



Former Griffiss Air Force Base
Rome, New York
Public Comment Period
June 13, 2009 - July 14, 2009

June 2009

Air Force Recommends Land Use Controls at the Fire Protection Training Area (FPTA) Area of Concern

Public Comments Solicited



Former Griffiss Air Force Base is located in Rome, New York.

This *proposed plan* is issued by the United States Air Force (Air Force) following consultation with the United States Environmental Protection Agency (EPA) and the New York State Department of Environmental Conservation (NYSDEC). The Air Force recommends land use controls to manage the potential for *soil vapor intrusion (SVI)* at the Fire Protection Training Area (FPTA) *Area of Concern (AOC)* (site designation FT-30).

This document has been prepared in accordance with public participation requirements of the *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)* of 1980, as amended, the *National Contingency Plan (NCP)*, and the former Griffiss Air Force Base (AFB) *Federal Facility Agreement (FFA)*.

In this document, the Air Force, EPA, and NYSDEC will be referred to as “the agencies.”

This plan is intended to elicit public comments on the proposal for land use controls at the site. The final decision or *Record of Decision (ROD)* will be made only after the public comment period has ended and responses and information submitted during this time period have been reviewed and considered. Please refer to the Community Participation section at the end of this document for information on submitting public comments.

This Proposed Plan describes:

- The environmental investigations that have been conducted at the FPTA AOC.
- The proposed plan for land use controls at the FPTA AOC.
- How you can participate in the final decision process for the FPTA AOC.

Proposed Plan

A document requesting public review and comment on a proposed remedial action at a particular site.

Soil Vapor Intrusion (SVI)

Refers to the process by which volatile chemicals migrate from a subsurface source into the indoor air of buildings.

Area of Concern (AOC)

A location where hazardous substances are or may have been placed or may be located.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

Commonly known as Superfund; a federal law that establishes a program to identify, evaluate, and remediate sites where hazardous substances may have been released, leaked, poured, spilled, or dumped into the environment.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP)

The federal regulation that provides the organizational structure and procedures for responding to releases of hazardous substances, pollutants, and contaminants.

Federal Facility Agreement (FFA)

An agreement between the EPA, the State of New York, and the Air Force to evaluate waste disposal sites at the former Griffiss AFB and perform remediation if necessary.

Record of Decision (ROD)

A public document that identifies the selected action at a site, outlines the process used to reach a decision on the remedy, and confirms that the decision complies with CERCLA.

Site Description

Regional

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*.

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 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 Grounds 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. The Information Directorate at Rome Research Site 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 material; research and development; and aircraft operations and maintenance.

Numerous studies and investigations under the U.S. Department of Defense Installation Restoration Program 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, 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 and 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)*; base-specific hydrology investigations in 1989 and 1990; a groundwater investigation in 1991; and site-specific studies and investigations between 1989 and 1995. The ATSDR issued a Public Health Assessment for Griffiss AFB, dated October 23, 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 an FFA under Section 120 of CERCLA.

Groundwater Recharge Zone

An area where the underlying aquifer (water-bearing zone) receives water (recharge) through downward flow from both precipitation which infiltrates into the ground and other surface water bodies such as streams, lakes, etc.

Base Realignment and Closure Act (BRAC)

A federal law that established a commission to determine which military bases would be closed and which would remain active.

Agency for Toxic Substances and Disease Registry (ATSDR)

The federal agency responsible for performing health assessments for facilities on the National Priorities List.

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; an RI report; and a work plan and report for a supplemental investigation. The Air Force delivered the draft-final RI report covering 31 AOCs to the EPA and NYSDEC on December 20, 1996. The final Supplemental Investigation Report was delivered on July 24, 1998. For the FPTA AOC, the final Interim *Remedial Action* Report was delivered on August 1, 2003.

This proposed plan for land use controls 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 and groundwater monitoring at the FPTA 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 if no remedial action is taken. The risk assessment for this site evaluated an industrial use scenario. In the RI report, the results of the risk assessment were compared to available *Standards, Criteria and Guidance values (SCGs)* using federal and state environmental and public health laws that were identified as potentially *applicable or relevant and appropriate requirements (ARARs)* 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.

In December 2000, guidance was issued by NYSDEC that identified the soil cleanup objectives included in Technical and Administrative Guidance Memorandum (TAGM) 4046 as the appropriate values to be used in determining soil cleanup levels for unexcavated soil at petroleum spill sites. During the investigations and remediation at the

FPTA between 1998 and 2001, however, the guidance values given by NYSDEC in the Spill Technology and Remediation Series (STARS) Memo No. 1, Petroleum-Contaminated Soil Guidance Policy, were used for comparison of both unexcavated and excavated soils. Further clarification by NYSDEC verified that the STARS Memo No. 1 values were to be used only for excavated soils requiring disposal or reuse. Therefore, the Final Interim Remedial Action Report for the FPTA was revised and reissued to provide a comparison of unexcavated soil concentrations to the TAGM 4046 soil cleanup objectives. This proposed plan appropriately provides a comparison to the TAGM soil cleanup objectives for unexcavated soils and the STARS soil guidance values for the excavated soils.

National Priorities List (NPL)

A formal listing established by CERCLA of the nation's worst hazardous waste sites that have been identified for possible remediation. Sites are ranked by the EPA based on their potential for affecting human health and the environment.

Remedial Investigation (RI)

An environmental investigation that identifies the nature and extent of contamination at a site. It also provides an assessment of the potential risks associated with a site.

Baseline Risk Assessment

An assessment required by CERCLA to evaluate potential risks to human health and the environment. This assessment estimates risks/hazards associated with existing and/or potential human and environmental exposures to contaminants at an area.

Remedial Action

Actions taken to permanently prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health, welfare, or the environment.

Standards Criteria and Guidelines values (SCGs)

Groundwater sampling results are compared to ARARs and TBCs which include standards, criteria and guidance values (SCGs). To simplify this text, groundwater ARARs and TBCs are collectively referred to as SCGs.

Applicable or Relevant and Appropriate Requirements (ARARs)

"Applicable" requirements mean those standards, criteria, or limitations promulgated under federal or state law that are required specific to a substance, pollutant, contaminant, action, location, or other circumstance at a CERCLA site, e.g., the New York State groundwater standards. "Relevant and appropriate" requirements mean those standards, requirements, or limitations that address problems or situations sufficiently similar to those encountered at the CERCLA sites so that their use is well suited to that particular site.

To-Be-Considereds (TBCs)

Advisories, criteria, or guidance that do not meet the definition of ARAR, but may be useful in developing remedial action alternatives. For example, the New York State groundwater guidance values.

Background Levels

The level of a chemical or contaminant naturally occurring in the vicinity of the site.

Area of Concern

The FPTA is located in the northwestern portion of the former Griffiss AFB (see Figure 1). It is bounded by Taxiway 20 to the southeast, Taxiway 8 to the northeast, and Taxiway 21 to the southwest and west. This area was part of the original airfield acquired in 1942. Groundwater at the site ranges from depths of approximately 17 to 21 feet below ground surface (bgs) and generally flows to the southwest toward the Mohawk River. However, investigations of groundwater contamination around the Fire Training Pit (FTP) suggest that groundwater flows toward a storm drain (Figure 3, page 10) that traverses the site, passing under the southeast edge of the FTP. The storm drain bedding appears to act as a preferential route for groundwater. The FPTA is not located near natural surface water drainage features. Surface water runoff from the site is channeled into the base storm drain system, which discharges to the Mohawk River. The Mohawk River is located approximately 3,900 feet west of the site. Soils in the area of the FPTA are characterized by brown, fine-to-coarse sand with variable amounts of silt and gravel.

Beginning in the 1960s, the site was used to simulate aircraft fuel fires for training purposes. Originally, petroleum fuels, and possibly other flammable materials, were burned on bare soil. In 1985, petroleum-contaminated soil was removed from the site and reportedly replaced with 427 cubic yards of clean soil. A new training facility was constructed in 1986 which included two distinct fire training areas, a concrete block structure for simulation of building fires that was located near the western edge of the site and a FTP for simulation of aircraft fires located near the site center. The FTP consisted of a large concrete basin, underlain with clay, with a mock aircraft at its center. Aircraft fuel piped from an underground storage tank (UST) was sprayed into the basin and ignited. Waste liquids from fire training drained to an oil/water separator (OWS) and treatment system. The fuel delivery, collection, and treatment system was modified several times after the initial installation. The OWS is known to have overflowed on occasion due to insufficient capacity, recontaminating the surrounding soils. Fire training activities at the FPTA ceased in 1998.

Two NYSDEC petroleum spill numbers are associated with the FPTA. NYSDEC Spill #9510184 is associated with the overall historic use of the site that resulted in soil staining and surface free product, as observed by NYSDEC in 1995. Closure of NYSDEC Spill #9510184 was requested in August 2007 based on the interim remediation and groundwater monitoring at the site. NYSDEC Spill #9510187 is associated with the release of 3,000 gallons of jet fuel to the ground surface by UST 6365-2 caused by the overflowing of OWS 6365-2 in November 1995. The remedial objectives of the site have been achieved and closure of NYSDEC Spill #9510187 is pending the completion of the treatment of the excavated soil via bioremediation.

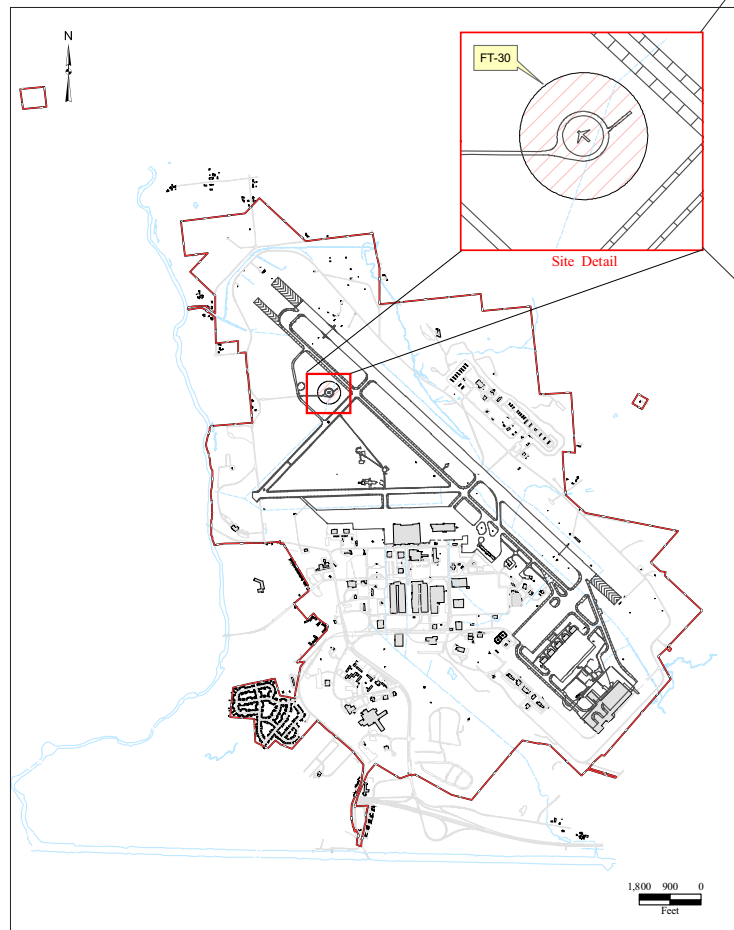


Figure 1: Location of Fire Protection Training Area AOC at the Former Griffiss AFB

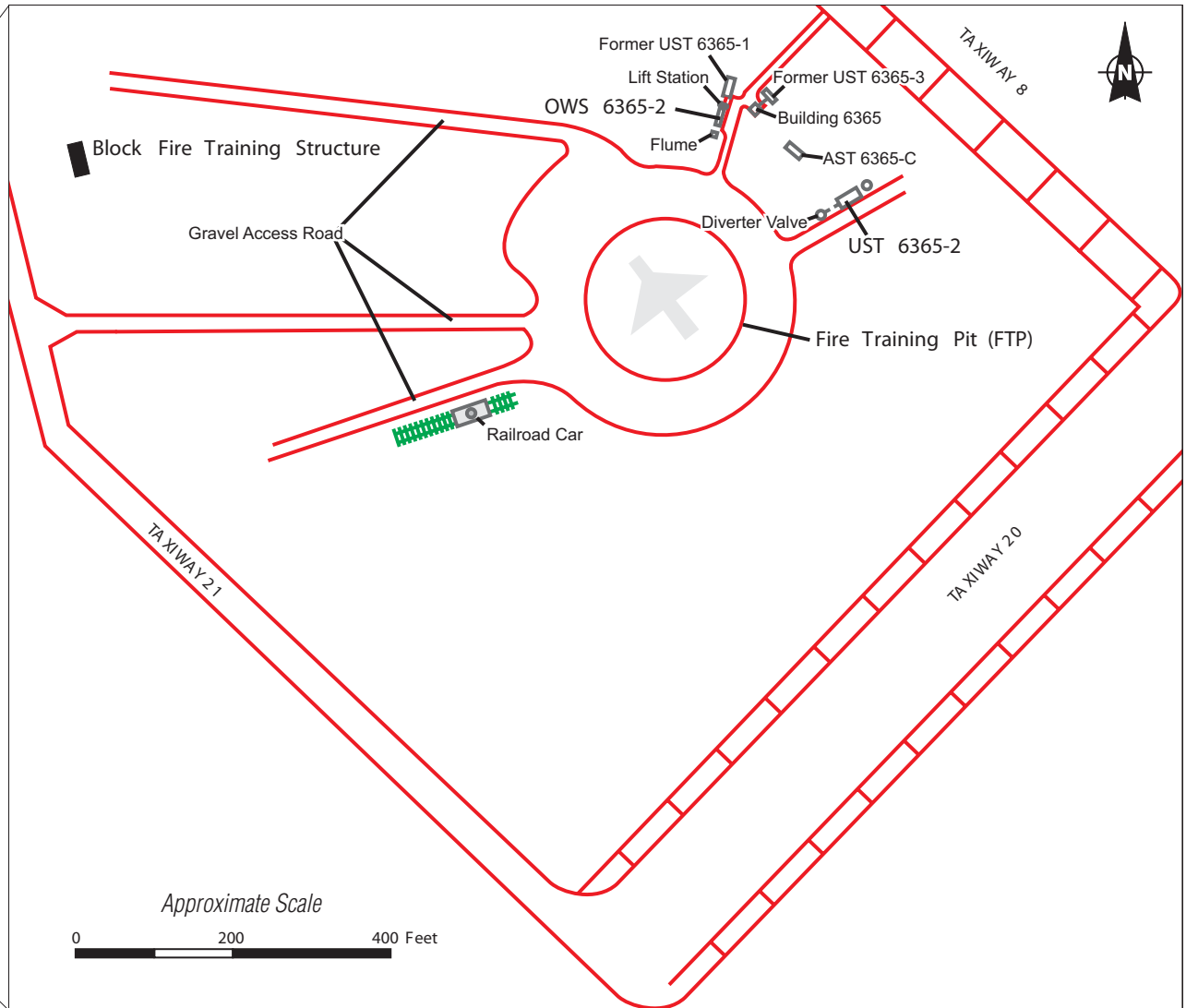


Figure 1a: Enlargement of Fire Protection Training Area AOC

Summary of Site Activities

In 1992, the Air Force analyzed a sample of waste liquid from the FTP collection basin. The results indicated the presence of several petroleum hydrocarbons, oil, and grease.

An RI was performed in 1994. The main objective of the RI was to investigate the nature and extent of environmental contamination from historical releases at the FPTA in order to determine whether remedial action was necessary to prevent potential threats to human health and the environment from exposures that might arise under existing or expected future site conditions. The RI included a soil gas/groundwater screening survey, soil sampling, and groundwater monitoring.

Soil gas samples were collected from 2 to 4 feet bgs at 30 grid nodes using a hydraulic probe, and groundwater samples were collected at 23 nodes (see Figure 2). The samples were screened using gas chromatography for benzene, toluene, ethylbenzene, and xylenes (BTEX) and chlorinated volatile compounds.

No *volatile organic compounds (VOCs)* were detected in soil gas, but several were detected in 11 groundwater samples, primarily in the western half of the grid. Quantifiable concentrations of individual volatiles were detected in two samples, SG/GW-1 and SG/GW-16 (see Table 1).

Thirteen soil borings were drilled to groundwater (see Figure 2). Soil samples were collected every 2 feet to a depth of 10 feet and at 5-foot intervals below 10 feet. Based on field screening results, 38 selected soil samples were analyzed at an off-site laboratory for VOCs, *semivolatile organic compounds (SVOCs)*, pesticides, PCBs, metals, cyanide, and petroleum hydrocarbons, and in April 1995, three additional soil samples were collected.

Four SVOCs, ten metals, and cyanide were detected at concentrations exceeding the TAGM soil cleanup objective (see Table 2, page 8).

Volatile Organic Compounds (VOCs)

A group of organic compounds that have a tendency to vaporize readily.

Semivolatile Organic Compounds (SVOCs)

A group of organic compounds that are easily extracted from soil, water, etc., using an organic solvent.

Table 1
Fire Protection Training Area AOC
Compounds Exceeding Standards and Guidance Values
Remedial Investigation Sampling
Groundwater Screening Samples, May 1994

Compound	Detected Concentrations	Frequency of Detection Above Most Stringent Criterion	Most Stringent Criterion
VOCs (µg/L)			
Ethylbenzene	3.9, 29	1/23	5.0 ^a
Toluene	6.9	1/23	5.0 ^a
Xylenes	3.3, 29	1/23	5.0 ^a

^a NYS Class
GA groundwater standard,
June 1998.

Table 2
Fire Protection Training Area AOC
Compounds Exceeding Standards and Guidance Values
Remedial Investigation Sampling
Soil Samples, May 1994 and April 1995

Compound	Range of Detected Concentrations	Frequency of Detection Above Most Stringent Criterion	Most Stringent Criterion
SVOCs (µg/kg)			
<i>Benzo(a)anthracene</i>	78 J - 260 J	1/41	224 ^a
<i>Benzo(a)pyrene</i>	52 J - 440 J	3/41	61 ^a
<i>Chrysene</i>	72 J - 1,200 J	2/41	400 ^a
<i>N-Nitrosodimethylamine</i>	5,000 - 7,000	2/41	110 ^c
Metals (mg/kg)			
<i>Beryllium</i>	0.33 - 0.90	1/39	0.65 ^b
<i>Calcium</i>	590 - 80,600	4/39	23,800 ^b
<i>Chromium</i>	3.3 - 37.6	2/39	22.6 ^b
<i>Copper</i>	4.9 - 127 J	4/39	43.8 ^b
<i>Lead</i>	4.8 - 54.2	2/39	36.2 ^b
<i>Manganese</i>	266 - 3380	1/39	2,110 ^b
<i>Molybdenum</i>	5.6 - 18.1 J	6/39	6 ^b
<i>Sodium</i>	118 - 762	1/39	259 ^b
<i>Strontium</i>	2.8 - 85.3 J	1/39	55 ^b
<i>Zinc</i>	17.3 - 138	1/39	120 ^b
Other (mg/kg)			
<i>Cyanide</i>	0.1 - 1.3	1/39	1 ^b

^a NYS TAGM 4046 Recommended Soil Cleanup Objective.

^b Site background screening concentration.

^c EPA Region III Risk-Based Concentration for industrial soil.

Key:
 J - estimated concentration

Three groundwater monitoring wells (FPTMW-1, -2, and -3) were installed in June 1994 and sampled in August 1994 (see Figure 2). Nine VOCs, one SVOC, and four metals were detected at concentrations exceeding the most stringent criteria (see Table 3). Generally, the highest levels of contaminants were found in FPTMW-1, southeast of the basin.

In 1996, in response to a fuel spill resulting from overflow of the UST (UST 6365-2) located northeast of the basin (NYSDEC Spill #9510187), approximately 2,000 cubic yards of contaminated soil were removed. The UST was removed and replaced by an above-ground storage tank (AST 6365-C) with secondary containment.

In 1997, another groundwater investigation was initiated to assess the impact of the fuel spill. Five new monitoring wells (ANGMW-1 through -5) were installed around the spill location (see Figure 3) and quarterly groundwater sampling began in July 1997. The samples were analyzed for VOCs and SVOCs. In the first round, VOCs were detected in one well, ANGMW-1, and the concentrations of five VOCs were above NYS Groundwater SCGs. In April 1998, a sixth well was installed (ANGMW-6) and again during that sampling round, VOCs and SVOCs above NYS Groundwater SCGs were detected in ANGMW-1 only. Three wells (ANGMW-2, -3, and -4) were then decommissioned and during the subsequent rounds of sampling (July 1998, October 1998, and January 1999), concentrations of VOCs and SVOCs were all below NYS Groundwater SCGs in the three remaining wells. Monitoring wells ANGMW-5 and ANGMW-6 were later decommissioned in 1999.

A supplemental investigation (SI) conducted in June 1997 consisted of a survey of the existing wells and storm drain manholes, the installation of two additional monitoring wells (FPTMW-4 and FPTVMW-5), sampling of all FPT wells (see Figure 3), and collection of storm water from the two surveyed manholes (MH-1W and MH-2W). No VOCs were detected above NYS Groundwater SCGs. The SI report concluded that the storm drain channel that traverses the site acts as a drain for groundwater.

In May 1998, a site investigation was initiated to delineate residual contamination at the FPTA site. Twelve surface soil samples (SS1 through SS12) were collected from soil under a layer of asphalt millings surrounding the concrete basin (see Figure 4). Nine VOCs and eight SVOCs in one sample were detected in surface soil at concentrations above STARS soil guidance values (see Table 4, page 12); one VOC and five SVOCs exceeded the TAGM soil cleanup objectives.

Subsurface soil samples were collected from 13 soil boring locations generally west and south of the concrete basin (see Figure 4). Eleven VOCs and eleven SVOCs were detected in the subsurface soil samples at concentrations exceeding STARS soil guidance values (see Table 5, page 13); one VOC and six SVOCs exceeded the TAGM soil cleanup objectives. In October 1998, an additional 25 subsurface samples were collected up to depths of 14 feet from underneath the concrete basin at 22 soil boring locations. Ten VOCs and nine SVOCs were detected at concentrations above STARS soil guidance values (see Table 6, page 15); seven VOCs and two SVOCs exceeded the TAGM soil cleanup objectives.

Table 3
Fire Protection Training Area AOC
Compounds Exceeding Standards and Guidance Values
Remedial Investigation Sampling
Groundwater Samples, August 1994

Compound	Range of Detected Concentrations	Frequency of Detection Above Most Stringent Criterion	Most Stringent Criterion
VOCs (µg/L)			
1,2,4-Trimethylbenzene	150 D	1/3	5 ^a
1,3,5-Trimethylbenzene	52 D	1/3	5 ^a
Ethylbenzene	39 D	1/3	5 ^a
Isopropylbenzene	17	1/3	5 ^a
n-Butylbenzene	14	1/3	5 ^a
n-Propylbenzene	23	1/3	5 ^a
p-Isopropyltoluene	12	1/3	5 ^a
sec-Butylbenzene	9.8	1/3	5 ^a
Xylenes	100 D	1/3	5 ^a
SVOCs (µg/L)			
1,2-Diphenylhydrazine	0.03 J	1/3	ND ^a
Metals (µg/L)			
Aluminum	280 - 450	3/3	50 ^c
Iron	1,080 - 13,400	3/3	300 ^b
Manganese	87 - 8,510	3/3	50 ^b
Thallium	0.95 J - 1.3 J	3/3	0.5 ^b

^a NYS Class GA groundwater standard, June 1998.

^b NYS Class GA groundwater guidance value, June 1998.

^c EPA Federal secondary maximum contaminant level.

Key:
D - indicates the compound was identified in an analysis from a diluted sample

J - estimated concentration

ND - Nondetect

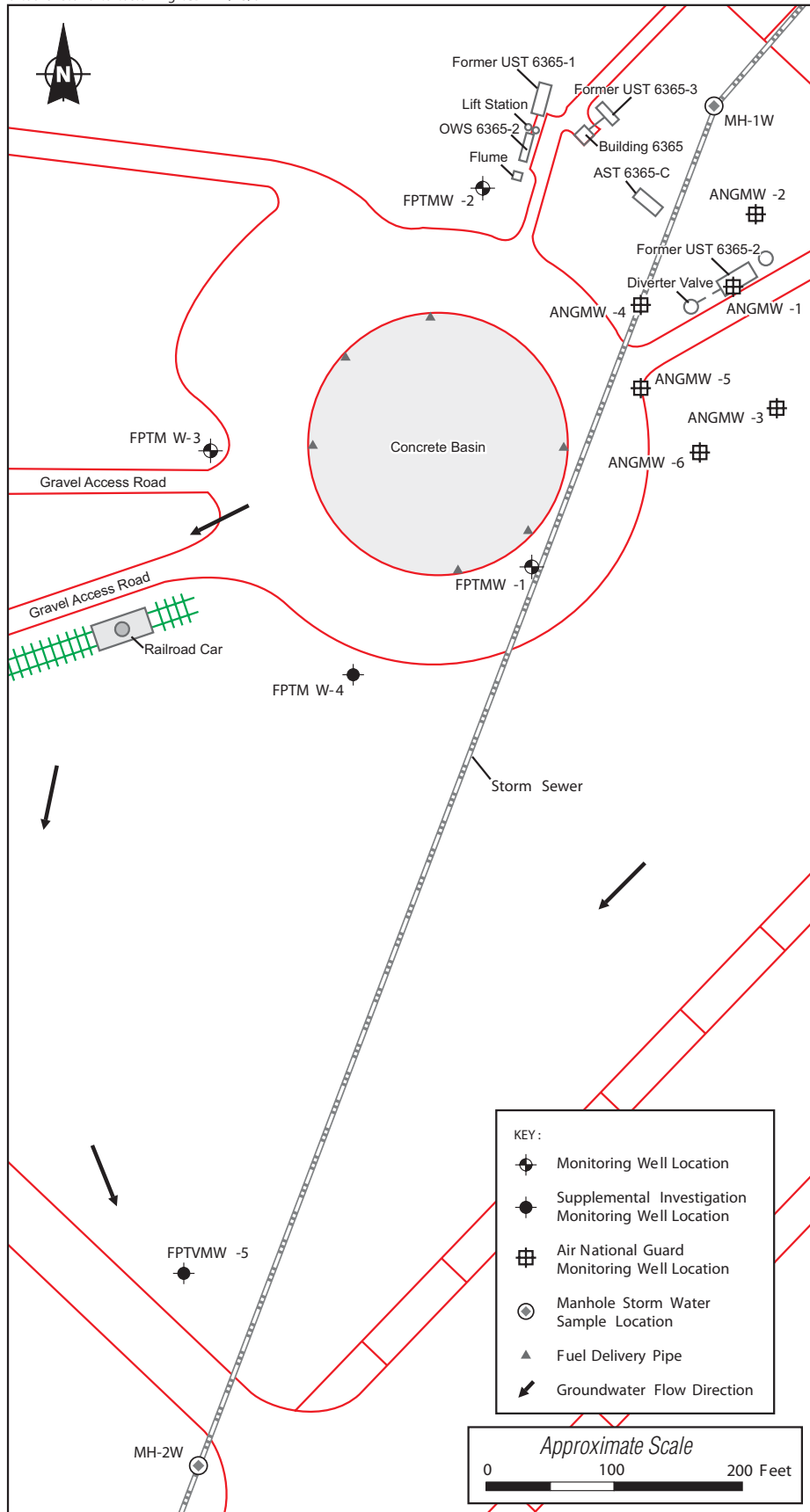


Figure 3: Fire Protection Training Area AOC - 1997 Fuel Spill Groundwater Investigation and Site Supplemental Investigation

Table 4
 Fire Protection Training Area AOC
 Compounds Exceeding Standards and Guidance Values
 Site Investigation Sampling
 Surface Soil Samples, May 1998

Compound	Range of Detected Concentrations	Frequency of Detection Above Most Stringent Criterion	Most Stringent Criterion
VOCs (µg/kg)			
<i>1,2,4-Trimethylbenzene</i>	22,200	1/12	100 ^a
<i>1,3,5-Trimethylbenzene</i>	1,200	1/12	100 ^a
<i>Isopropylbenzene</i>	370	1/12	100 ^a
<i>n-Butylbenzene</i>	2,800	1/12	100 ^a
<i>n-Propylbenzene</i>	490	1/12	100 ^a
<i>p-Isopropyltoluene</i>	2,900	1/12	100 ^a
<i>sec-Butylbenzene</i>	3,900	1/12	100 ^a
<i>t-Butylbenzene</i>	440	1/12	100 ^a
<i>Xylenes</i>	240	1/12	100 ^a
SVOCs (µg/kg)			
<i>Benzo(a)anthracene</i>	120 F - 1,600	3/12	0.04 ^a
<i>Benzo(a)pyrene</i>	1,100 - 1,100	2/12	0.04 ^a
<i>Benzo(b)fluoranthene</i>	1,300 - 2,100	2/12	0.04 ^a
<i>Benzo(k)fluoranthene</i>	1,200 F - 1,200	2/12	0.04 ^a
<i>Chrysene</i>	1,400 - 7,390	2/12	0.04 ^a
<i>Fluoranthene</i>	99 F - 1,500	2/12	1,000 ^a
<i>Naphthalene</i>	2,600	1/12	200 ^a
<i>Pyrene</i>	1,800 - 2,900	2/12	1,000 ^a

^a - NYSDEC STARS Memo No. 1 TCLP Alternative Guidance Value.

Key:

F - the analyte was positively identified but the associated numerical value was below the reporting limit

Table 5
Fire Protection Training Area AOC
Compounds Exceeding Standards and Guidance Values
Site Investigation Sampling
Soil Boring Samples, May 1998

Compound	Range of Detected Concentrations	Frequency of Detection Above Most Stringent Criterion	Most Stringent Criterion
VOCs (µg/L)			
<i>1,2,4-Trimethylbenzene</i>	<i>0.73 F - 1,800</i>	<i>3/29</i>	<i>100 a</i>
<i>1,3,5-Trimethylbenzene</i>	<i>0.22 F - 1,300</i>	<i>4/29</i>	<i>100 a</i>
<i>Ethylbenzene</i>	<i>1.2 F - 640</i>	<i>2/29</i>	<i>100 a</i>
<i>Isopropylbenzene</i>	<i>85 - 2,000</i>	<i>3/29</i>	<i>100 a</i>
<i>n-Butylbenzene</i>	<i>0.89 F - 2,200</i>	<i>4/29</i>	<i>100 a</i>
<i>n-Propylbenzene</i>	<i>0.24 F - 400</i>	<i>4/29</i>	<i>100 a</i>
<i>p-Isopropyltoluene</i>	<i>0.85 F - 2,000</i>	<i>4/29</i>	<i>100 a</i>
<i>sec-Butylbenzene</i>	<i>2.3 - 5,800</i>	<i>4/29</i>	<i>100 a</i>
<i>t-Butylbenzene</i>	<i>0.32 F - 1,200</i>	<i>4/29</i>	<i>100 a</i>
<i>Toluene</i>	<i>0.07 F - 600</i>	<i>3/29</i>	<i>100 a</i>
<i>Xylenes</i>	<i>0.3 F - 1,300</i>	<i>3/29</i>	<i>100 a</i>
SVOCs (µg/L)			
<i>Anthracene</i>	<i>1,600</i>	<i>1/29</i>	<i>1,000 a</i>
<i>Benzo(a)anthracene</i>	<i>38 F - 4,200</i>	<i>5/29</i>	<i>0.04 a</i>
<i>Benzo(a)pyrene</i>	<i>39 F - 1,900</i>	<i>6/29</i>	<i>0.04 a</i>
<i>Benzo(b)fluoranthene</i>	<i>64 F - 5,000</i>	<i>8/29</i>	<i>0.04 a</i>
<i>Benzo(g,h,i)perylene</i>	<i>31 F - 160 F</i>	<i>3/29</i>	<i>0.04 a</i>
<i>Benzo(k)fluoranthene</i>	<i>42 F - 1,600</i>	<i>6/29</i>	<i>0.04 a</i>
<i>Chrysene</i>	<i>42 F - 4,000</i>	<i>8/29</i>	<i>0.04 a</i>
<i>Fluoranthene</i>	<i>45 F - 12,000</i>	<i>1/29</i>	<i>1,000 a</i>
<i>Indeno(1,2,3-cd)pyrene</i>	<i>36 F - 240 F</i>	<i>3/29</i>	<i>0.04 a</i>
<i>Phenanthrene</i>	<i>71 F - 8,500</i>	<i>2/29</i>	<i>1,000 a</i>
<i>Pyrene</i>	<i>50 - 1,100</i>	<i>1/29</i>	<i>1,000 a</i>

^a - NYSDEC STARS Memo No. 1 TCLP Alternative Guidance Value.

Key:

F - the analyte was positively identified but the associated numerical value was below the reporting limit

Interim Remedial Action

Phase 1

From August 1998 through June 1999, the following Phase 1 interim remedial actions were carried out at the FPTA:

- Dismantling and removal of AST 6365-C, OWS 6365-2, and the sanitary sewer lift station.
- Removal of the concrete basin, the aircraft mock-up, and the associated building, which included transport of approximately 1,600 tons of rubble from the basin and excavation of contaminated soil up to 4 feet bgs.
- Removal of all associated piping.
- Removal and disposal of 3,305 gallons of petroleum contaminated liquid from two manholes discovered in an electrical/communication vault.
- Remediation of surficial contaminated soil identified during the site investigation.

In conjunction with the 1999 remedial actions, a total of 60 confirmatory soil samples were collected from excavations and soil stockpiles (see Figure 5 for sample locations) and analyzed for VOCs and/or SVOCs. The concentrations of ten VOCs detected at one location (B2) were above their respective STARS soil guidance values, but none exceeded the TAGM soil cleanup objectives. Three SVOCs were also detected at concentrations above STARS soil guidance values but not detected above the TAGM soil cleanup objectives.

Phase 2

Phase 2 activities performed in 2001 included:

- Dismantling and removal of the former electrical/communication vault discovered adjacent to the south/southeast edge of the FPTA basin during the 1999 remediation (see Figure 5 for vault location).
- Removal of petroleum-contaminated soils associated with the vault excavation and a duct trench extending out from the east corner.

All of the contaminated soil excavated during both phases of remediation was transported to the Apron 1 Landfarm for treatment via bioremediation.

In December 2000, guidance was issued by NYSDEC that identified the soil cleanup objectives included in TAGM 4046 as the appropriate values to be used in determining soil cleanup levels for unexcavated soil at petroleum spill sites. During the investigations and remediation at the FPTA between 1998 and 2001, however, the guidance values given by NYSDEC in the STARS Memo No. 1 were used for comparison of both unexcavated and excavated soils.

Further clarification by NYSDEC in a series of memos issued in 2001 verified that the STARS Memo No. 1 values were to be used only for excavated soils requiring disposal or reuse. Therefore, the Final Interim Remedial Action Report for the FPTA was revised and reissued to provide a comparison of unexcavated soil concentrations to the TAGM 4046 soil cleanup objectives. This proposed plan for the FPTA, therefore, appropriately provides a comparison to the TAGM soil cleanup objectives for unexcavated soils and the STARS soil guidance values for the excavated soils for the 2001 remedial activities described below.

Following excavation of the communications vault in 2001, eight confirmation samples were collected from the floor and walls of the vault excavation and the duct trench excavation. The VOC concentrations were all below the TAGM soil cleanup objectives. Several SVOCs exceeded the TAGM cleanup objective so additional soil was removed from the vault excavation and duct trench. Following excavation, six confirmation samples were collected. Benzo(a)anthracene was detected in one sample (110 µg/kg) below the TAGM soil cleanup objective (224 µg/kg). No other VOCs or SVOCs were detected in the six samples. Three samples also were collected from the clean soil stockpile. All VOC and SVOC concentrations from the stockpile samples were nondetect. The excavations were backfilled with clean fill, compacted, and contoured to match the existing grade.

Table 6
 Fire Protection Training Area AOC
 Compounds Exceeding Standards and Guidance Values
 Site Investigation Sampling
 Concrete Basin Soil Samples, October 1998

Compound	Range of Detected Concentrations	Frequency of Detection Above Most Stringent Criterion	Most Stringent Criterion
VOCs (µg/L)			
<i>1,2,4-Trimethylbenzene</i>	<i>0.41 F - 56,000</i>	<i>3/25</i>	<i>100^a</i>
<i>1,3,5-Trimethylbenzene</i>	<i>0.36 F - 27,000</i>	<i>3/25</i>	<i>100^a</i>
<i>Ethylbenzene</i>	<i>0.71 F - 5,700</i>	<i>2/25</i>	<i>100^a</i>
<i>Isopropylbenzene</i>	<i>150 B- 3,800</i>	<i>3/25</i>	<i>100^a</i>
<i>n-Butylbenzene</i>	<i>0.62 F - 27,000</i>	<i>2/25</i>	<i>100^a</i>
<i>n-Propylbenzene</i>	<i>1.5 - 1,800</i>	<i>1/25</i>	<i>100^a</i>
<i>p-Isopropyltoluene</i>	<i>500 - 4,100</i>	<i>4/25</i>	<i>100^a</i>
<i>sec-Butylbenzene</i>	<i>0.51 F - 14,000</i>	<i>4/25</i>	<i>100^a</i>
<i>t-Butylbenzene</i>	<i>1.7 - 3,100</i>	<i>2/25</i>	<i>100^a</i>
<i>Xylenes</i>	<i>5.5 - 26,000</i>	<i>3/25</i>	<i>100^a</i>
SVOCs (µg/L)			
<i>Benzo(a)anthracene</i>	<i>96 F</i>	<i>1/25</i>	<i>0.04^a</i>
<i>Benzo(a)pyrene</i>	<i>84 F</i>	<i>1/25</i>	<i>0.04^a</i>
<i>Benzo(b)fluoranthene</i>	<i>180 F</i>	<i>1/25</i>	<i>0.04^a</i>
<i>Benzo(g,h,i)perylene</i>	<i>57 F</i>	<i>1/25</i>	<i>0.04^a</i>
<i>Benzo(k)fluoranthene</i>	<i>40 BF</i>	<i>1/25</i>	<i>0.04^a</i>
<i>Chrysene</i>	<i>82 F</i>	<i>1/25</i>	<i>0.04^a</i>
<i>Dibenzo(a,h)anthracene</i>	<i>67 F</i>	<i>1/25</i>	<i>0.04^a</i>
<i>Indeno(1,2,3-cd)pyrene</i>	<i>64 F</i>	<i>1/25</i>	<i>0.04^a</i>
<i>Naphthalene</i>	<i>260</i>	<i>1/25</i>	<i>200^a</i>

^a - NYSDEC STARS Memo No. 1 TCLP Alternative Guidance Value.

Key:

B - the analyte was found in an associated blank, as well as in the sample

F - the analyte was positively identified but the associated numerical value was below the reporting limit

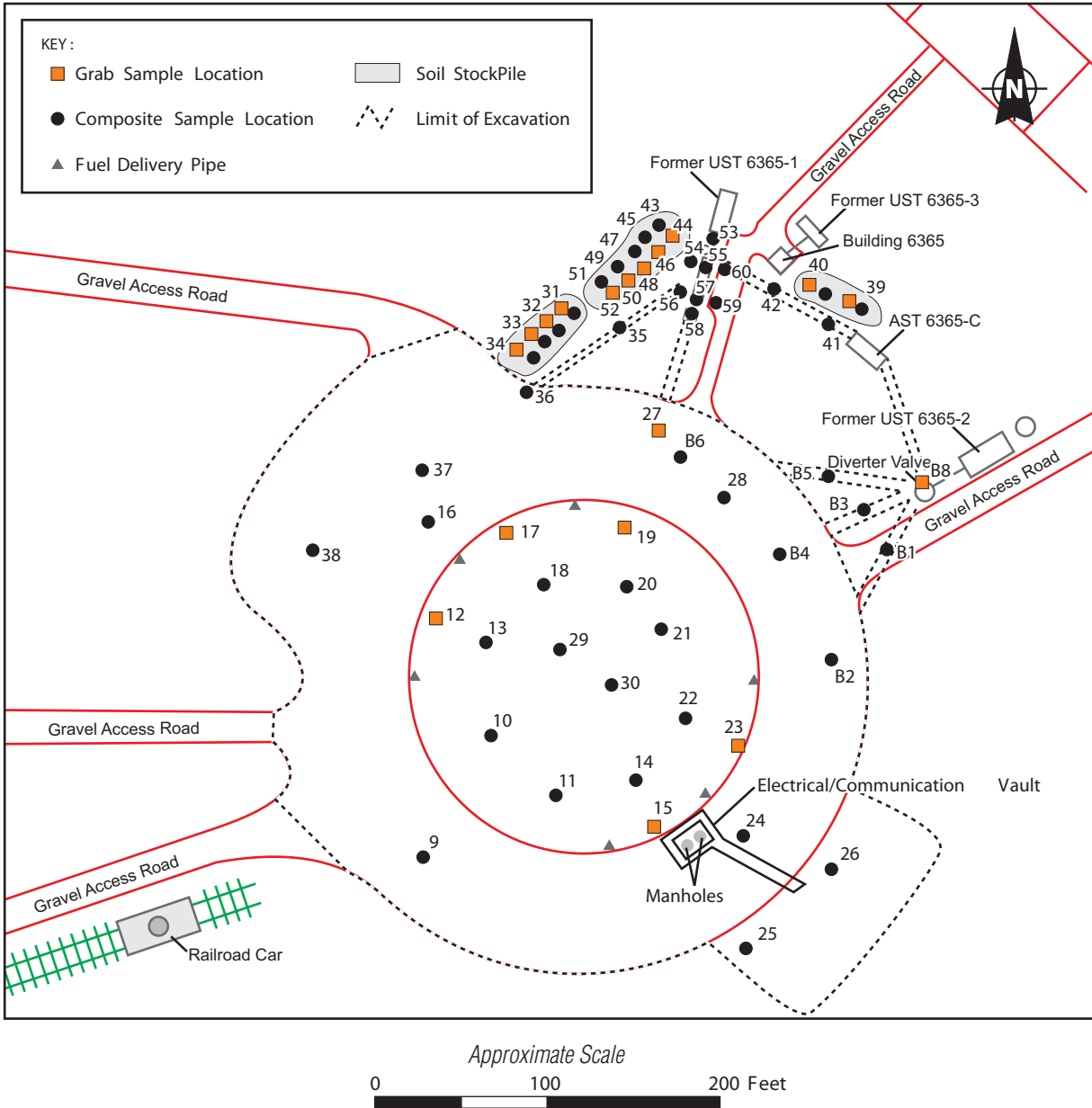


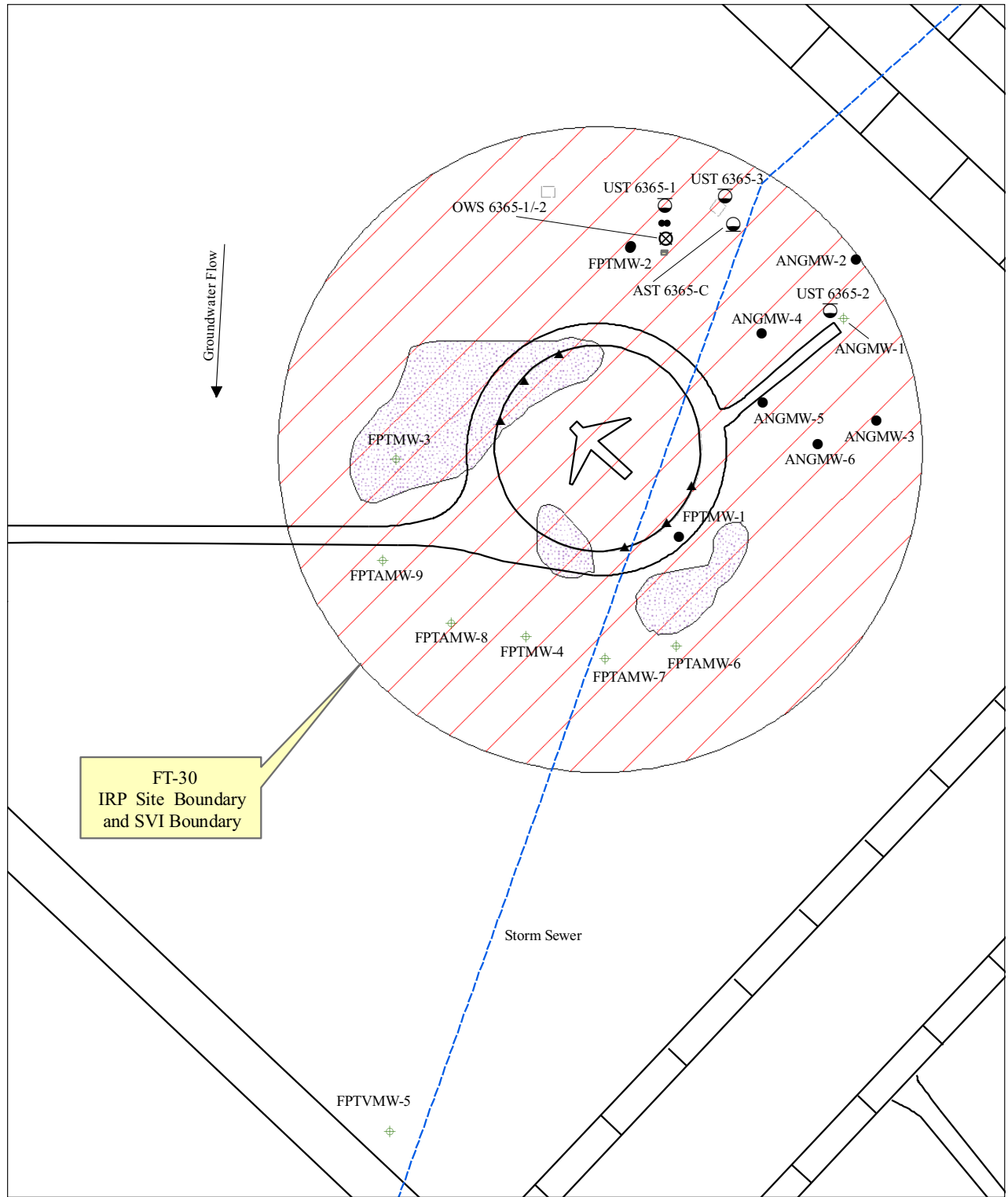
Figure 5: Fire Protection Training Area AOC - 1999 Interim Remedial Action Confirmatory Soil Sampling Locations

Groundwater Monitoring

Due to existing contamination of saturated subsurface soils at depths of 8 to 14 feet bgs, identified during the interim remedial action, four additional monitoring wells (FPTAMW-6, -7, -8, and -9) were installed in November 2003 under NYSDEC Spill #9510184. During installation, there were no visible signs of contamination and Photo Ionization Detector (PID) readings remained at background concentrations. Groundwater monitoring was performed from November 2003 through September 2004 at the four newly installed monitoring wells and at four existing wells (FPTMW-3, -4, FPTVMW-5, and ANGMW-1) to confirm the presence/absence of groundwater contamination caused by the residual subsurface soil contamination. Sampling results indicate that no VOC detections were reported at any of the FPTA wells except for ANGMW-1. ANGMW-1 was also sampled in March 2005, March 2006, and April 2007. Sampling results for ANGMW-1 are provided in Table 8. 1,2,4-Trimethylbenzene was reported in exceedance of the NYS Groundwater SCGs in the November 2003 through March 2005 sampling rounds. A naphthalene exceedance was also reported during the November 2003 and September 2004 sampling rounds. In summer 2005, in-well Oxygen Release Compound (ORC[®]) treatment was performed at ANGMW-1. ORC[®] releases oxygen into a contaminated area to promote the aerobic biodegradation of the petroleum contamination. Treatment was continued at ANGMW-1 for six months until the March 2006 sampling round. The March 2006 sampling results confirmed the absence of VOC detections in the ANGMW-1 groundwater sample. ORC[®] treatment was again performed at ANGMW-1 in fall 2006. Sampling data in March 2007 confirmed the absence of VOC detections above NYS Groundwater SCGs.

Soil Vapor Intrusion Evaluation

Although known contamination sources have been removed from the FPTA AOC site, the Air Force evaluated the potential for soil vapor intrusion. The evaluation concluded that there are no structures located on the site that can be occupied. Consequently, SVI sampling was not performed. However, it is not possible to predict the potential SVI impact on newly constructed facilities. As a result, a land use control will be included in the deed requiring future property owners to perform an SVI evaluation, acceptable to the New York State Department of Health, prior to construction of a new facility or construct a new facility which includes acceptable SVI mitigation measures within the FT-30 IRP Site boundary (Figure 6). Any such mitigation or evaluation will be coordinated with the EPA and NYSDEC.



FT-30
IRP Site Boundary
and SVI Boundary

Key to Features

- | | | |
|---|----------------------------------|---------------------------------|
| hydro | monitoring well (existing) | former lift station |
| airfield | monitoring well (decommissioned) | former aboveground storage tank |
| former area of saturated soil contamination | former fuel nozzle | |
| IRP Sites | former oil/water separator | |
| | former underground storage tank | |

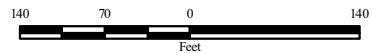


Figure 6: Fire Protection Training Area AOC - Groundwater Monitoring Sampling Network

Description of the Preferred Alternative

The Air Force recommends land use controls at the FPTA AOC. The FTP was decommissioned and removed from the site and contaminated soil has been successfully removed and replaced with clean fill. Groundwater monitoring has confirmed the absence of contamination above NYS Groundwater SCGs.

Currently, there are no threats to human health and the environment associated with the FPTA AOC. Closure of NYSDEC Spill #9510184 is pending regulatory review and closure of NYSDEC Spill #9510187 is pending the completion of the treatment of excavated soil via bioremediation (FPM, August 2007).

In order to manage the future potential for SVI following construction of buildings within the IRP boundary (FT-30, Figure 6), a land use control requiring the property owner to evaluate the SVI potential or to construct facilities in a manner that will eliminate the potential for SVI will be included in the property transfer documents.

Table 8
Fire Protection Training Area AOC
ANGMW-1 LTM Detected Groundwater Results
November 2004 through April 2007

Sample ID	NYS Groundwater Standard (µg/L)	ANGM01 11AA	ANGM01 11BA	ANGM01 11CA	ANGM01 11DA	ANGM01 11EA	ANGM01 11FA	ANGM01 11GA
Date of Collection		Nov 04	Apr 04	Jun 04	Sep 04	Mar 05	Mar 06	Apr 07
VOCs (µg/L)								
<i>1,3,5-trimethylbenzene</i>	5	4.5	2.6	2.6	3.1	1.7	U	U
<i>1,2,4-trimethylbenzene</i>	5	20	15	6.7	16	7.8	U	U
<i>ethylbenzene</i>	5	3.0	2.2	2.2	2.4	1.5	U	0.43 F
<i>isopropylbenzene</i>	5	1.1	1.2	1.2	1.1	0.84	U	0.32 F
<i>m,p-xylene</i>	5	2.5	1.65	1.65	1.8	0.84	U	U
<i>naphthalene</i>	10	20	10	10	11	5.9	U	3.13
<i>n-propylbenzene</i>	5	1.6	1.7	1.7	1.6	1.1	U	0.41 F
<i>o-xylene</i>	5	0.84	0.51	0.51	0.52	U	U	U
<i>p-isopropyltoluene</i>	5	1.4	0.25 F	0.25 F	0.47 F	4.1	U	1.96
<i>sec-butylbenzene</i>	5	1.4	1.4	1.4	1.4	1.3	U	0.61 F
<i>t-butylbenzene</i>	5	0.76	0.41	0.41	0.78	0.71	U	U

Key: X - Exceedance of NYS Groundwater Standards.

F - The analyte was detected above the Method Detection Limit (MDL), but below the Reporting Limit

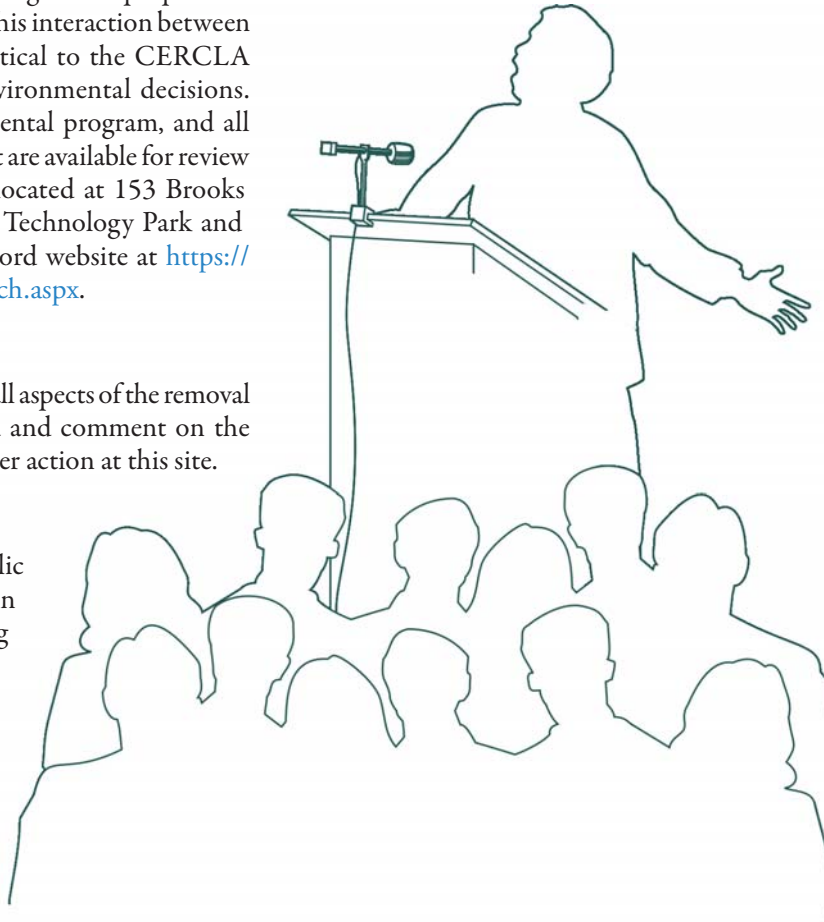
U - The analyte was analyzed for but not detected above the MDL.

Community Participation

The agencies desire to have an open dialogue with citizens concerning the results of the removal actions and subsequent investigations at this AOC and encourage citizens to participate by commenting on the proposal to take no further action at the site. This interaction between the agencies and the public is critical to the CERCLA process and to making sound environmental decisions. Details on this site, the environmental program, and all reports referred to in this document are available for review in the *administrative record* file located at 153 Brooks Road in the Griffiss Business and Technology Park and on the *AFRPA* administrative record website at <https://afarpaar.lackland.af.mil/ar/docsearch.aspx>.

The public is encouraged to review all aspects of the removal actions and administrative record and comment on the agencies' proposal to take no further action at this site.

The agencies will consider all public comments on this proposed plan in preparing the ROD. Depending on comments received, the plan presented in the ROD could be different from the actions presented in this proposed plan. All written and verbal comments will be summarized and responded to in the responsiveness summary section of the ROD.



Administrative Record

Documents including correspondence, public comments, and technical reports upon which the agencies base their remedial action selection.

AFRPA

Air Force Real Property Agency

How You Can Participate

Whether you are reading this type of document for the first time or are familiar with the Superfund process, you are invited to participate in the process.

- Read this proposed plan and review additional documents in the administrative record file.
- Contact the Air Force, EPA, or NYSDEC project managers listed on page 22 to ask questions or request information.
- Attend a public meeting and give verbal comments (see details below).
- Submit written comments (see comment form on back cover) by July 14, 2009.

Public Comment Period

The agencies have set a public comment period from June 13, 2009, to July 14, 2009, to encourage public participation in the selection process. Written comments should be sent to:

Mr. Michael McDermott
BRAC Environmental Coordinator
Air Force Real Property Agency
153 Brooks Road
Rome, NY 13441

Public Meeting

The comment period includes a public meeting at which the Air Force will present the proposed plan. Representatives from the agencies will be available to answer questions and accept both oral and written comments. The public meeting is scheduled for 5:00 pm, Thursday, June 18, 2009, and will be held at the Griffiss Institute, 725 Daedalian Drive at Griffiss Business & Technology Park, Rome NY 13441.

Environmental Timeline Fire Protection Training Area

Problem Identification/
Records Search: 1981
▽
Problem Confirmation
and Quantification: 1982
▽
Field Investigation: 1985
▽
Griffiss AFB added to
National Priorities List: 1987
▽
U.S. Public Health Service
Health Assessment: 1988
▽
EPA, NYSDEC, and Air Force enter
into Federal Facility Agreement: 1990
▽
Griffiss designated for
Realignment by BRAC:
1993 and 1995
▽
ATSDR Health Assessment: 1995
Addendum: 1996
▽
Remedial Investigation Report
Draft-Final: December 1996
▽
Supplemental Investigation Report
Final: July 1998
▽
Final Interim
Remedial Action Report
July 2003
▽
Groundwater Monitoring
November 2003 - March 2007
▽
ORC Treatment
Fall 2005 and Fall 2006
▽
Land Use Controls
Proposed Plan Final
June 2009
▽
Public Comment Period:
June 13, 2009 - July 14, 2009

More Griffiss Air Force Base Environmental Information

General information concerning the environmental program at the former Griffiss AFB can be found on the AFRPA administrative record website at <https://afrpaar.lackland.af.mil/ar/docsearch.aspx>. Visit the website or call 315-356-0810 to ask about the installation activities or request background information.



Additional Information

Three agencies have been identified in the Federal Facility Agreement: the Air Force, NYSDEC, and EPA. The agreement ensures that environmental impacts on public health, welfare, and the environment associated with past and present activities at the former Griffiss AFB are thoroughly investigated and appropriate remedial actions are taken as necessary to protect the public health, welfare, and the environment. Any of the following agency representatives may be contacted to obtain additional information:



The **Air Force** is legally responsible for the environmental activities at the former Griffiss AFB. Since this site is on the National Priorities List, all investigations and cleanup plans are finalized only after consultation with EPA and NYSDEC.

For additional information concerning the environmental program at the former Griffiss AFB and the Air Force's role in preparing this proposed plan, contact:

Mr. Michael McDermott
BRAC Environmental Coordinator
Air Force Real Property Agency
153 Brooks Road
Rome, NY 13441
(315) 356-0810



**New York State
Department of Environmental
Conservation**

For additional information concerning the state's role in preparing this proposed plan, contact:

Ms. Heather Bishop
NY State Department of Environmental
Conservation
625 Broadway
Albany, NY 12233
(518) 402-9764



**U.S. Environmental
Protection Agency**

For additional information concerning the EPA's role in preparing this proposed plan, contact:

Mr. Douglas Pocze
U.S. Environmental Protection Agency,
Region II
290 Broadway, 18th floor
New York, NY 10007-1866
(212) 637-4432

Fire Protection Training Area AOC - FT-30

fold here, please use only clear tape to seal

This comment form is provided for your convenience in submitting written comments to the Air Force Real Property Agency concerning the Fire Protection Training Area AOC. If you would like to receive a copy of the Record of Decision and Responsiveness Summary, which address public comments received on this proposed plan, please ensure sure that the information on the mailing label below is correct.

Comments:

Horizontal lines for writing comments.

(continued on reverse)

**BRAC Environmental Coordinator
AFRPA- Griffiss
153 Brooks Road
Rome, NY 13441**

*This mailing
is to inform you of
the proposed
environmental plan
for the
Fire Protection Training Area
AOC
at the former
Griffiss AFB,
and to solicit
your comments.*