

**EPA Superfund  
Record of Decision:**

**GRIFFISS AIR FORCE BASE (11 AREAS)  
EPA ID: NY4571924451  
OU 21  
ROME, NY  
09/27/2001**

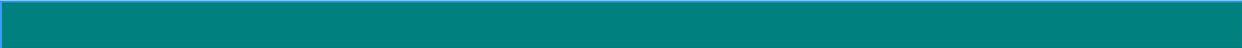
**Final Record of Decision for the  
Building 222 Area of Concern  
(DP-22) at the  
Former Griffiss Air Force Base  
Rome, New York**

**June 2001**

**AIR FORCE BASE CONVERSION AGENCY**

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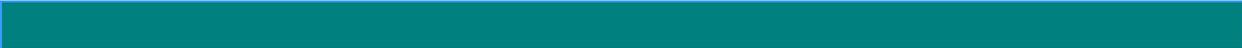
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# List of Abbreviations and Acronyms

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
BADP	Battery Acid Disposal Pit
BGS	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COPC	chemicals of potential concern
DFAS	Defense Finance and Accounting Services
DoD	Department of Defense
EPA	United States Environmental Protection Agency
FFA	Federal Facility Agreement
HI	Hazard Index
HQ	Hazard Quotient
IRP	Installation Restoration Program
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEADS	Northeast Air Defense Sector
NPL	National Priorities List
NYANG	New York Air National Guard
NYSDEC	New York State Department of Environmental Conservation
PCB	polychlorinated biphenyl
RAB	Restoration Advisory Board
RI	remedial investigation
ROD	Record of Decision
SAC	Strategic Air Command
SARA	Superfund Amendment and Reauthorization Act
SVOC	semivolatile organic compound
TBC	To-Be-Considered
VOC	volatile organic compound

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

The Building 222 Area of Concern (AOC) (site identification designation DP-22) 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 the no further action for soil with land use restrictions alternative as the selected remedial action for Building 222 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 (USEPA 1980), as amended by the Superfund Amendment and Reauthorization Act (SARA) (USEPA 1986) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (USEPA 1968). The Air Force Base Conversion Agency (AFBCA), the United States Environmental Protection Agency (EPA), and the New York State Department of Environmental Conservation (NYSDEC) have adopted this ROD through joint agreement. The decision is based on the administrative record file for this site.

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

The selected remedy for the Building 222 AOC is no further action for soil with land use restrictions for industrial/commercial use. The agencies will perform joint five-

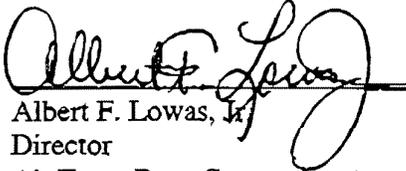
year reviews to ensure that future land use is in compliance with the transfer documents (deed) and consistent with the risk assessment for industrial/commercial use.

#### **1.4 Declaration Statement**

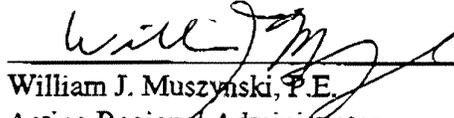
The AFBCA, EPA, and NYSDEC have determined that no further action for soil with land use restrictions are warranted for the Building 222 AOC. An interim remedial action was performed at this site in which the majority of soil contamination found during the remedial investigation was removed. The remaining chemicals detected in the soil do not exceed standards and guidance values and a potential source of groundwater contamination has been removed. The concentrations of the contaminants remaining in the site soil following the remedial action do not pose a current or potential threat to public health or the environment provided the property is used for industrial/commercial use. Groundwater at the Building 222 AOC is being further evaluated as part of the On Base Groundwater AOC Tin City Operable Unit. Future landowners will be bound, through transfer documents (deed), to the industrial/commercial reuse of the property.

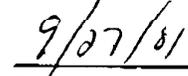
#### **1.5 Signature of Adoption of the Remedy**

On the basis of the remedial investigations and a successfully completed Interim Remedial Action performed at the Building 222 AOC, there is no evidence that residual contamination at this site poses a current or future potential threat to human health or the environment when used for industrial/commercial purposes. Future landowners will be bound, through transfer documents (deed), to the industrial/commercial reuse of the property. The NYSDEC has concurred with the selected remedial action presented in this ROD.

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

  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
William J. Muszynski, P.E.  
Acting Regional Administrator  
United States Environmental Protection Agency, Region 2

  
\_\_\_\_\_  
Date

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

The Building 222 Area of Concern (AOC) (site identification designation DP-22) is located at the former Griffiss Air Force Base (AFB) in Rome, Oneida County, New York.

Building 222 is located in the west-central portion of the base in an industrial complex referred to informally as "Tin City" (see Figure 1). This building was the former truck maintenance facility and entomology laboratory. A battery acid disposal pit (BADP) was located inside the building in the truck bay area of the building (see Figure 2). The pit was an opening approximately 2 square feet in the concrete floor that was covered with a steel grate. Baking soda-neutralized battery acids were discharged into the BADP from the 1940s to 1984.

## **2.2 Site History and Investigation Activities**

### **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 U.S. Air Force in 1947, the depot was renamed Griffiss Air Force Base. The base became an electronics center in 1950, with the transfer of Watson Laboratory Complex (later Rome Laboratory). The 49th Fighter Interceptor Squadron was also added in that year. In June 1951, the Rome Air Development Center was established with the mission of accom-

plishing applied research, development, and testing of electronic air-ground systems. The Headquarters of the Ground Electronics Engineering Installations Agency was added 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 in 1993 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.

## **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 base-wide 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.

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 agencies entered into a Federal Facility Agreement (FFA) under Section 120 of CERCLA.

Under the terms of the agreement, the Air Force was required to prepare and submit numerous reports to NYSDEC and EPA for review and comment. These reports address remedial activities that the Air Force is required to undertake under CERCLA and include identification of AOCs on base; a scope of work for a remedial investigation (RI); a work plan for the RI, including a sampling and analysis plan and a quality assurance project plan; a baseline risk assessment; a community relations plan; and an RI report. The Air Force delivered the draft-final RI report covering 31 AOCs to EPA and NYSDEC on December 20, 1996 (Law 1996). The draft Closure Certification Report for Interim Remedial Action was delivered on May 24, 2000 (Ocuto 2000).

This ROD for no further action for soil with land use restrictions is based on an evaluation of potential threats to human health and the environment due to contamination in the soil and groundwater and the performance of interim remedial actions at the Building 222 AOC.

During the RI, a site-specific baseline risk assessment (using appropriate toxicological and exposure assumptions to evaluate cancer risks and non-cancer health hazards) was conducted in order to evaluate the risks posed by detected site contaminants to the reasonably maximally exposed individual under current and future land use assumptions. The risk assessment for this site evaluated an industrial use scenario. In the RI report, the concentrations of the contaminants were compared to available standards and guidance values using federal and state environmental and public health laws that were identified as potentially applicable or relevant and appropriate requirements at the site. Chemical-specific ARARs are usually health- or risk-based numerical values or methodologies that result in a numerical value when applied to site-specific conditions. Currently, there are no chemical-specific ARARs for soil (other than for PCBs), therefore, other non-promulgated federal and state advisories and guidance values, referred to as To-Be-Considereds (TBCs), and background levels of the contaminants in the absence of TBCs, were considered.

## **Initial Site Investigations**

In 1985, grab samples of residual surface sludge were taken by the Air Force (Weston 1985). Elevated concentrations of metals were detected and the contaminated soil was removed. In a later investigation of the BADP, soil borings were installed through the pit to a depth of 12 feet. The material encountered during boring installation consisted of battery sludge of a "greenish-gray sandy texture" to a depth of 10 feet. Natural soil was encountered from 10 to 12 feet. Sample results indicated the presence of lead, copper, zinc, and antimony at elevated concentrations; however, the levels dropped abruptly below 2 feet and tended to decrease with depth. The contaminated soil were removed and the pit was covered with concrete in 1985.

## **Remedial Investigation**

In 1994, an RI was performed (Law 1996). The main objective of the RI was to investigate the nature and extent of environmental contamination from historical releases at the AOC in order to determine whether any remedial action was necessary to prevent potential threats to human health and the environment. The RI included the drilling of one deep soil boring and the sampling and analysis of six soil samples collected from the soil boring at 2-foot intervals from the ground surface to boring completion (18 feet BGS); and one grab groundwater sample.

**Soil Investigation.** Analysis of the soil samples collected during the RI indicated the presence of one VOC, 20 SVOCs, six pesticides, and 10 metals. The concentrations of three SVOCs, two pesticides/PCBs, and 13 metals exceeded potential TBCs or background screening concentrations (see Table 1).

**Groundwater Investigation.** Analysis of the grab groundwater samples indicated the presence of one volatile organic compound, five semivolatile organic compounds, and 20 metals. Cyanide was also detected in the groundwater at Building 222 but did not exceed potential groundwater ARARs or twice the detected background concentration. The sample was also analyzed for PCBs and none were detected. The con-

centrations of 12 metals exceeded potential ARARs in the grab groundwater sample (see Table 2).

### **2.3 Highlights of Community Participation**

The final proposed plan for the Building 222 AOC (AFBCA 2001), indicating no further action for soil with land use restrictions, was released to the public on Friday, February 9, 2001. The document was made available to the public in both the administrative record file located at Building 301 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 February 9, 2001. A public comment period lasting from February 9, 2001 to March 11, 2001, was set up to encourage public participation in the remedial action selection process. In addition, a public meeting was held on March 1, 2001. The AFBCA and the New York State Department of Health 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 scope of the plan for no further action for soil with land use restrictions for the Building 222 AOC addresses the soil at the site. The land use restrictions for industrial/commercial use are consistent with the risk assessment performed for occupational workers.

### **2.5 Site Characteristics**

Building 222 is located in the west-central portion of the base in an industrial complex referred to informally as "Tin City" (see Figure 1). This building was the former truck maintenance facility and entomology laboratory. A battery acid disposal pit (BADP) was located inside the building in the truck bay area of the building (see Figure 2). The pit was an opening approximately 2 square feet in the concrete floor that was covered with a steel grate. Baking soda-neutralized battery acids were discharged into the BADP from the 1940s to 1984.

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 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.

Building 222 is located on an area of the base that is topographically level, with less than 2 feet of relief occurring in the surrounding area. Building 222 is not located near major natural surface water drainage features. Runoff from the site is channeled into the base storm drain system, which discharges to the New York State Barge Canal via Three Mile Creek. Groundwater flow is toward the south-southeast.

Site surface soil consists of dark brown, fine to medium grained sand with gravel to a depth of 2 feet below ground surface (BGS). Subsurface soil consists of brown, fine to medium sandy silt with gravel.

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

The current land use designation for the Building 222 AOC is industrial. In accordance with the Griffiss Redevelopment Planning Council redevelopment scenario, the future land use designation is commercial/administrative.

## **2.7 Summary of Site Risks**

Site risks were analyzed based on the extent of contamination at the Building 222 AOC. As part of the RI, a baseline risk assessment was conducted to evaluate current and future potential risks to human health and the environment associated with contaminants found in the soil and groundwater at the site. The results of this assessment and the interim remedial action were considered when formulating this ROD for no further action for soil with land use restrictions.

## Human Health Risk Assessment

A baseline human health risk assessment was conducted during the RI to determine whether chemicals detected at the Building 222 AOC could pose health risks to individuals under current and proposed future land use. As part of the baseline risk assessment, the following four-step process was used to assess site-related human health risks for a reasonable maximum exposure scenario:

- # Hazard Identification—identifies the contaminants of concern at the site based on several factors such as toxicity, frequency of occurrence, and concentration;
- # Exposure Assessment—estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathway (e.g., ingestion of contaminated soil) by which humans are potentially exposed;
- # Toxicity Assessment—determines the types of adverse health effects associated with chemical exposures and the relationship between magnitude of exposure (dose) and severity of adverse effects (response); and
- # Risk Characterization—summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative (e.g., one-in-a-million excess cancer risk and non-cancer Hazard Index value) assessment of site-related risks and a discussion of uncertainties associated with the evaluation of the risks and hazards for the site.

Chemicals of potential concern (COPCs) were selected for use in the risk assessment based on the analytical results and data quality evaluation. All contaminants detected in the soil and groundwater at the site were considered chemicals of potential concern with the exception of inorganics detected at concentrations less than twice the mean background concentrations; iron, magnesium, calcium, potassium, and sodium, which are essential human nutrients; and compounds detected in less than 5% of the total samples (unless they were known human carcinogens). As a class, petroleum hydrocarbons were not included as a chemical of concern; however, the individual toxic constituents (e.g., benzene, toluene, ethylbenzene) were evaluated.

The human health risk assessment evaluated potential exposure of current and future occupational workers (current and future utility, construction, and industrial workers that may be exposed to chemicals detected in the site media). The various exposure sce-

narios for each population are described in Table 3. Intake assumptions, which are based on EPA guidance, are more fully described in the RI.

Quantitative estimates of carcinogenic and noncarcinogenic risks were calculated for the Building 222 AOC as part of a risk characterization. The risk characterization evaluates potential health risks based on estimated exposure intakes and toxicity values. For carcinogens, risks are estimated as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to the potential carcinogen. The risks of the individual chemicals are summed for each pathway to develop a total risk estimate. The 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 the contaminant(s) under specific exposure assumptions. Therefore, sites with carcinogenic risk below the risk range for a reasonable maximum exposure do not generally require cleanup based upon carcinogenic risk under the NCP.

To assess the overall noncarcinogenic effects posed by more than one contaminant, EPA has developed the Hazard Quotient (HQ) and Hazard Index (HI). The HQ is the ratio of the chronic daily intake of a chemical to the reference dose for the chemical. The reference dose is an estimate (with uncertainty spanning perhaps an order of magnitude or greater) of a daily exposure level for the human population, including sensitive sub-populations, that is likely to be without an appreciable risk of deleterious effects during a portion of a lifetime. The HQs are summed for all contaminants within an exposure pathway (e.g., ingestion of soil) and across pathways to determine the HI. When the HI exceeds 1, there may be concern for potential noncarcinogenic health effects if the contaminants in question are believed to cause similar toxic effects.

EPA bases its decision to conduct site remediation on the risk to human health and the environment. Cleanup actions may be taken when EPA determines that the risk at a site exceeds the cancer risk level of 1 in 10,000 ( $1 \times 10^{-4}$ ) or if the noncarcinogenic HI exceeds a level of 1. Once either of these thresholds has been exceeded, the 1 in 1,000,000 ( $1 \times 10^{-6}$ ) risk level and an HI of 1 or less may be used as the point of departure for determining remediation goals for alternatives.

## Results of Site-Specific Health Risk Assessment

Potential risks from exposure to COPCs at the Building 222 AOC were evaluated for utility, construction, and industrial workers during the RI, prior to the interim remedial action. The potential carcinogenic and noncarcinogenic risks from exposure to subsurface soil and groundwater are summarized below.

### Carcinogenic Risk

The total carcinogenic risk associated with exposure of utility workers to subsurface soil was  $4 \times 10^{-6}$ , which is within the EPA's target risk range. The pathway specific risks for utility workers from incidental ingestion of soil, inhalation of fugitive dust, and dermal contact were  $2 \times 10^{-6}$ ,  $2 \times 10^{-9}$ , and  $2 \times 10^{-6}$ , respectively.

The total carcinogenic risk associated with exposure of construction workers to subsurface soil was  $3 \times 10^{-6}$ , which is within the EPA's target risk range. The pathway specific risks for construction workers from incidental ingestion of soil, inhalation of fugitive dust, and dermal contact were  $3 \times 10^{-6}$ ,  $5 \times 10^{-10}$ , and  $4 \times 10^{-7}$ , respectively.

The total carcinogenic risk associated with exposure of industrial workers to contaminants in groundwater was  $3 \times 10^{-6}$ , which is within the EPA's target risk range. The pathway specific risks for industrial workers from ingestion, inhalation of volatiles released from groundwater, and dermal exposure to groundwater were  $3 \times 10^{-6}$ ,  $2 \times 10^{-9}$ , and  $2 \times 10^{-8}$ , respectively.

### Noncarcinogenic Risk

The total HI for potential utility workers exposed to subsurface soil was 0.6. This total HI is below the acceptable level of 1.

The total HI calculated for potential construction workers exposed to subsurface soil was 20. The calculated HIs for incidental ingestion, dermal contact and inhalation of fugitive dust were 20, 0.06, and 0.001 respectively. Antimony was the greatest risk contributor via the incidental ingestion of soil pathway with a hazard quotient of 17.

The total HI for potential industrial workers exposed to groundwater was 0.02. This HI is below the acceptable level of 1.

Toxicity values were not available for several contaminants, including 2-ethylnaphthalene, acenaphthylene, benzo(g,h,i)perylene, phenanthrene, and lead, and,

therefore, the risk arising from exposure to these compounds was assessed qualitatively. The concentrations of 2-methylnaphthalene, acenaphthylene, benzo(g,h,i)perylene, phenanthrene are all below the most stringent criteria. Lead was detected at concentrations above the most stringent criterion and is classified as a B2 carcinogen (probable human carcinogen). Possible exposures to the site concentrations of these compounds are unlikely to pose a health hazard for occupational receptors potentially performing intrusive activities at this site with the exception of lead. Continuous exposure to lead is expected to cause adverse health effects.

The results of the human health baseline risk assessment indicated that there was a potentially unacceptable risk to occupational receptors from exposure to lead in soil at the Building 222 AOC and a potentially unacceptable risk to the construction work via ingestion of soil. Quantitative evaluation of risk is subject to several conservative assumptions and should not be considered an absolute measure of risk.

Groundwater at the Building 222 AOC is being further evaluated under the On Base Groundwater AOC as part of the Tin City operable unit.

## **Uncertainties**

Uncertainties exist in many areas of the human health risk assessment process. However, use of conservative variables in intake calculations and health-protective assumptions throughout the entire risk assessment, results in an assessment that is protective of human health and the environment. Uncertainties associated with the risk assessment for the Building 222 AOC include (1) The HIs associated with dermal contact with soil were not quantified for the majority of COPCs, which may lead to underestimation of the overall risk due to dermal contact; (2) Chemical samples were collected from areas of known contamination which can result in a biased data set that may overestimate risk; (3) Construction at the site was assumed to occur over a one year period. Since construction may take less time to complete, this would result in a potential overestimation of risk; (4) Toxicological criteria were not available for all chemicals found at the site, which may result in a potential underestimation of risk; (5) Construction at the site was assumed to occur over a one-year period. Since construction may take less time to complete, this would result in a potential overestimation of risk; and (6) It was assumed that groundwater would be used as a potable water source under the industrial use scenario (i.e., show-

ering, ingestion, industrial processes) in the future, which is unlikely since the site has ready access to the existing water supplies at the former base and in the City of Rome. This assumption would result in a potential overestimation of risk.

### **Ecological Risk Assessment**

A baseline risk assessment for ecological receptors at the Building 222 AOC was conducted during the RI. The assessment modeled risks to raccoons and short-tailed shrews to exposures to surface soil in the event that a proposed future land use is open space. The HQs indicative of risks to the raccoon and the short-tailed shrew were calculated to be below 1; therefore, the potential for adverse effects to this terrestrial ecological receptor is considered to be insignificant.

Modeling of bioaccumulation to higher order species was not performed, nor was the cumulative effect of multiple contaminants considered; this tends to underestimate the risk to ecological receptors.

Although certain state-listed endangered plants and animals have been observed on or in the vicinity of the base, no threatened and/or endangered species have been identified at this site (Corey 1994). There are no federally listed (U.S. Department of the Interior) threatened or endangered plant or animal species at the former base.

## **2.8 Interim Remedial Action**

In 1998, based upon the results of the RI and baseline risk assessment, an interim remedial action was performed in which the additional contaminated soil that remained in the subsurface soil beneath the north central portion of the floor were removed (see Figure 3). It was determined that the removal of contaminated soil from this location would mitigate the majority of contamination and resulting risk associated with this site. The work consisted primarily of saw cutting and removal of concrete, excavation of contaminated subsurface soil, confirmation sampling, transportation and off-site disposal of excavated materials, backfilling and concrete restoration. A brief summary of this remedial action is provided below.

Remedial action work activities began on July 27, 1998. Equipment was mobilized, work zones were established, and the floor was saw cut. The concrete was removed and the BADP was excavated and stockpiled on a bermed liner. Confirmatory

samples were collected from all four walls and the base of excavation. Confirmatory sample results indicated that the base sample and east sidewall of the excavation exceeded cleanup goals. On August 13, 1998 an additional foot of material was over-excavated from the base of the excavation and east sidewall. This material was added to the original stockpile.

Confirmatory samples were collected from the base and east sidewall after the over-excavation was complete. Based on confirmatory sample results, an additional 1 foot of material was excavated from the base of the excavation on September 3, 1998 and added to the original stockpile. An additional confirmatory sample was collected from the base of the excavation. The total estimated volume excavated, stockpiled, and disposed from the Building 222 AOC was 45.8 cubic yards of soil.

Confirmatory samples were taken after the removal action was completed to verify the effectiveness of this interim remedial action. The Air Force, EPA, and NYSDEC compared the results of the confirmatory soil samples to the risk-based cleanup goals and NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Soil Cleanup Levels, 1994. After agreement was reached that the goals were met, the excavated area was backfilled with clean material and the concrete floor slab replaced.

On October 16, 1998, the stockpiled material was loaded for transport to Seneca Meadows for disposal.

## **2.9 Principal Threat Wastes**

There are no principal threat wastes at the Building 222 AOC.

## **2.10 Description of the Preferred Alternative**

No further action for soil with land use restrictions is proposed for the Building 222 AOC. Five-year reviews will be performed by the Air Force, in conjunction with the EPA and NYSDEC, to ensure that future land use is in compliance with the transfer documents (deed) for industrial/commercial use. The transfer documents will contain the following restrictions to ensure that the reuse of the site is consistent with the risk assessment:

- # The property will be designated for industrial/commercial use unless permission is obtained from the EPA, NYSDEC, and the New York State Department of Health; and
- # The owner or occupant of the property shall not extract, utilize, consume, or permit to be extracted any water from the subsurface aquifer within the boundary of the property unless such owner or occupant obtains prior written approval from the New York State Department of Health.

As a result of the interim remedial action, the majority of soil contamination found during the RI investigations at this AOC was removed. The remaining chemicals detected in the soil do not exceed standards and guidance values and the known source of the groundwater contamination has been removed. In addition, the baseline risk assessment for industrial/commercial use indicated that the levels of contamination present in the soil prior to remediation fell within or below EPA's acceptable carcinogenic risk range. The potential noncarcinogenic risk to occupational workers was diminished by the interim removal action. Therefore, the concentrations of the chemicals remaining in the soil after the completion of the remedial action demonstrate that the remaining site contaminants pose no current or potential threat to public health or the environment. Groundwater at the Building 222 AOC is being further evaluated as part of the On Base Groundwater AOC Tin City operable unit.

## **2.11 Statutory Determinations**

The selected remedy must meet the statutory requirements of CERCLA, Section 121, which are itemized in Section 1.5 of this ROD and described below.

### **Protection of Human Health and the Environment**

The plan for no further action for soil with land use restrictions for industrial/commercial use will provide adequate protection from exposure to contaminants by limiting the use of the site in accordance with the risk assessment.

### **Compliance with ARARs**

Contaminant concentrations in the soil following the interim remedial action comply with the applicable ARARs. Furthermore, land use restrictions for indus-

trial/commercial use will be consistent with the risk assessment, which was performed for occupational workers.

### **Cost-Effectiveness**

No costs are associated with the selected alternative.

### **Utilization of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Practicable**

Treatment technologies are not included in the selected alternative.

### **Preference for Treatment as a Principal Element**

Treatment technologies are not included in the selected alternative.

## **2.12 Documentation of Significant Changes**

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

**Table 1  
COMPOUNDS EXCEEDING STANDARDS AND GUIDANCE VALUES  
BUILDING 222 AOC  
GROUNDWATER SAMPLES**

<sup>a</sup> Federal secondary maximum contaminant level  
<sup>b</sup> NYSDEC Class GA groundwater standard; June 1998  
<sup>c</sup> NYSDEC Class GA groundwater guidances; June 1999  
<sup>d</sup> Federal primary maximum contaminant level  
Key:  
J = Estimated concentration  
ND = Non detect

Compound	Range of Detected Concentrations	Frequency of Detection Above Most Stringent Criterion	Most Stringent Criterion
<b>Metals (mg/L)</b>			
Aluminum	162	1/1	0.05 <sup>a</sup>
Arsenic	0.07	1/1	0.025 <sup>b</sup>
Beryllium	0.008	1/1	0.003 <sup>c</sup>
Cadmium	0.052	1/1	0.005 <sup>b</sup>
Chromium	0.28	1/1	0.05 <sup>b</sup>
Copper	0.9	1/1	0.2 <sup>b</sup>
Iron	420	1/1	0.3 <sup>b</sup>
Lead	0.096	1/1	0.015 <sup>d</sup>
Manganese	24.9	1/1	0.05 <sup>a</sup>
Nickel	0.58	1/1	0.1 <sup>b</sup>
Sodium	56.3	1/1	20 <sup>b</sup>
Zinc	4.1	1/1	2 <sup>c</sup>

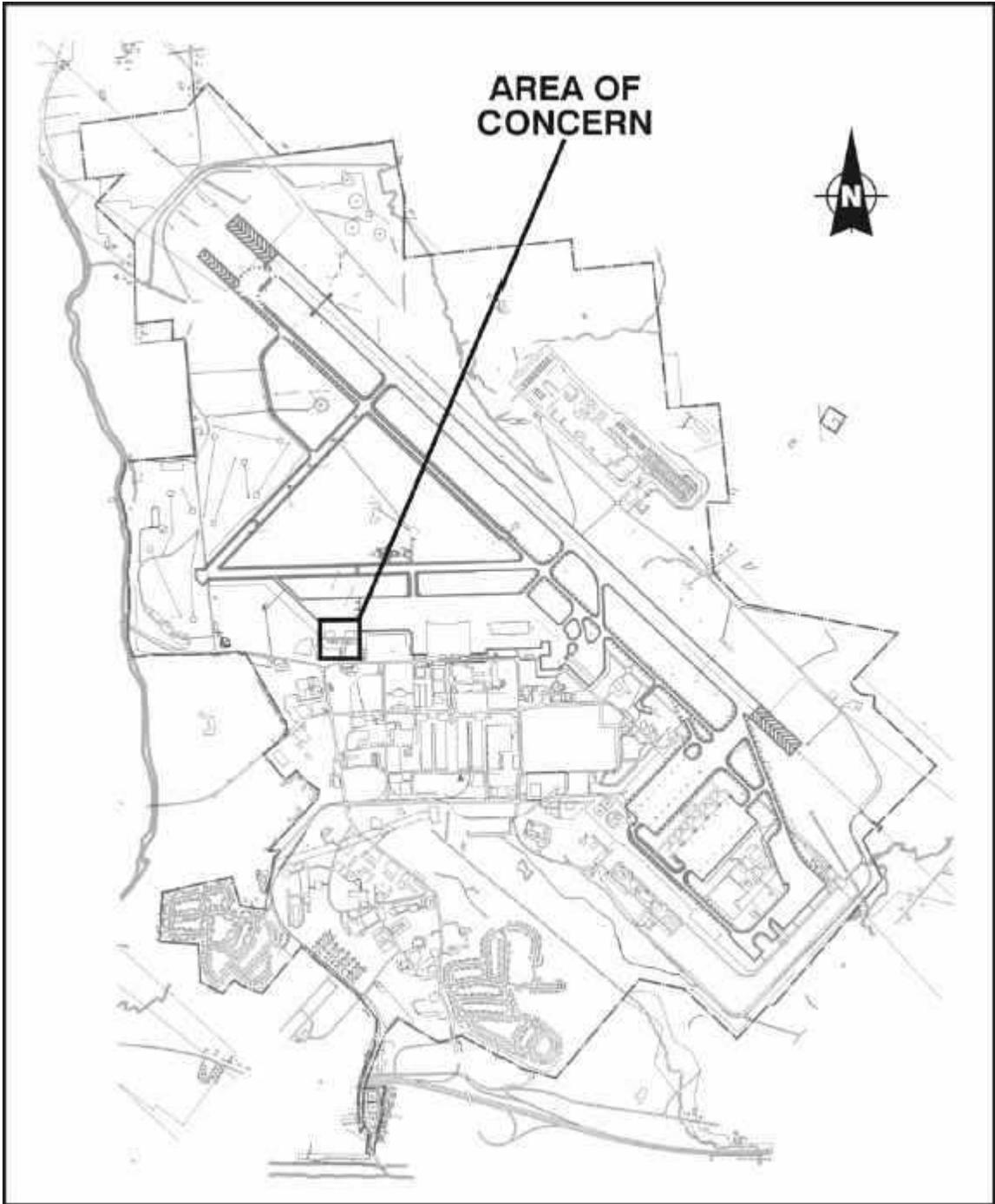
**Table 2  
COMPOUNDS EXCEEDING STANDARDS AND GUIDANCE VALUES  
BUILDING 222 AOC  
SUBSURFACE SOIL SAMPLES**

<sup>a</sup> NYS-recommended soil cleanup objective  
<sup>b</sup> Background screening concentration  
Key:  
J = Estimated concentration\*  
\* Estimated concentrations are typically due to measuring very low levels below the quantitation limit but above the detection limit or due to a quality control concern identified by a data reviewer.

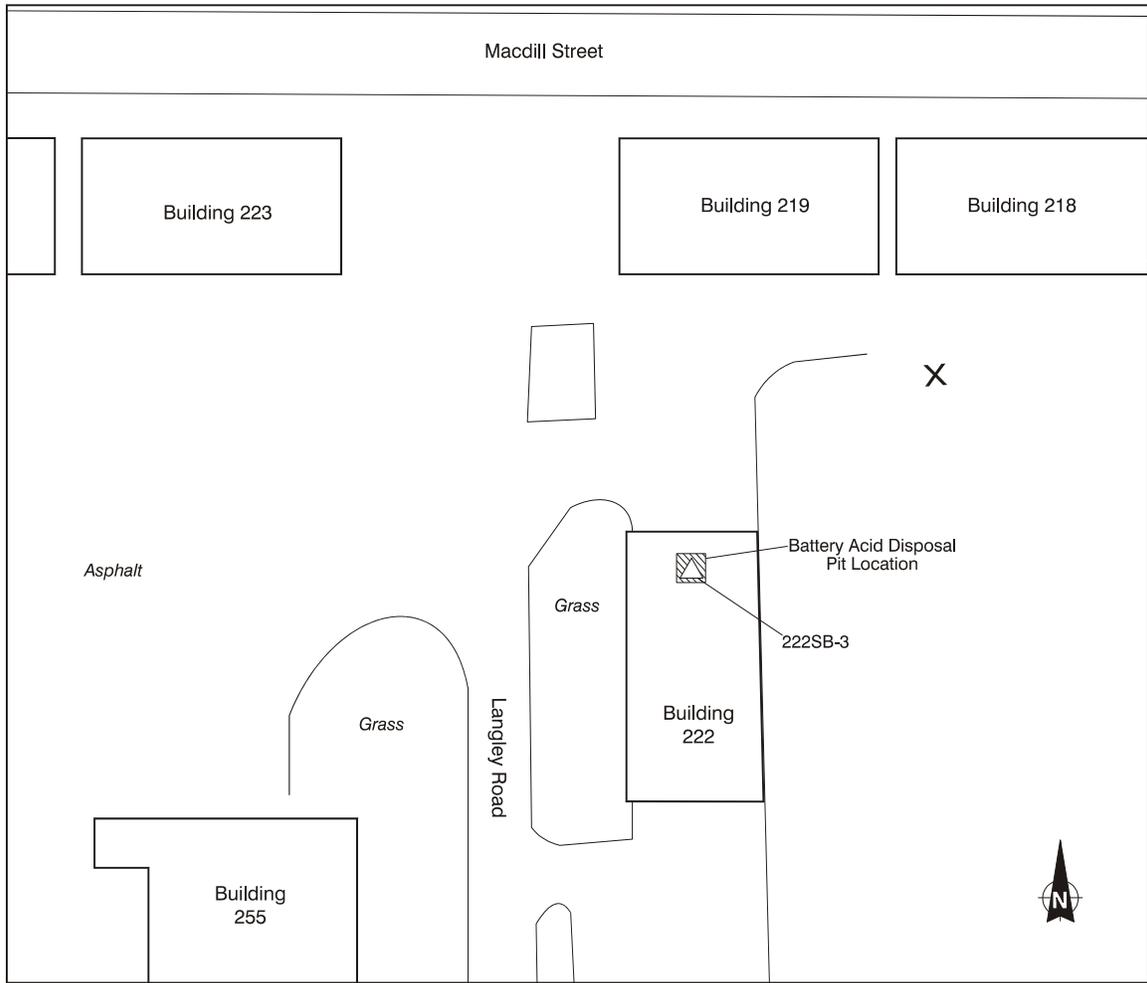
Compound	Range of Detected Concentrations	Frequency of Detection Above Most Stringent Criterion	Most Stringent Criterion
<b>SVOCs (µg/kg)</b>			
Benzo(a)pyrene	700 J	1/6	61 <sup>a</sup>
Benzoic acid	31,000	1/6	2,700 <sup>a</sup>
Chrysene	120 J - 1,500 J	1/6	400 <sup>a</sup>
<b>Pesticides/PCBs (µg/kg)</b>			
Dieldrin	320 J	1/6	44 <sup>a</sup>
Heptachlor epoxide	120 J	1/6	20 <sup>a</sup>
<b>Metals (mg/kg)</b>			
Antimony	3.5 - 1,460	2/6	3.4 <sup>b</sup>
Arsenic	2.9 - 21 J	4/6	4.9 <sup>b</sup>
Cadmium	2.5 - 3	2/6	1.1 <sup>b</sup>
Total chromium	11.1 - 40.7	3/6	22.6 <sup>b</sup>
Copper	44.6 J - 152 J	6/6	43 <sup>b</sup>
Lead	21.4 - 11,500	5/6	36 <sup>b</sup>
Mercury	0.11 J - 1.7 J	4/6	0.1 <sup>a</sup>
Zinc	50.6 J - 446 J	2/6	120 <sup>b</sup>

**Table 3  
BUILDING 222 AOC  
RISK ASSESSMENT EXPOSURE  
SCENARIOS**

<b>UTILITY AND CONSTRUCTION WORKERS</b>	<b>INDUSTRIAL WORKER</b>
<ul style="list-style-type: none"> <li>• Incidental ingestion of subsurface soil</li> <li>• Inhalation of fugitive dust from subsurface soil</li> <li>• Dermal contact with subsurface soil</li> </ul>	<ul style="list-style-type: none"> <li>• Ingestion of groundwater</li> <li>• Dermal contact with groundwater</li> <li>• Inhalation of VOCs from groundwater</li> </ul>



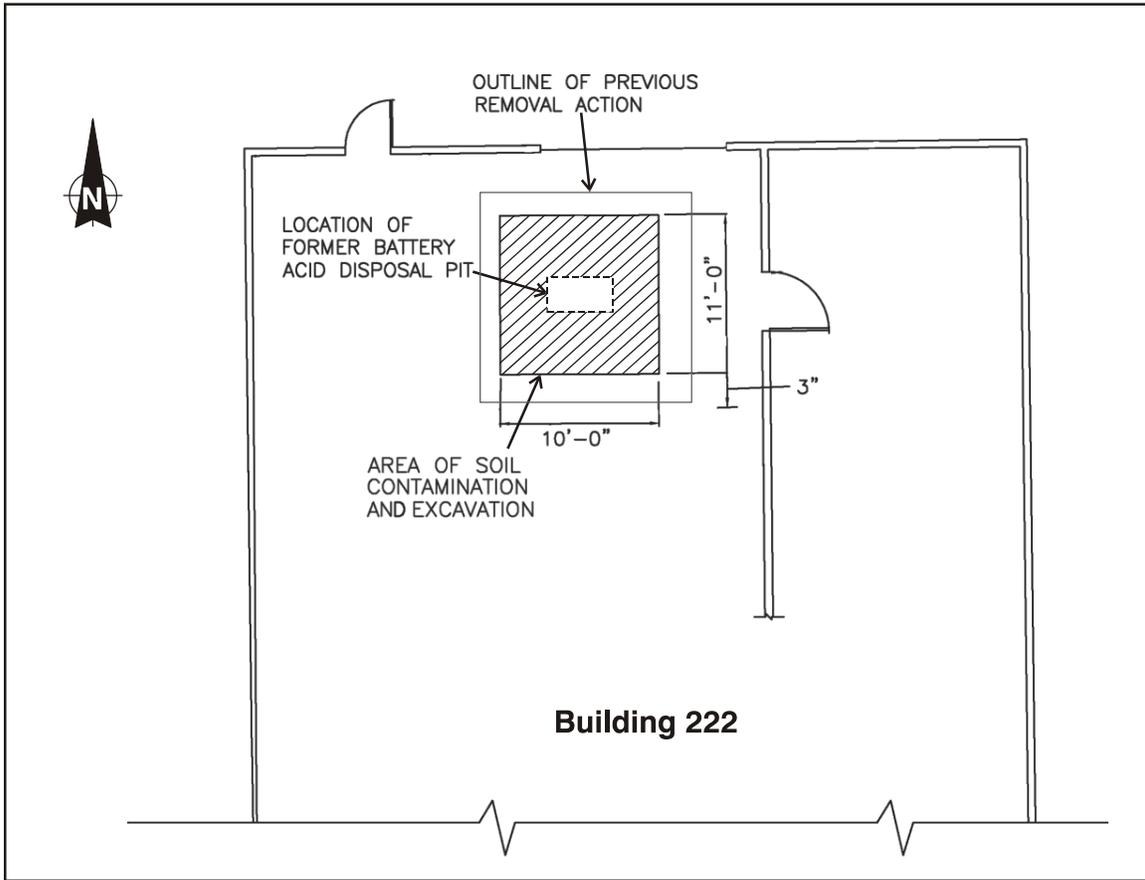
**Figure 1 Building 222 AOC Location Map**



**LEGEND**

- △ Soil Boring/Grab Groundwater Sampling Location
- X-X- Chain Link Fence

**Figure 2 Building 222 AOC Site Map**



**Figure 3 Building 222 AOC Interim Remedial Action**

On Friday, February 9, 2001, AFBCA, following consultation with and concurrence of the EPA and NYSDEC, released for public comment the proposed plan for no further action for soil with land use restrictions at the Building 222 AOC at the former Griffiss Air Force Base. The release of the proposed plan initiated the public comment period, which concluded on March 11, 2001.

During the public comment period, a public meeting was held on Thursday, March 1, 2001, at 5:00 p.m. at the Floyd Town Hall located at 8299 Old Floyd Road, Rome, NY. 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.

**Comment #1 (oral - Carmen Malagisi)**

Mr. Malagisi requested an explanation of the five-year review process and whether there was a termination criteria for the five-year review.

**Response #1**

The five-year review is conducted by the Air Force, in conjunction with the EPA and NYSDEC, to assure that human health and the environment are being protected by the

remedial actions being implemented. In this case, the review will ensure that the land use is in compliance with industrial/commercial use, deed restrictions remain in place and that the cleanup standards used in the ROD are still appropriate. During the first five-year review, and any subsequent review, if it is determined that conditions at a portion of the site have improved such that it meets unlimited and unrestricted use, then that portion of the site can be excluded from future review. However, it is the policy of the EPA that five-year reviews be conducted on a site-wide basis whenever any portion of a site requires a review.

**Comment #2 (oral - John Fitzgerald)**

Mr. Fitzgerald asked if it was possible to have only one five-year review.

**Response #2**

At a minimum, one five-year review will be conducted. During that five-year review, it could be decided that no additional reviews are necessary.

**Comment #3 (oral - John Fitzgerald)**

Mr. Fitzgerald asked if there would be a record of when the five-year reviews will occur.

**Response #3**

CERCLA regulations do not require that the public be an active participant in the five-year reviews, but they do require that the results of the five-year reviews be made available to the public in the Information Repository. EPA guidance, however, suggests that the public be consulted during the five-year review process. While the Air Force has an active presence at the former Griffiss AFB, the Restoration Advisory Board (RAB) will be informed of and invited to participate in the five-year reviews.

**Comment #4 (oral - John Fitzgerald)**

For the record, Mr. Fitzgerald noted that he and other residents have concerns about the groundwater, but they understand that those issues will be addressed at a later time.

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Corey, Michael, January 1994, *1993 Inventory of Rare Plant Species and Significant Natural Communities at Griffiss Air Force Base in Rome, New York*, prepared for the New York Natural Heritage Program.

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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New York State Department of Environmental Conservation (NYSDEC), 1994, *Technical and Administrative Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Soil Cleanup Levels*.

Ocuto Blacktop and Paving Environmental Services, February 2000, *Closure Certification Report for Interim Remedial Action at Buildings 20, 112, 222, and 255*, prepared for United States Army Corps of Engineers, Contract No. DACA41-97-C-8001, Rome, New York.

U.S. Environmental Protection Agency (USEPA), 1986, *Superfund Amendments and Reauthorization Act (SARA)*, 41 U.S.C. 9601 et seq., Washington D.C.

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\_\_\_\_\_, 1968, *National Oil and Hazardous Substances Pollution Contingency Plan (NCP)*, 40 CFR 300, Washington D.C.

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.