mile Creek and Six Mile Creek are contaminated, so their groundwater wells should be contaminated, and asked what the chemical effects are when you start mixing everything together.
- c) She stated that ethylene glycols were found in some of the off-base wells and her well was supposed to be tested and it never was.
- d) She stated that children are still swimming in the creeks.

### Response #2

- a) Several off-base investigations have been completed and it has been determined that there is no contamination at levels of health concern affecting off-base property, with the possible exception of Three Mile and Six Mile Creeks. Twenty-seven monitoring wells were sampled as part of the Off-Base Groundwater Contamination Area of Concern. Also, more than 300 domestic wells were sampled.

Reference report: Volume 32 of the Draft-final Remedial Investigations Report dated December 1996.

- b) There has been contamination found in both Six Mile and Three Mile Creeks. As part of our assessment of the creeks, we have evaluated the effects of individual and combined chemicals on various receptors. However, such chemical effects, whether dealing with one or several chemicals, are unique and must be evaluated on a case-by-case basis. For the off-base portion of Six Mile Creek, the contaminants include low-level concentrations of polycyclic aromatic hydrocarbons (PAHs) and polychlorinated bi-phenyls (PCBs) in the surface water and sediments. For the off-base portion of Three Mile Creek, the contaminants include moderate level concentrations of VOCs, SVOCs, metals, PAHs and PCBs in the surface water and sediments. Remedies are being evaluated for these sites and

proposed plans will be issued within the next year. Several of the off-base monitoring wells and private wells that were sampled were adjacent to the creeks. The results showed that contamination has not traveled from the creeks to the wells. Furthermore, during the investigations, it was found that groundwater in the area south and southeast of the base flows into Six Mile Creek and not from the creek into the surrounding groundwater, therefore, it is extremely unlikely that contaminants in the creek would be transferred to adjacent homeowner wells.

Reference reports: Volumes 6 and 11 of the Draft-final Remedial Investigations Report dated December 1996, Draft Feasibility Study Report for Three Mile Creek AOC and Six Mile Creek AOC dated January 1999, Six Mile Creek Summary Report dated March 2000.

- c) The off-base investigations that sampled monitoring wells and private wells concluded that there is no evidence that people were exposed to ethylene glycol in drinking water at levels of health concern in the Griffiss area. The results of the investigations were well publicized. Several fact sheets were issued and several public meetings were held. Although NYSDOH acknowledges that Mrs. Melkun's well was not tested, it was not a deliberate oversight. Results of the sampling in the early 1980s in the vicinity of Mrs. Melkun's home did not indicate any pattern of groundwater contamination, nor were results above drinking water standards and, therefore, the sampling effort was discontinued. As a result, further testing of wells, including Mrs. Melkun's well, was not performed.

Reference reports: Volume 32 of the Draft-final Remedial Investigations Report dated December 1996; Public Health Assessment Addendum for Griffiss AFB, dated September 9, 1996 (Agency for Toxic Substances and Disease Registry)

- d) The water and the sediments of Six Mile and Three Mile Creeks were thoroughly tested. The results analyzed under the CERCLA program showed that there is no significant risk to adults or children when playing or fishing in the creeks. However, NYSDOH does include state-wide fish advisories for all stream, creeks and water bodies. These restrictions known as the NYSDOH Fish Consumption Advisories provide general warnings or restrictions for recreational fishers who may eat the fish. The NYSDOH Fish Consumption Advisories are provided to all individuals who seek a NYS fishing license and a copy can be obtained by contacting the NYSDOH. The NYSDOH Fish Consumption Advisories are issued independent of the CERCLA process.

Reference reports: Volumes 6 and 11 of the Draft-final Remedial Investigations Report dated December 1996, Draft Feasibility Study Report for Three Mile Creek AOC and Six Mile Creek AOC dated January 1999, Six Mile Creek Summary Report dated March 2000.

### **Comment #3 (Paul Landry)**

Mr. Landry asked for a summary of the overall status of base cleanup.



### **Response #3**

A brief summary was provided after the meeting. The status will be documented and passed out at the next Restoration Advisory Board meeting.

### **WRITTEN COMMENTS**

One letter was received during the public comment period. That letter was sent by Mrs. Freda Melkun and was dated February 14, 2002. The comments in the letter are summarized below. Many of the comments are general comments not related to a specific proposed plan. Two comments, however, are related to specific proposed plans that were presented at the February 7, 2002, public meeting.

**Comment 1:** Mrs. Melkun stated that her well was not tested, although she requested the Health Department to sample.

**Response 1:** The NYSDOH acknowledges that Mrs. Melkun's well was not tested. It was not a deliberate oversight. Results of the sampling in the early 1980s in the vicinity of Mrs. Melkun's home did not indicate any pattern of groundwater contamination, nor were results above drinking water standards and the sampling effort was discontinued.

**Comment 2:** Mrs. Melkun reported suspecting chemical contamination to be the source of an illness in 1980 and also reported green bath water, dead fish and animals.

**Response 2:** There are reports that occasionally the green dye used to mark the runways in winter appeared in Six Mile Creek. NYSDOH and the Air Force have no records of reports of dead fish and animals in the vicinity of the base. As stated above, the off-base investigations that sampled monitoring wells and private wells concluded that there is no evidence that people were exposed to ethylene glycol or other contaminants in drinking water at levels of health concern in the Griffiss area.

**Comment 3:** Mrs. Melkun witnessed run-off from spraying planes going into the ground along with trichoroethylene.

**Response 3:** A comprehensive environmental investigation has been completed at Griffiss Air Force Base and no records exist of trichloroethylene being sprayed on the planes. De-icing sprays comprised of glycols were used at various parts of the base. The status of the projects and maps of the contaminated areas are regularly reported at Restoration Advisory Board Meetings. The Apron areas where planes were parked do have petroleum and solvent contamination and these areas of contamination have been defined. However, please note that these areas are located well within the base boundary and are being addressed by the Air Force.

**Comment 4: Comment on Building 3 Drywell Proposed Plan:** Mrs. Melkun repeated her concern with contamination from the drywell moving to the air or groundwater.

**Response 4:** Groundwater samples were taken near the location of the former drywell. The results from sampling efforts in 1994 and 1997 are presented on page 6 of the proposed plan. The 1997 groundwater sampling indicated the presence of four VOCs and one SVOC, however, none of the concentrations exceeded the most stringent criterion. The risk assessment associated with the chemical concentrations found during the Remedial Investigations is presented on page 10 of the proposed plan. The results of the human health baseline risk assessment indicate that chemicals in the soil and groundwater should not present a risk under the current and future scenarios. The drywell and surrounding soils were totally removed in 1987. There is no contamination present to move from soil to air or soil to groundwater. The most recent groundwater sampling detected concentrations of TCE less than the most stringent drinking water standards. Contamination at levels equal to or less than the drinking water standards pose no threat to indoor air quality.

**Comment 5:** Mrs. Melkun stated her disappointment that no further sampling will be performed as contamination has shifted from Griffiss to her area.

**Response 5:** As stated above, extensive off-base investigations have been completed and it has been determined that there is no contamination at levels of health concern affecting off-base property, with the possible exception of Three Mile and Six Mile Creeks. Twenty-seven monitoring wells were sampled as part of the Off-Base Groundwater Contamination Area of Concern. Also, more than 300 domestic wells were sampled.

**Comment 6:** Mrs. Melkun repeated her concern for swimmers in Six Mile Creek and requested the posting of notices.

**Response 6:** The water and the sediments of Six Mile and Three Mile Creeks were thoroughly tested. The results were analyzed and showed that there is no significant risk to adults or children when playing or fishing in the creeks provided adherence to the NYSDOH Fish Consumption Advisories. Therefore, there are no additional restrictions or warnings beyond the fishing health advisory required for recreational use of the creeks.

**Comment 7:** Mrs. Melkun stated there should have been compensation for the health problems resulting from contaminated water.

**Response 7:** There is no documentation that contamination released by Griffiss AFB has caused health problems to off-base residents.

**Comment 8: Comment on Electrical Power Substation Proposed Plan:** Mrs. Melkun is concerned about the dioxins and furans and wants to know the cause.

**Response 8:** When transformer fluids get extremely hot, dioxins and furans are released. They are also associated with PCBs. Therefore, the dioxins and furans were associated with PCB transformer spills. Dioxin (2,3,7,8-TCDD) concentrations did not exceed the 40 nanograms per kilogram (ng/kg) soil guidance value in any sample. There were no high levels detected.

Agency for Toxic Substances and Diseases Registry (ATSDR), 1995, *Public Health Assessment for Griffiss Air Force Base, Rome, Oneida County, New York*, CERCLIS NY4571924451, prepared for U.S. Department of Health and Human Services, Public Health Service, Albany, New York.

\_\_\_\_\_, 1988, *Health Assessment for Griffiss Air Force Base, Rome, New York*, prepared for U.S. Department of Health and Human Services, Public Health Service, Albany, New York.

Air Force Base Conversion Agency (AFBCA), January 2002, *Proposed Plan Building 117 AOC*, Rome, New York.

Engineering Science, July 1981, *Installation Restoration Program Phase I, Records Search, Hazardous Materials Disposal Site*, prepared for United States Air Force, AFESC/DEVP, Tyndall Air Force Base, Florida.

Geotech, February 1991, *Hydrogeology Study Report, Griffiss AFB, Rome, New York*, Grand Junction, Colorado.

Law Engineering and Environmental Services, Inc., February 1995 *Final Predesign Investigation Building 117 (Former Steam Plant), Griffiss Air Force Base, New York*, Kennesaw, Georgia.

Weston, November 1985, *Installation Restoration Program Phase II - Problem Confirmation and Quantification Study Stage 2, Griffiss Air Force Base, Rome, New York*, prepared for United States Air Force, Brooks AFB, Texas.

\_\_\_\_\_, December 1982, *Installation Restoration Program Phase II - Problem Confirmation and Quantification Study Stage 1, Griffiss Air Force Base, Rome, New York*, prepared for United States Air Force, Brooks AFB, Texas.

**Final Record of Decision for  
Bulk Fuel Storage Source  
Removal Area of Concern  
(ST-04) at the  
Former Griffiss Air Force Base  
Rome, New York**

**April 2002**

**AIR FORCE BASE CONVERSION AGENCY**

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# List of Abbreviations and Acronyms

AFB	Air Force Base
AFBCA	Air Force Base Conversion Agency
AOC	Area of Concern
ARAR	Applicable or Relevant and Appropriate Requirement
ATSDR	Agency for Toxic Substances and Disease Registry
BFSA	Bulk Fuel Storage Area
BGS	below ground surface
BRAC	Base Realignment and Closure Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DFAS	Defense Finance and Accounting Services
DoD	Department of Defense
EPA	United States Environmental Protection Agency
FFA	Federal Facility Agreement
IRP	Installation Restoration Program
µg/L	micrograms per liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEADS	Northeast Air Defense Sector
NPL	National Priorities List
NYANG	New York Air National Guard
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PAH	polycyclic aromatic hydrocarbon
PDI	Predesign Investigation
ROD	Record of Decision
SAC	Strategic Air Command
SARA	Superfund Amendments and Reauthorization Act
SVOC	semivolatile organic compound
STARS	Spill Technology and Remediation Series
TCLP	toxicity characteristic leaching procedures
UST	underground storage tank
VOC	volatile organic compound

### **1.1 Site Name and Location**

The Bulk Fuel Storage Area (BFSA) Source Removal Area of Concern (AOC) (site identification designation ST-04) is located at the former Griffiss Air Force Base (AFB) in Rome, Oneida County, New York. The designation as a source removal site refers to the previous removal of a 275-gallon underground storage tank (UST) from this site. This Record of Decision (ROD) addresses soil in the vicinity of this former tank (UST-654-2).

### **1.2 Statement of Basis and Purpose**

This ROD presents the no further action for soil as the selected remedy for the BFSA Source Removal AOC at the former Griffiss AFB. This alternative has been chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The remedy has been selected by the United States Air Force (Air Force) in conjunction with the United States Environmental Protection Agency (EPA) and with the concurrence of the New York State Department of Environmental Conservation (NYSDEC) pursuant to the Federal Facility Agreement (FFA) among the parties under Section 120 of CERCLA. This decision is based on the administrative record file for this site.



### **1.3 Description of Selected Remedy**

The selected remedy for the BFSAs Source Removal AOC is no further action. Residual levels of contamination in the soils do not exceed the NYSDEC Spill Technology and Remediation Series (STARS) soil cleanup values. Therefore, since residual levels of contaminants in the soil are limited in extent and do not pose a risk for continued groundwater contamination, the soil is not considered to be a current or potential threat to public health or the environment. The NYSDEC spill number 9104707 associated with this site has been closed based on the above.

Groundwater in the vicinity of the AOC is minimally impacted with petroleum constituents; however, it is believed these constituents are largely due to an upgradient spill (NYSDEC spill number 9810949), which is currently being addressed in a separate investigation under the direction of the NYSDEC's Bureau of Spill Prevention and Response. It should be noted that the property containing the BFSAs Source Removal AOC has already been transferred and, because of the potential for contamination from an upgradient release, groundwater restrictions were included in the property deed upon transfer. While these restrictions do provide the current property owner an extra measure of protection from potential groundwater contamination, they are separate from the action being taken under this ROD.

### **1.4 Statutory Determinations**

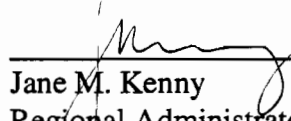
It has been determined that no remedial action is necessary at the BFSAs Source Removal AOC. The Air Force Base Conversion Agency (AFBCA) and EPA, with concurrence from NYSDEC, have determined that no further action for soil is warranted for this site.

### **1.5 Authorizing Signatures**

On the basis of the previous removal action and subsequent investigations performed at the BFSAs Source Removal AOC, there is no evidence that residual contamination at this site poses a current or future potential threat to human health or the environment. The New York State Department of Environmental Conservation has concurred with the selected remedy presented in this Record of Decision.

  
\_\_\_\_\_  
Albert F. Lowas, Jr.  
Director  
Air Force Base Conversion Agency

May 7, 2002  
Date

  
\_\_\_\_\_  
Jane M. Kenny  
Regional Administrator  
United States Environmental Protection Agency, Region 2

7/23/02  
Date

## 2.1 Site Name, Location, and Brief Description

The BFSA AOC (site identification designation ST-04) is located at the former Griffiss AFB in Rome, Oneida County, New York. Pursuant to Section 105 of CERCLA, Griffiss AFB was included on the National Priorities List (NPL) on July 15, 1987. On August 21, 1990, the EPA, NYSDEC, and the Air Force entered into an FFA under Section 120 of CERCLA.

The BFSA Source Removal AOC is located at the southern boundary of the former base (see Figure 1). The BFSA, which contains a variety of aboveground storage tanks, USTs, fuel unloading stations, and a fuel transfer pump station, has been used since 1942 to store JP-4 and JP-8 jet fuel. This ROD addresses only the area of the former 275-gallon UST-654-2 (see Figure 2).

## 2.2 Site History and Enforcement Activities

### 2.2.1 The Former Griffiss AFB Operational History

The mission of the former Griffiss AFB varied over the years. The base was activated on February 1, 1942, as Rome Air Depot, with the mission of storage, maintenance, and shipment of material for the U.S. Army Air Corps. Upon creation of the Air Force in 1947, the depot was renamed Griffiss AFB. The base became an electronics center in 1950, with the transfer of Watson Laboratory Complex (later Rome Air Development Center [1951], Rome Laboratory, and then the Information Directorate at Rome Research Site, established with the mission of accomplishing applied research, development, and

testing of electronic air-ground systems). The 49th Fighter Interceptor Squadron was also added. The Headquarters of the Ground Electronics Engineering Installations Agency was established in June 1958 to engineer and install ground communications equipment throughout the world. On July 1, 1970, the 416th Bombardment Wing of the Strategic Air Command (SAC) was activated with the mission of maintenance and implementation of both effective air refueling operations and long-range bombardment capability. Griffiss AFB was designated for realignment under the Base Realignment and Closure Act (BRAC) in 1993 and 1995, resulting in deactivation of the 416th Bombardment Wing in September 1995. Rome Laboratory and the Northeast Air Defense Sector (NEADS) will continue to operate at their current locations; the New York Air National Guard (NYANG) operated the runway for the 10th Mountain Division deployments until October 1998, when they were relocated to Fort Drum; and the Defense Finance and Accounting Services (DFAS) has established an operating location at the former Griffiss AFB.

## **2.2.2 Environmental Background**

As a result of the various national defense missions carried out at the former Griffiss AFB since 1942, hazardous and toxic substances were used and hazardous wastes were generated, stored, or disposed at various sites on the installation. The defense missions involved, among others, procurement, storage, maintenance, and shipping of war materiel; research and development; and aircraft operations and maintenance.

Numerous studies and investigations under the U.S. Department of Defense (DoD) Installation Restoration Program (IRP) have been carried out to locate, assess, and quantify the past toxic and hazardous waste storage, disposal, and spill sites. These investigations included a records search in 1981 (Engineering Science 1981), interviews with base personnel, a field inspection, compilation of an inventory of wastes, evaluation of disposal practices, and an assessment to determine the nature and extent of site contamination; Problem Confirmation and Quantification studies (similar to what is now designated a Site Investigation) in 1982 (Weston 1982) and 1985 (Weston 1985); soil and groundwater analyses in 1986; a basewide health assessment in 1988 by the U.S. Public Health Service, Agency for Toxic Substances and Disease Registry (ATSDR) (ATSDR 1988); base-specific hydrology investigations in 1989 and 1990 (Geotech 1991); a

groundwater investigation in 1991; and site-specific investigations between 1989 and 1993. ATSDR issued a Public Health Assessment for Griffiss AFB, dated October 23, 1995 (ATSDR 1995), and an addendum, dated September 9, 1996.

In March 1992, the agencies modified the FFA in resolving a dispute concerning the Draft Final Primary Document "Identification of AOCs." Article II of the "Resolution of Disputes" identified nine sites (including the BFSA site) to be designated as Source AOCs for the purposes of coordinating and implementing source removal actions. Pursuant to Section 300.5 of the NCP and Section 101 of CERCLA, the Air Force was required to conduct a source removal action at each of the nine sites.

An investigation known as a Predesign Investigation (PDI) was conducted in 1993 and 1994. Results from this investigation covering the BFSA Source Removal AOC were issued to the EPA and NYSDEC in February 1995 (Law 1995) and can be found in the document entitled, "Final Technical Memorandum/PDI Report."

## **2.3 Community Participation**

A proposed plan for the BFSA Source Removal AOC (AFBCA 2002), indicating no further action for soil, was released to the public on Wednesday, January 23, 2002. The document was made available to the public in both the administrative record file located at 153 Brooks Road in the Griffiss Business and Technology Park and in the Information Repository maintained at the Jervis Public Library. The notice announcing the availability of this document was published in the *Rome Sentinel* on Monday, January 21, 2002. A public comment period lasting from January 23, 2002 to February 21, 2002, was set up to encourage public participation in the alternative selection process. In addition, a public meeting was held on Thursday, February 7, 2002. The AFBCA, the New York State Department of Health (NYSDOH), and NYSDEC were present at the meeting and the AFBCA answered questions about issues at the AOC and the proposal under consideration. A response to the comments received during this period is included in the Responsiveness Summary, which is part of this ROD (see Section 3).

## **2.4 Scope and Role of Site Response Action**

The decision for no further action encompasses the soil at the BFSA Source Removal AOC. The site does not pose an unacceptable risk to human health and the environment.

## **2.5 Site Characteristics**

The former Griffiss AFB covered approximately 3,552 contiguous acres in the lowlands of the Mohawk River Valley in Rome, Oneida County, New York. Topography within the valley is relatively flat, with elevations on the former Griffiss AFB ranging from 435 to 595 feet above mean sea level. Three Mile Creek, Six Mile Creek (both of which drain into the New York State (NYS) Barge Canal, located to the south of the base), and several state-designated wetlands are located on the former Griffiss AFB, which is bordered by the Mohawk River on the west. Due to its high average precipitation and predominantly silty sands, the former Griffiss AFB is considered a groundwater recharge zone.

The BFSA Source Removal AOC is located at the southern boundary of the former base (see Figure 1). Groundwater in this area flows in a southerly direction, and the depth to groundwater ranges from 5.0 to 8.5 feet below ground surface (BGS). The soil is generally silty sand.

This no further action ROD for soil addresses only the area of UST-654-2, a former 275-gallon UST (see Figure 2) that contained JP-4 fuel drained from a now out-of-service fillstand. The tank, which was located west of three bulk storage tanks, was removed in 1991 following a spill (NYSDEC spill number 9104707). Records were not detailed enough to determine the extent of the excavation, the amount of soil removed, or the depth of the tanks. The subsequent studies, which are described below, were performed to determine whether the 1991 removal action was adequate.

### **2.5.1 Predesign Investigation**

A PDI was conducted at this AOC in 1993 and 1994 to determine whether petroleum-contaminated soil remained following excavation and removal of the 275-gallon tank. Three soil borings were advanced to depths ranging from 8 to 18 feet in the area of suspected soil contamination, and soil samples were collected for chemical and geotech-

nical analyses. Boring BFSSB-3 was located at the barge off-loading line near the site of a valve failure that resulted in the JP-4 spill. Soil boring BFSMB-1 was subsequently converted to a groundwater monitoring well and renamed BFSMW-4 (see Figure 2).

Based on the results of soil headspace screening, two soil samples from each borehole were selected for chemical analysis; the sample with the highest headspace reading from the vadose zone and the sample from the groundwater interface. If organic compounds were not detected during the headspace screening, the interval from 0 to 2 feet and the groundwater interface were sampled and analyzed.

### **2.5.1.1 Soil Leachate Results**

Soil samples collected during the PDI were analyzed for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) using the toxicity characteristic leaching procedure (TCLP) extraction process. A comparison of the analytical results to regulatory standards and guidance values is provided in Section 2.7. Eleven VOCs (1,2,4-trimethylbenzene, benzene, ethylbenzene, m-xylene, o-xylene, p-xylene, trichloroethylene, naphthalene, isopropylbenzene, t-butylbenzene, and n-butylbenzene) were detected in TCLP leachate from subsurface soil samples, primarily those collected from BFSMB-1. Concentrations of these compounds ranged from 0.16 micrograms per liter ( $\mu\text{g/L}$ ) for benzene to 1.60  $\mu\text{g/L}$  for trichloroethylene, all of which fell below applicable groundwater standards and guidance values (see following section).

The VOC analytical results for a majority of the soil samples collected also indicated the presence of carbon tetrachloride and chloroform at low concentrations. An investigation of these results determined that laboratory-introduced contamination was the source of these two compounds. A confirmatory sample provided further evidence that carbon tetrachloride and chloroform are not present in the soil at this source removal AOC. No SVOCs were detected in the soil leachate.

### **2.5.1.2 Groundwater Results**

Five VOCs (benzene, 1,2,4 trimethylbenzene, isopropylbenzene, sec-butylbenzene, and t-butylbenzene) were detected at concentrations of 1  $\mu\text{g/L}$  or less in the groundwater samples collected during the PDI from monitoring well BFSMW-4. The original SVOC data were rejected due to the high turbidity of the groundwater sample and

an error in the laboratory SVOC extraction method. The well was redeveloped and sampled again in April 1994 for SVOC analysis. Seven SVOCs (anthracene, benzo(a)pyrene, benzo(b)-fluoranthene, benzo(k)fluoranthene, fluoranthene, fluorene, and pyrene) were detected at low concentrations in the groundwater samples.

### **2.5.2 BFSA Additional Investigation**

In July 1999, as part of the continuing BFSA site characterization effort, four soil samples were collected in the vicinity of the former location of the 275-gallon UST (see Figure 2) and analyzed for VOCs. Ten VOCs (m-xylene, p-xylene, ethylbenzene, isopropylbenzene, n-propylbenzene, p-isopropyl toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, n-butylbenzene, and t-butylbenzene) were detected at low concentrations in the subsurface soil samples. Concentrations of these compounds ranged from 0.30  $\mu\text{g}/\text{kg}$  for t-butylbenzene to 41  $\mu\text{g}/\text{kg}$  for 1,2,4-trimethylbenzene, all of which fell below applicable standards and guidance values (see following section).

## **2.6 Current and Potential Future Site Use**

The current and future land use designations for the BFSA Source Removal AOC are commercial/industrial.

## **2.7 Comparison of Analytical Results and Regulatory Standards**

### **2.7.1 Soil Leachate Comparison**

The analytical results for soil samples were compared to cleanup values published in the NYSDEC STARS Memo No. 1, as applicable. This document, which sets forth the criteria for addressing these types of constituents, states that constituent concentrations in soil should not exceed levels where soil leachate might exceed groundwater standards. For fuel- or gasoline-contaminated soil, the policy further states that if the concentrations of volatile hydrocarbons and semivolatile hydrocarbons in the leachate do not exceed the NYS groundwater standards or guidance values, the soil is not considered to impact groundwater quality.

The concentrations of all VOCs and SVOCs detected in the soil leachate in the 1994 study were below the NYS groundwater standards and guidance values as published



in STARS Memo No. 1 as TCLP extraction guidance values. In addition, the leachate concentrations derived from the soil analytical results in the 1999 study were below the TCLP alternative guidance values published in STARS Memo No. 1. As such, the soil at the BFSFA Source Removal AOC does not pose a risk for continued groundwater contamination.

### **2.7.2 Groundwater Comparison**

The NYS Class GA Groundwater Standards were used to assess groundwater quality. Class GA waters are defined as fresh groundwater found in the saturated zone of unconsolidated deposits, consolidated rock, and bedrock. The best use of Class GA waters is as a source of potable water. Therefore, comparison of the groundwater sample analytical results for the BFSFA AOC to Class GA standards is a conservative approach because it is unlikely that groundwater at the former base will be used as a source of potable water. Another Applicable or Relevant and Appropriate Requirement (ARAR) for the groundwater would be the NYS Drinking Water Standards.

None of the VOC concentrations exceeded the NYS Class GA Groundwater Standards. Three SVOCs exceeded the NYS Class GA standards: benzo(a)pyrene, with a concentration of 0.0063  $\mu\text{g/L}$ , exceeded the standard of nondetect; benzo(b)fluoranthene, with a concentration of 0.0084  $\mu\text{g/L}$ , exceeded the standard of 0.002  $\mu\text{g/L}$ ; and benzo(k)fluoranthene, with a concentration of 0.0053  $\mu\text{g/L}$ , exceeded the standard of 0.002  $\mu\text{g/L}$ . The NYS Drinking Water Standard is 0.2  $\mu\text{g/L}$  for benzo(a)pyrene, and 50  $\mu\text{g/L}$  for the other two SVOCs. Groundwater at the BFSFA AOC is being further evaluated under NYSDEC spill number 9810949 (see Section 1.3).

## **2.8 Documentation of Significant Changes**

No significant changes have been made to the selected remedy from the time the proposed plan was released for public comment.

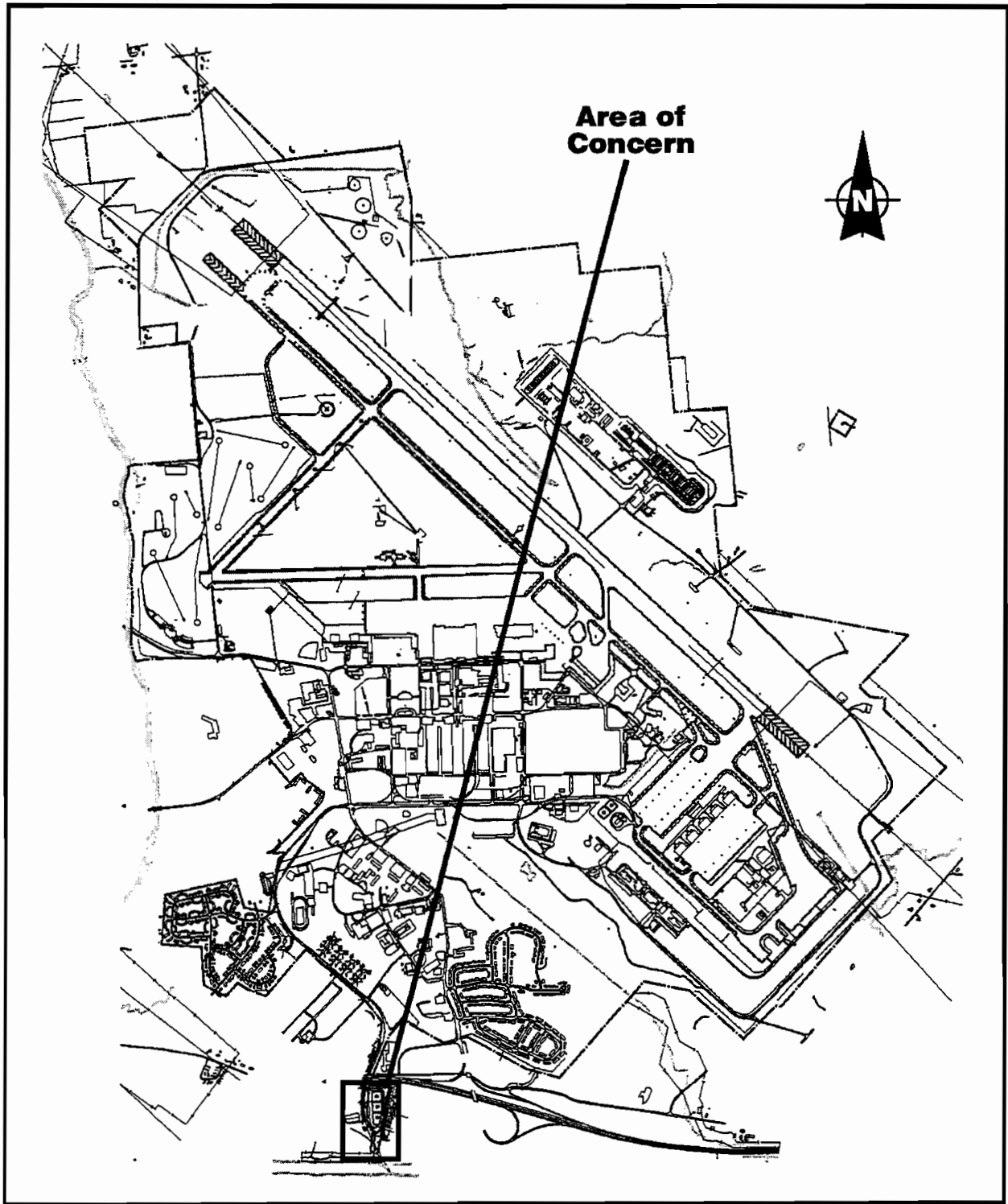
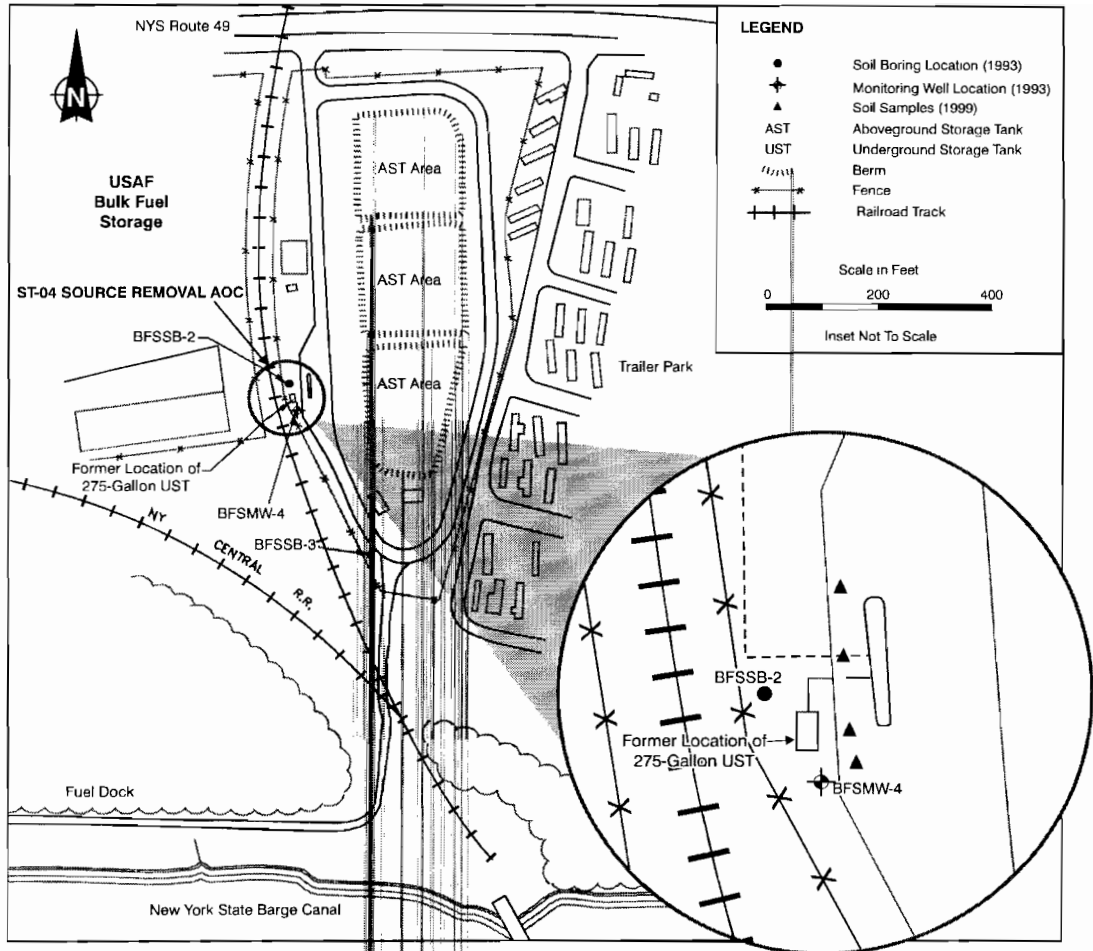


Figure 1 Location of BfSA Source Removal AOC



**Figure 2 ST-04 BFSFA Source Removal Site of 275-Gallon UST**

On Wednesday, January 23, 2002, AFBCA, following consultation with and concurrence of the EPA and NYSDEC, released for public comment the proposed plan for no further action for soil at the BFSA AOC at the former Griffiss AFB. The release of the proposed plan initiated the public comment period, which concluded on February 21, 2002.

During the public comment period, a public meeting was held on Thursday, February 7, 2002, at 5:00 p.m. at the Floyd Town Hall located at 8299 Old Floyd Road, Rome, New York. A court reporter recorded the proceedings of the public meeting. A copy of the transcript and attendance list are included in the Administrative Record. The public comment period and the public meeting were intended to elicit public comment on the proposal for remedial action at the site.

This document summarizes and provides responses to the oral comments received at the public meeting and the written comments received during the public comment period. Several of the oral and written comments do not pertain to the six proposed plans that were issued for public comment but do relate to the base closure in general. Responses to such general comments, however, are also provided in this Responsiveness Summary.

There were no comments in the oral or written questions specific to the Bulk Fuel Storage Area.

## ORAL COMMENTS

### Comment #1 (Freda Melkun)

- a) Mrs. Melkun asked a general question regarding potential movement of contamination off base and asked if any off-base investigations will take place.
- b) She stated that Three Mile Creek and Six Mile Creek are contaminated, so their groundwater wells should be contaminated, and asked what the chemical effects are when you start mixing everything together.
- c) She stated that ethylene glycols were found in some of the off-base wells and her well was supposed to be tested and it never was.
- d) She stated that children are still swimming in the creeks.

### Response #1

- a) Several off-base investigations have been completed and it has been determined that there is no contamination at levels of health concern affecting off-base property, with the possible exception of Three Mile and Six Mile Creeks. Twenty-seven monitoring wells were sampled as part of the Off-Base Groundwater Contamination Area of Concern. Also, more than 300 domestic wells were sampled.

Reference report: Volume 32 of the Draft-final Remedial Investigations Report dated December 1996.

- b) There has been contamination found in both Six Mile and Three Mile Creeks. As part of our assessment of the creeks, we have evaluated the effects of individual and combined chemicals on various receptors. However, such chemical effects, whether dealing with one or several chemicals, are unique and must be evaluated on a case-by-case basis. For the off-base portion of Six Mile Creek, the contaminants include low-level concentrations of polycyclic aromatic hydrocarbons (PAHs) and polychlorinated bi-phenyls (PCBs) in the surface water and sediments. For the off-base portion of Three Mile Creek, the contaminants include moderate level concentrations of VOCs, SVOCs, metals, PAHs and PCBs in the surface water and sediments. Remedies are being evaluated for these sites and proposed plans will be issued within the next year. Several of the off-base monitoring wells and private wells that were sampled were adjacent to the creeks. The results showed that contamination has not traveled from the creeks to the wells. Furthermore, during the investigations, it was found that groundwater in the area south and southeast of the base flows into Six Mile Creek and not from the creek into the surrounding groundwater, therefore, it is extremely unlikely that contaminants in the creek would be transferred to adjacent homeowner wells.

Reference reports: Volumes 6 and 11 of the Draft-final Remedial Investigations Report dated December 1996, Draft Feasibility Study Report for Three Mile Creek AOC and Six

Mile Creek AOC dated January 1999, Six Mile Creek Summary Report dated March 2000.

- c) The off-base investigations that sampled monitoring wells and private wells concluded that there is no evidence that people were exposed to ethylene glycol in drinking water at levels of health concern in the Griffiss area. The results of the investigations were well publicized. Several fact sheets were issued and several public meetings were held. Although NYSDOH acknowledges that Mrs. Melkun's well was not tested, it was not a deliberate oversight. Results of the sampling in the early 1980s in the vicinity of Mrs. Melkun's home did not indicate any pattern of groundwater contamination, nor were results above drinking water standards and, therefore, the sampling effort was discontinued. As a result, further testing of wells, including Mrs. Melkun's well, was not performed.

Reference reports: Volume 32 of the Draft-final Remedial Investigations Report dated December 1996; Public Health Assessment Addendum for Griffiss AFB, dated September 9, 1996 (Agency for Toxic Substances and Disease Registry)

- d) The water and the sediments of Six Mile and Three Mile Creeks were thoroughly tested. The results analyzed under the CERCLA program showed that there is no significant risk to adults or children when playing or fishing in the creeks. However, NYSDOH does include state-wide fish advisories for all stream, creeks and water bodies. These restrictions known as the NYSDOH Fish Consumption Advisories provide general warnings or restrictions for recreational fishers who may eat the fish. The NYSDOH Fish Consumption Advisories are provided to all individuals who seek a NYS fishing license and a copy can be obtained by contacting the NYSDOH. The NYSDOH Fish Consumption Advisories are issued independent of the CERCLA process.

Reference reports: Volumes 6 and 11 of the Draft-final Remedial Investigations Report dated December 1996, Draft Feasibility Study Report for Three Mile Creek AOC and Six Mile Creek AOC dated January 1999, Six Mile Creek Summary Report dated March 2000.

#### **Comment #2 (Paul Landry)**

Mr. Landry asked for a summary of the overall status of base cleanup.

#### **Response #2**

A brief summary was provided after the meeting. The status will be documented and passed out at the next Restoration Advisory Board meeting.

#### **WRITTEN COMMENTS**

One letter was received during the public comment period. That letter was sent by Mrs. Freda Melkun and was dated February 14, 2002. The comments in the letter have been

summarized below. Many of the comments are general comments not related to a specific proposed plan. Two comments, however, are related to specific proposed plans that were presented at the February 7, 2002, public meeting.

**Comment 1:** Mrs. Melkun stated that her well was not tested, although she requested the Health Department to sample.

**Response 1:** The NYSDOH acknowledges that Mrs. Melkun's well was not tested. It was not a deliberate oversight. Results of the sampling in the early 1980s in the vicinity of Mrs. Melkun's home did not indicate any pattern of groundwater contamination, nor were results above drinking water standards and the sampling effort was discontinued.

**Comment 2:** Mrs. Melkun reported suspecting chemical contamination to be the source of an illness in 1980 and also reported green bath water, dead fish and animals.

**Response 2:** There are reports that occasionally the green dye used to mark the runways in winter appeared in Six Mile Creek. NYSDOH and the Air Force have no records of reports of dead fish and animals in the vicinity of the base. As stated above, the off-base investigations that sampled monitoring wells and private wells concluded that there is no evidence that people were exposed to ethylene glycol or other contaminants in drinking water at levels of health concern in the Griffiss area.

**Comment 3:** Mrs. Melkun witnessed run-off from spraying planes going into the ground along with trichloroethylene.

**Response 3:** A comprehensive environmental investigation has been completed at Griffiss Air Force Base and no records exist of trichloroethylene being sprayed on the planes. De-icing sprays comprised of glycols were used at various parts of the base. The status of the projects and maps of the contaminated areas are regularly reported at Restoration Advisory Board Meetings. The Apron areas where planes were parked do have petroleum and solvent contamination and these areas of contamination have been defined. However, please note that these areas are located well within the base boundary and are being addressed by the Air Force.

**Comment 4: Comment on Building 3 Drywell Proposed Plan:** Mrs. Melkun repeated her concern with contamination from the drywell moving to the air or groundwater.

**Response 4:** Groundwater samples were taken near the location of the former drywell. The results from sampling efforts in 1994 and 1997 are presented on page 6 of the proposed plan. The 1997 groundwater sampling indicated the presence of four VOCs and one SVOC, however, none of the concentrations exceeded the most stringent criterion. The risk assessment associated with the chemical concentrations found during the Remedial Investigations is presented on page 10 of the proposed plan. The results of the human health baseline risk assessment indicate that chemicals in the soil and groundwater should not present a risk under the current and future scenarios. The drywell and surrounding soils were totally removed in 1987. There is no contamination present to move from soil to air or soil to groundwater. The most recent groundwater sampling detected

concentrations of TCE less than the most stringent drinking water standards. Contamination at levels equal to or less than the drinking water standards pose no threat to indoor air quality.

**Comment 5:** Mrs. Melkun stated her disappointment that no further sampling will be performed as contamination has shifted from Griffiss to her area.

**Response 5:** As stated above, extensive off-base investigations have been completed and it has been determined that there is no contamination at levels of health concern affecting off-base property, with the possible exception of Three Mile and Six Mile Creeks. Twenty-seven monitoring wells were sampled as part of the Off-Base Groundwater Contamination Area of Concern. Also, more than 300 domestic wells were sampled.

**Comment 6:** Mrs. Melkun repeated her concern for swimmers in Six Mile Creek and requested the posting of notices.

**Response 6:** The water and the sediments of Six Mile and Three Mile Creeks were thoroughly tested. The results were analyzed and showed that there is no significant risk to adults or children when playing or fishing in the creeks provided adherence to the NYSDOH Fish Consumption Advisories. Therefore, there are no additional restrictions or warnings beyond the fishing health advisory required for recreational use of the creeks.

**Comment 7:** Mrs. Melkun stated there should have been compensation for the health problems resulting from contaminated water.

**Response 7:** There is no documentation that contamination released by Griffiss AFB has caused health problems to off-base residents.

**Comment 8: Comment on Electrical Power Substation Proposed Plan:** Mrs. Melkun is concerned about the dioxins and furans and wants to know the cause.

**Response 8:** When transformer fluids get extremely hot, dioxins and furans are released. They are also associated with PCBs. Therefore, the dioxins and furans were associated with PCB transformer spills. Dioxin (2,3,7,8-TCDD) concentrations did not exceed the 40 nanograms per kilogram (ng/kg) soil guidance value in any sample. There were no high levels detected.



Agency for Toxic Substances and Diseases Registry (ATSDR), 1995, *Public Health Assessment for Griffiss Air Force Base, Rome, Oneida County, New York*, CERCLIS NY4571924451, prepared for U.S. Department of Health and Human Services, Public Health Service, Albany, New York.

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Air Force Base Conversion Agency (AFBCA), January 2002, *Proposed Plan Bulk Fuel Storage Area AOC*, Rome, New York.

Engineering Science, July 1981, *Installation Restoration Program Phase I, Records Search, Hazardous Materials Disposal Site*, prepared for United States Air Force, AFESC/DEVP, Tyndall Air Force Base, Florida.

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Law Engineering and Environmental Services, Inc. (Law), February 1995, *Final Technical Memorandum Predesign Investigation Bulk Fuel Storage Area Griffiss Air Force Base, New York*, Kennesaw, Georgia.

Weston, November 1985, *Installation Restoration Program Phase II - Problem Confirmation and Quantification Study Stage 2, Griffiss Air Force Base, Rome, New York*, prepared for United States Air Force, Brooks AFB, Texas.

\_\_\_\_\_, December 1982, *Installation Restoration Program Phase II - Problem Confirmation and Quantification Study Stage 1, Griffiss Air Force Base, Rome, New York*, prepared for United States Air Force, Brooks AFB, Texas.