



DEPARTMENT OF THE AIR FORCE
AIR FORCE REAL PROPERTY AGENCY

June 4, 2010

MEMORANDUM FOR Mr. Douglas Pocze
USEPA-Region 2
Federal Facilities Section
290 Broadway, 18th Floor
New York City, NY 10007-1866

Ms. Heather L. Bishop
NYS Department of Environmental Conservation
Division of Hazardous Waste Remediation
625 Broadway, 11TH Floor
Albany, NY 12233-7015

FROM: AFRPA/Griffiss
428 Phoenix Drive
Rome, New York 13441

SUBJECT: Draft Record of Decision for FT-30 Fire Protection Training Area

Attached for your review is the Draft Record of Decision for the Fire Protection Training Area (Site FT-30). Please provide comments or concurrence by June 25, 2010. If any questions should arise please advise.

A handwritten signature in black ink, appearing to read "Michael McDermott".

MICHAEL MCDERMOTT
BRAC Environmental Coordinator - Griffiss

Attachments: as noted

Cc: see attached distribution list

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DRAFT
RECORD OF DECISION

**FIRE PROTECTION TRAINING AREA
AREA OF CONCERN
(IRP SITE FT-30)**

**FORMER GRIFFISS AIR FORCE BASE
ROME, NEW YORK**

**UNITED STATES DEPARTMENT OF THE AIR FORCE
AIR FORCE REAL PROPERTY AGENCY**

JUNE 2010

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ACRONYMS

| | |
|------------------|---|
| AFB | Air Force Base |
| AOC | Area of Concern |
| ARARs | Applicable or Relevant and Appropriate Requirements |
| AST | aboveground storage tank |
| ATSDR | Agency for Toxic Substances and Disease Registry |
| bgs | below ground surface |
| BRAC | Base Realignment and Closure Act |
| BTEX | benzene, toluene, ethylbenzene and xylene |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| COC | contaminant of concern |
| COPC | Chemical of Potential Concern |
| EPA | Environmental Protection Agency |
| FFA | Federal Facility Agreement |
| FPTA | Fire Protection Training Area |
| ft | feet |
| FTP | Fire Training Pit |
| IRP | Installation Restoration Program |
| MCL | Maximum Contaminant Levels |
| mg/kg | milligrams per kilogram |
| NCP | National Oil and Hazardous Substances Pollution Contingency Plan |
| NEADS | Northeast Air Defense Sector |
| NYANG | New York Air National Guard |
| NYSDEC | New York State Department of Environmental Conservation |
| ORC [®] | Oxygen Release Compound |
| OWS | oil/water separator |
| PCBs | polychlorinated biphenyls |
| PID | photoionization detector |
| ppb | parts per billion |
| ppmv | parts per million by volume |
| PVC | poly vinyl chloride |
| RI | Remedial Investigation |
| ROD | Records of Decision |

ACRONYMS (CONTINUED)

| | |
|-------|--|
| SAC | Strategic Air Command |
| SCGs | Standards, Criteria, and Guidance Values |
| SI | Supplemental Investigation |
| STARS | Spill Technology and Remediation Series |
| SVI | Soil Vapor Intrusion |
| SVOC | semi-volatile organic compound |
| | |
| TAGM | Technical and Administrative Guidance Memorandum |
| TAL | target analyte list |
| TBC | to be considered |
| TPH | total petroleum hydrocarbon |
| | |
| UST | underground storage tank |
| | |
| VOC | volatile organic compound |
| | |
| WSA | Weapons Storage Area |
| | |
| µg/kg | micrograms per kilogram |
| µg/L | micrograms per liter |

1.0 DECLARATION

1.1 Site Name and Location

The Fire Protection Training Area (FPTA) Area of Concern (AOC) (site identification designation FT-30) is located at the former Griffiss Air Force Base (AFB), Rome, Oneida County, New York.

1.2 Statement of Basis and Purpose

This Record of Decision (ROD) presents the selected remedial alternative for the FPTA at the former Griffiss AFB in Rome, New York. It has been developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on the Administrative Record for this site, a copy is available on-line at <https://afarpaar.lackland.af.mil/ar> and in the administrative record file located at 428 Phoenix Drive in the Griffiss Business and Technology Park.

The remedy for land use controls to manage the potential for Soil Vapor Intrusion (SVI) has been selected by the United States Air Force (Air Force) and the United States Environmental Protection Agency (EPA) with concurrence from the New York State Department of Environmental Conservation (NYSDEC) pursuant to the former Griffiss AFB Federal Facility Agreement (FFA).

1.3 Assessment of the Site

The response action selected in this ROD is necessary to protect the public health or welfare, or the environment, from actual or threatened release of hazardous substances from the AOC into the environment.

1.4 Description of the Selected Remedy

The selected remedy of land use controls to manage the potential for SVI for the FPTA AOC is protective of human health and the environment and complies with federal and state applicable or relevant and appropriate requirements (ARARs). The land use control will be implemented to minimize the exposure of any future users of the property including Air Force personnel, transferees, and construction workers to any remaining hazardous substances located on the property encompassed by the FPTA AOC.

An interim remedial action was performed in two phases at the FPTA in which the majority of soil contamination found during the previous investigations was removed. The remaining chemicals detected in the soil did not exceed NYSDEC's Technical and Administrative Memorandum (TAGM) #4046 Soil Cleanup Objectives Guidance Values, and the potential source of groundwater contamination has been removed. In addition, groundwater monitoring

has confirmed that contaminants of concern (COCs) concentrations are also below New York State Groundwater Standards, Criteria, and Guidance Values (SCGs).

Given the previous contamination at the site and potential for future construction at the site, the Air Force will include 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 in the property transfer documents.

The Air Force is responsible for implementing, maintaining, monitoring, and enforcing the land use control. It is anticipated that successful implementation, operation, maintenance, and enforcement of the land use control in accordance with the terms of this ROD will achieve protection of human health and the environment and compliance with all legal requirements. Approval by the Air Force and EPA with concurrence from NYSDEC is required for any modification or termination of the land use control.

1.5 Statutory Determinations

It has been determined that no additional removal action is necessary at the FPTA AOC. The Air Force and EPA, with concurrence from the NYSDEC, have determined that the land use control to manage SVI potential is warranted for this AOC. The future landowners will be required, through the property deed to evaluate the SVI potential if construction occurs at the AOC in the future. 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 land use controls to manage the potential for SVI. These reviews will also ensure that the selected remedy is protective of human health and the environment.

1.6 Authorizing Signatures

On the basis of the remedial investigations and a successfully completed removal action performed at the FPTA AOC, there is no evidence that residual contamination at the AOC poses a current or future potential threat to human health or the environment when the SVI potential is evaluated at the AOC before any new construction. The future landowners will be required, through the property deed to evaluate the SVI potential if construction occurs at the AOC in the future. The NYSDEC has concurred with the Selected Remedy presented in this Record of Decision.

ROBERT M. MOORE
Director
Air Force Real Property Agency

Date

WALTER E. MUGDAN
Director, Emergency and Remedial Response Division
United States Environmental Protection Agency, Region 2

Date

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2.0 DECISION SUMMARY

2.1 Site Name, Location, and Description

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.

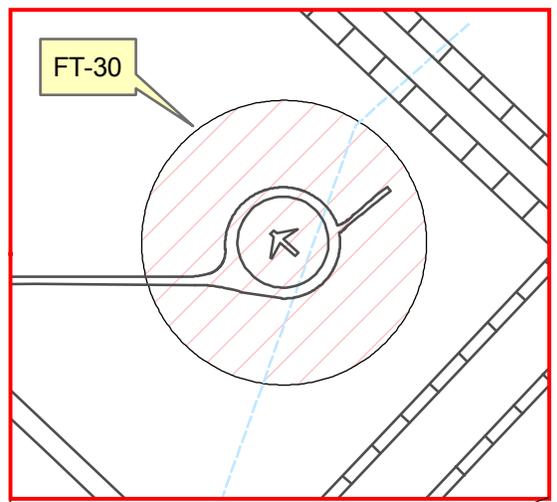
The FPTA AOC is located in the northwestern portion of the former Griffiss AFB (Figure 1). It is bounded by Taxiway 20 to the southeast, Taxiway 8 to the northeast, and Taxiway 21 to the southwest and west. The FPTA was used to simulate aircraft fuel fires for training purposes and consisted of a fire training pit (FTP), a fuel piping system, underground storage tank (UST), and oil/water separator OWS (Figure 2). Fire training activities at the FPTA ceased in 1998.

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

2.2 History and Enforcement 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 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.



Site Detail

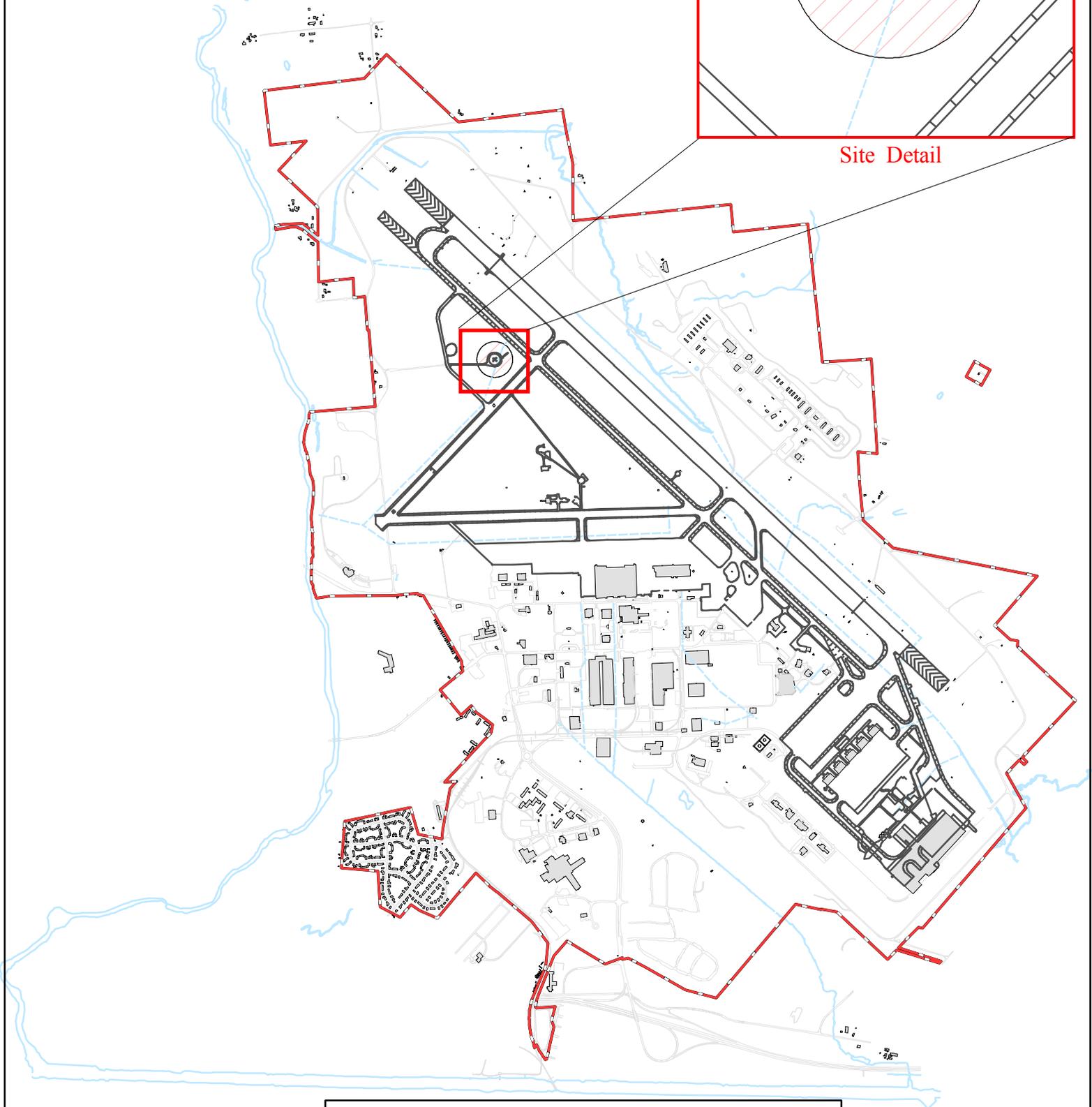
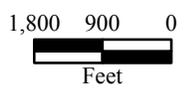
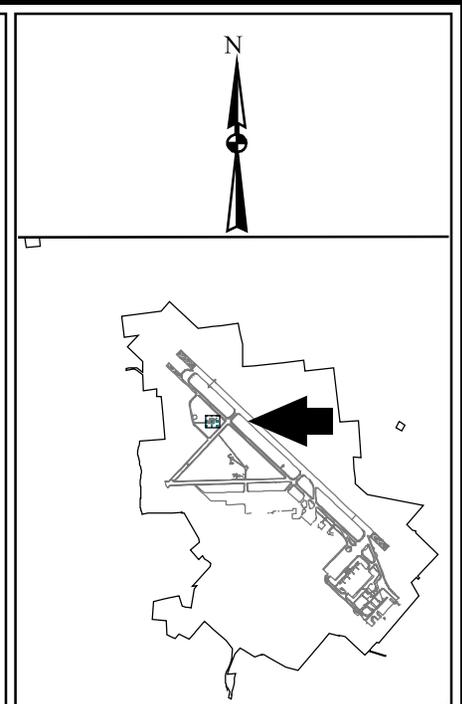
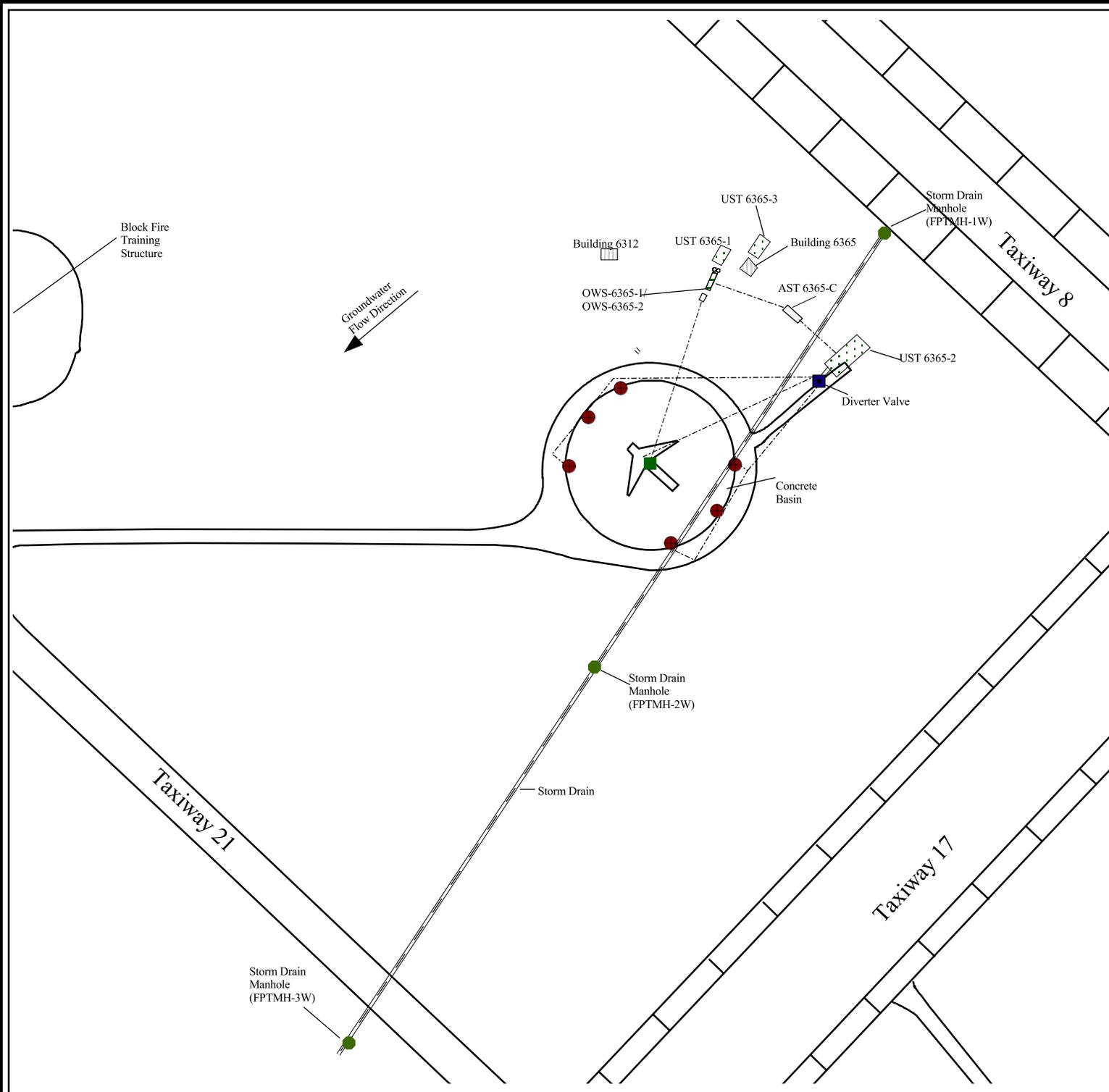


Figure 1
Fire Protection Training Area Site Location Map
- 6 -





Legend

- Storm Drain
- Road/Airfield
- Buried Fuel Pipeline
- Catch Basin
- Fuel Nozzle
- Manhole
- Removed OWS
- Removed AST
- Removed UST
- Demolished Facility

UNITED STATES AIR FORCE
 GRIFFISS AIR FORCE BASE
 ROME, NEW YORK



Figure 2
FPTA AOC
Site Features

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 closure and realignment under the Base Realignment and Closure Act 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 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(a)(8)(B) of CERCLA, Griffiss AFB was included on the National Priorities List on July 15, 1987. On August 21, 1990, the agencies entered into a FFA under Section 120 of CERCLA.

2.3 Community Participation

A proposed plan for the FPTA (AFRPA, July 2009), indicating land use controls to manage the potential for SVI, was released to the public on June 13, 2009. The document was made available to the public in the Information Repository available on-line at <https://afarpaar.lackland.af.mil/ar> and in the administrative record file located at 428 Phoenix Drive in the Griffiss Business and Technology Park.

The notice of the availability of these documents was published in the Rome Daily Sentinel Newspaper on June 13, 2009. In addition, a 30-day public comment period was held from June 13, 2009 to July 14, 2009 to solicit public input on the final Proposed Plan for the FPTA. During this period, the public was invited to review the Administrative Record and comment on the preferred alternative being considered.

In addition, Griffiss AFB hosted a public meeting on June 18, 2009 at the Griffiss Institute located at 725 Daedalian Drive, Rome, New York 13441. The date and time of the meeting was published in the Rome Daily Sentinel Newspaper. At the meeting, the Air Force provided data gathered at the AOC, the preferred alternative, and the decision-making process. The meeting provided the opportunity for the community to comment officially on the plan. The public meeting has been recorded and transcribed, and a copy of the transcript has been added to the Administrative Record. No public comments on the Proposed Plan were submitted. A responsiveness summary documenting the comment solicitation process is included as Section 3.0. Once this ROD is signed, notice of availability will be published in the Rome Daily Sentinel Newspaper; and it will be available for public inspection and copying on-line at <https://afrpaar.lackland.af.mil/ar> and in the administrative record file located at 428 Phoenix Drive in the Griffiss Business and Technology Park pursuant to 40 CFR 300.430(f)(6).

2.4 Scope and Role of Area of Concern

The FPTA AOC is one of several sites administered under the Griffiss AFB Installation Restoration Program (IRP). The FPTA includes both previously contaminated soil in the unsaturated zone (vadose zone) and previously contaminated groundwater at the AOC. Land use controls to manage the potential for SVI are recommended for the AOC.

Interim actions conducted at the AOC have eliminated the source of soil and groundwater contamination. The principal contaminants at the FPTA were petroleum-related hydrocarbons dissolved within the groundwater and soil at the AOC.

2.5 Site Characteristics

Fire Training activities at the AOC have resulted in contaminated soil and groundwater at the AOC at levels above applicable SCGs. Various actions undertaken at the AOC have removed the sources of groundwater and soil contamination. Currently, no significant threat to human health is posed by the groundwater or soil at the FPTA AOC. Past investigations at the AOC (Section 2.5.1), Interim Remedial Action (Section 2.5.2), Groundwater Monitoring (Section 2.5.3), and Soil Vapor Intrusion Evaluation (Section 2.5.4) are summarized below.

2.5.1 Previous Investigations and Removal Actions

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.

A Remedial Investigation (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 ft bgs at 30 grid nodes using a hydraulic probe, and groundwater samples were collected at 23 nodes (Figure 3). 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 (Table 1).

Thirteen soil borings were drilled to groundwater (Figure 3). Soil samples were collected every 2 ft to a depth of 10 ft and at 5-ft intervals below 10 ft. Based on field screening results, 38 selected soil samples were analyzed at an off-site laboratory for VOCs, semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), metals, cyanide, and petroleum hydrocarbons, and in April 1995, three additional soil samples were collected. Four SVOCs, 10 metals, and cyanide were detected at concentrations exceeding the TAGM soil cleanup objective (Table 2).

Three groundwater monitoring wells (FPTMW-1, -2, and -3) were installed in June 1994 and sampled in August 1994 (Figure 3). Nine VOCs, one SVOC, and four metals were detected at concentrations exceeding the most stringent criteria (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 number 9510187), approximately 2,000 cubic yards of contaminated soil were removed.

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 (Figure 4) 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

Figure 3
1994 Remedial Investigation Sample Locations

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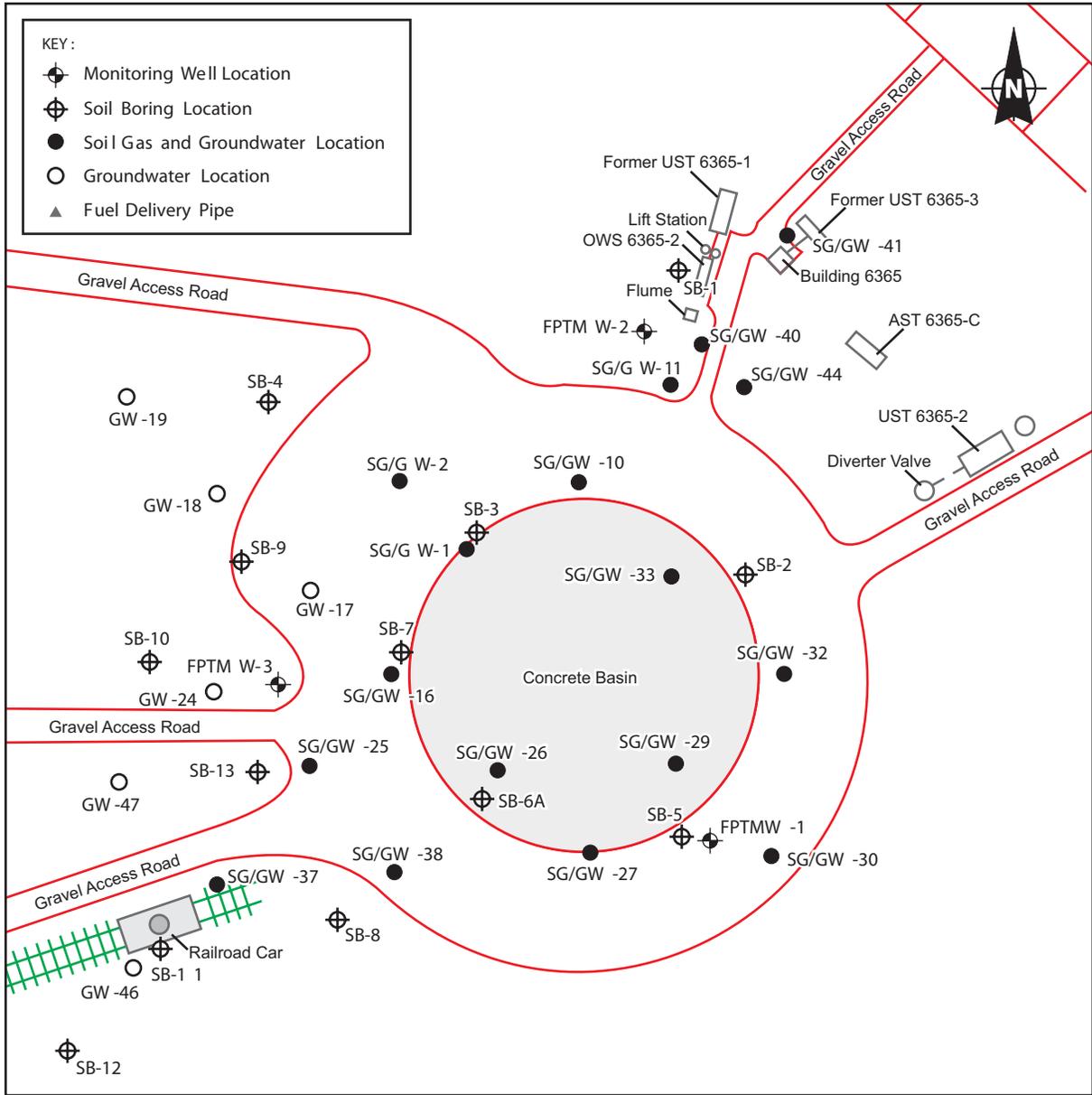


Table 1
Remedial Investigation Sampling
Groundwater Screening Sample Results Exceeding Standards and Guidance Values,
May 1994

| Compound | Range of Detected Concentrations | Frequency of Detection Above Most Stringent Criterion | Most Stringent Criterion |
|--------------------|----------------------------------|---|--------------------------|
| VOCs (µg/L) | | | |
| ethylbenzene | 3.3, 29 | 1/23 | 5.0 ^a |
| toluene | 6.9 | 1/23 | 5.0 ^a |
| xylenes | 3.3, 29 | 1/23 | 5.0 ^a |

Notes

a = NYS Class GA groundwater standard, June 1998.

Table 2
Remedial Investigation Sampling
Soil Sample Results Exceeding Standards and Guidance Values, May 1994 and April 1995

| Compound | Range of Detected Concentrations | Frequency of Detection Above Most Stringent Criterion | Most Stringent Criterion |
|------------------------|----------------------------------|---|--------------------------|
| SVOCs (µg/kg) | | | |
| benzo(a)anthracene | 78 J – 260 J | 1/41 | 224 ^a |
| benzo(a)pyrene | 52 J – 440 J | 3/41 | 61 ^a |
| chrysene | 72 J – 1,200 J | 2/41 | 400 ^a |
| n-nitrosodimethylamine | 5,000 – 7,000 | 2/41 | 110 ^c |
| Metals (mg/kg) | | | |
| beryllium | 0.33 – 0.90 | 1/39 | 0.65 ^b |
| calcium | 590 – 80,600 | 4/39 | 23,800 ^b |
| chromium | 3.3 – 37.6 | 2/39 | 22.6 ^b |
| copper | 4.9 – 127 J | 4/39 | 43.8 ^b |
| lead | 4.8 – 54.2 | 2/39 | 36.2 ^b |
| manganese | 266 – 3,380 | 1/39 | 2,110 ^b |
| molybdenum | 5.6 – 18.1 J | 6/39 | 6 ^b |
| sodium | 118 – 762 | 1/39 | 259 ^b |
| strontium | 2.8 – 85.3 J | 1/39 | 55 ^b |
| zinc | 17.3 – 138 | 1/39 | 120 ^b |
| Other (mg/kg) | | | |
| cyanide | 0.1 – 1.3 | 1/39 | 1 ^b |

Notes

a = NYS TAGM 4046 Recommended Soil Cleanup Objective.

b = Site background screening concentration.

c = EPA Region III Risk-Based Concentration for Industrial soil.

J = estimated concentration.

Table 3
Remedial Investigation Sampling
Groundwater Sample Results Exceeding Standards and Guidance Values, 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 (mg/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 |

Notes

a = NYS Class GA groundwater standard, June 1998.

b = NYS Class GA groundwater guidance value; June 1998.

c = EPA Federal secondary maximum contaminant level.

D = indicates the compound was identified in an analysis from a diluted sample.

J = estimated concentration.

ND = nondetect.

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 (Figure 4), 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 AOC. Twelve surface soil samples (SS1 through SS12) were collected from soil under a layer of asphalt millings surrounding the concrete basin (Figure 5). Nine VOCs and eight SVOCs in one sample were detected in surface soil at concentrations above Spill Technology and Remediation Series (STARS) soil guidance values (Table 4); 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 (Figure 5). Eleven VOCs and eleven SVOCs were detected in the subsurface soil samples at concentrations exceeding STARS soil guidance values (Table 5); 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 (Table 6); seven VOCs and two SVOCs exceeded the TAGM soil cleanup objectives.

2.5.2 Interim Remedial Action

2.5.2.1 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 (ft) below ground surface (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 (Figure 6) 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

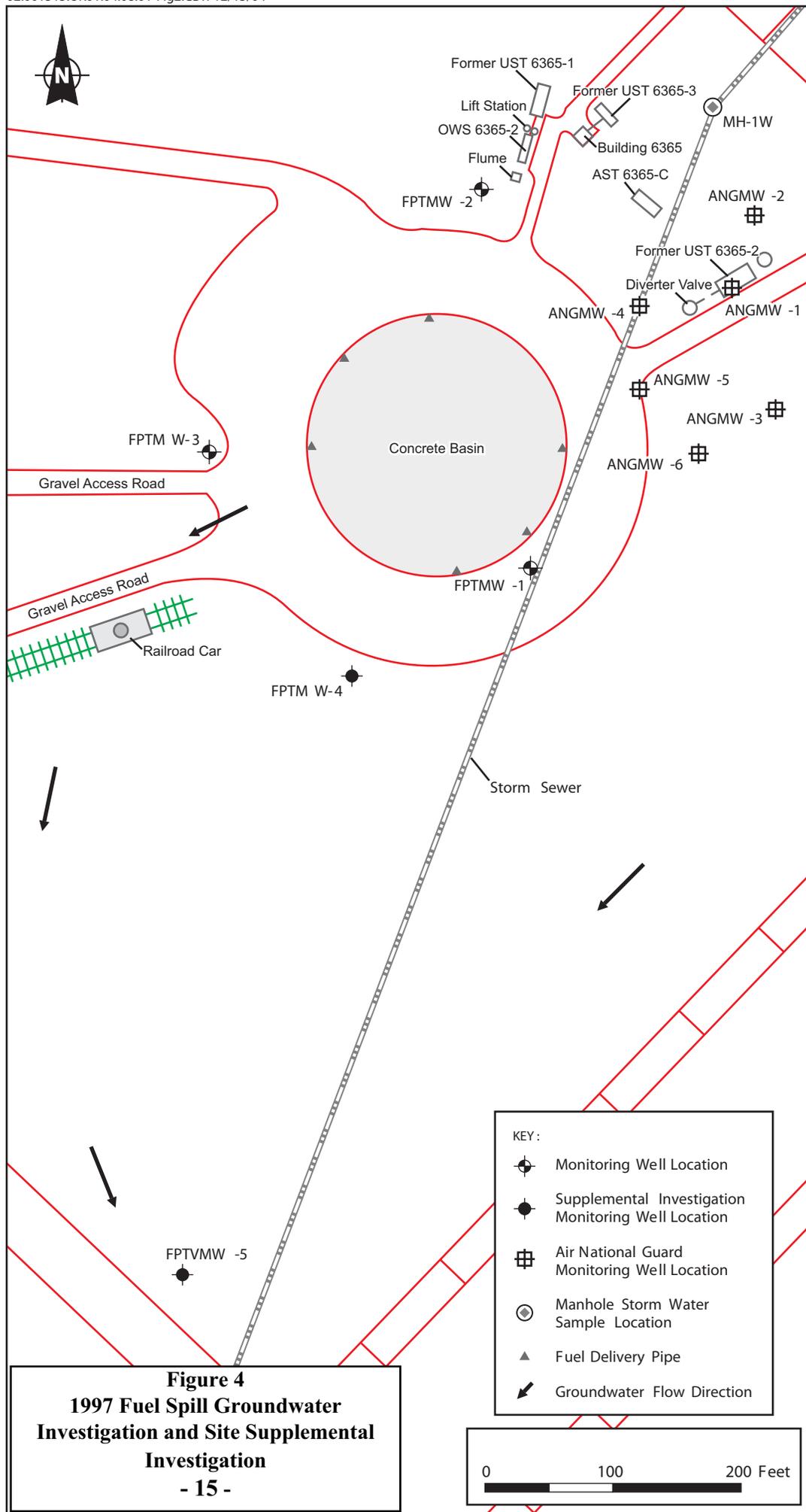


Figure 4
1997 Fuel Spill Groundwater
Investigation and Site Supplemental
Investigation
- 15 -

Figure 5
1998 Site Investigation, Soil Sampling Locations

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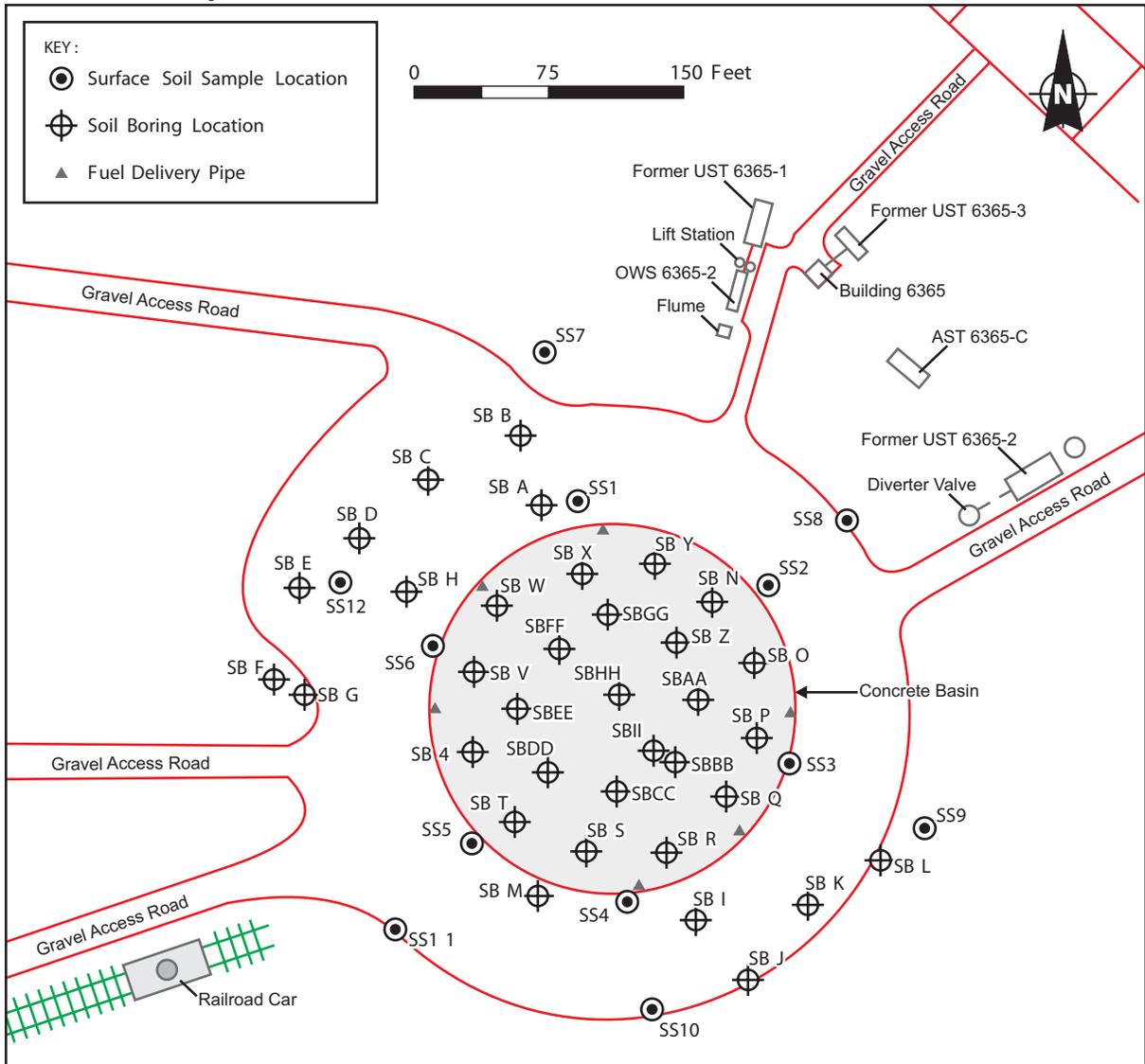


Table 4
Site Investigation Sampling
Surface Soil Sample Results Exceeding Standards and Guidance Values, May 1998

| Compound | Range of Detected Concentrations | Frequency of Detection Above Most Stringent Criterion | Most Stringent Criterion |
|------------------------|----------------------------------|---|--------------------------|
| VOCs (µg/kg) | | | |
| 1,2,4-trimethylbenzene | 22,200 | 1/12 | 100 ^a |
| 1,3,5-trimethylbenzene | 1,200 | 1/12 | 100 ^a |
| isopropylbenzene | 370 | 1/12 | 100 ^a |
| n-butylbenzene | 2,800 | 1/12 | 100 ^a |
| n-propylbenzene | 490 | 1/12 | 100 ^a |
| p-isopropyltoluene | 2,900 | 1/12 | 100 ^a |
| sec-butylbenzene | 3,900 | 1/12 | 100 ^a |
| t-butylbenzene | 440 | 1/12 | 100 ^a |
| xylenes | 240 | 1/12 | 100 ^a |
| SVOCs (µg/kg) | | | |
| benzo(a)anthracene | 120 F – 1,600 | 3/12 | 0.04 ^a |
| benzo(a)pyrene | 1,100 – 1,100 | 2/12 | 0.04 ^a |
| benzo(b)fluoranthene | 1,300 – 2,100 | 2/12 | 0.04 ^a |
| benzo(k)fluoranthene | 1,200 F – 1,200 | 2/12 | 0.04 ^a |
| chrysene | 1,400 – 7,390 | 2/12 | 0.04 ^a |
| fluoranthene | 99 F – 1,500 | 2/12 | 1,000 ^a |
| naphthalene | 2,600 | 1/12 | 200 ^a |
| pyrene | 1,800 – 2,900 | 2/12 | 1,000 ^a |

Notes

a = NYSDEC STARS Memo No. 1 TCLP Alternative Guidance Value.

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

Table 5
Site Investigation Sampling
Soil Boring Sample Results Exceeding Standards and Guidance Values, May 1998

| Compound | Range of Detected Concentrations | Frequency of Detection Above Most Stringent Criterion | Most Stringent Criterion |
|------------------------|----------------------------------|---|--------------------------|
| VOCs (µg/kg) | | | |
| 1,2,4-trimethylbenzene | 0.73 F – 1,800 | 3/29 | 100 ^a |
| 1,3,5-trimethylbenzene | 0.22 F – 1,300 | 4/29 | 100 ^a |
| ethylbenzene | 1.2 F – 640 | 2/29 | 100 ^a |
| isopropylbenzene | 85 – 2,000 | 3/29 | 100 ^a |
| n-butylbenzene | 0.89 F – 2,200 | 4/29 | 100 ^a |
| n-propylbenzene | 0.24 F – 400 | 4/29 | 100 ^a |
| p-isopropyltoluene | 0.85 F – 2,000 | 4/29 | 100 ^a |
| sec-butylbenzene | 2.3 – 5,800 | 4/29 | 100 ^a |
| t-butylbenzene | 0.32 F – 1,200 | 4/29 | 100 ^a |
| toluene | 0.07 F – 600 | 3/29 | 100 ^a |
| xylenes | 0.3 F – 1,300 | 3/29 | 100 ^a |
| SVOCs (µg/kg) | | | |
| anthracene | 1,600 | 1/29 | 1,000 ^a |
| benzo(a)anthracene | 38 F – 4,200 | 5/29 | 0.04 ^a |
| benzo(a)pyrene | 39 F – 1,900 | 6/29 | 0.04 ^a |
| benzo(b)fluoranthene | 64 F – 5,000 | 8/29 | 0.04 ^a |
| benzo(g,h,i)perylene | 31 F – 160 F | 3/29 | 0.04 ^a |
| benzo(k)fluoranthene | 42 F – 1,600 | 6/29 | 0.04 ^a |
| chrysene | 42 F – 4,000 | 8/29 | 0.04 ^a |
| fluoranthene | 45 F – 12,000 | 1/29 | 1,000 ^a |
| indeno(1,2,3-cd)pyrene | 36 F – 240 F | 3/29 | 0.04 ^a |
| phenanthrene | 71 F – 8,500 | 2/29 | 1,000 ^a |
| pyrene | 50 – 1,100 | 1/29 | 1,000 ^a |

Notes

a = NYSDEC STARS Memo No. 1 TCLP Alternative Guidance Value.

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

Table 6
Site Investigation Sampling
Concrete Basin Soil Sample Results Exceeding Standards and Guidance Values,
October 1998

| Compound | Range of Detected Concentrations | Frequency of Detection Above Most Stringent Criterion | Most Stringent Criterion |
|------------------------|----------------------------------|---|--------------------------|
| VOCs (µg/kg) | | | |
| 1,2,4-trimethylbenzene | 0.41 F – 56,000 | 3/25 | 100 ^a |
| 1,3,5-trimethylbenzene | 0.36 F – 27,000 | 3/25 | 100 ^a |
| ethylbenzene | 0.71 F – 5,700 | 2/25 | 100 ^a |
| isopropylbenzene | 150 B – 3,800 | 3/25 | 100 ^a |
| n-butylbenzene | 062 F – 27,000 | 2/25 | 100 ^a |
| n-propylbenzene | 1.5 – 1,800 | 1/25 | 100 ^a |
| p-isopropyltoluene | 500 – 4,100 | 4/25 | 100 ^a |
| sec-butylbenzene | 0.51 F – 14,000 | 4/25 | 100 ^a |
| t-butylbenzene | 1.7 – 3,100 | 2/25 | 100 ^a |
| xylenes | 5.5 – 26,000 | 3/25 | 100 ^a |
| SVOCs (µg/kg) | | | |
| benzo(a)anthracene | 96 F | 1/25 | 0.04 ^a |
| benzo(a)pyrene | 84 F | 1/25 | 0.04 ^a |
| benzo(b)fluoranthene | 180 F | 1/25 | 0.04 ^a |
| benzo(g,h,i)perylene | 57 F | 1/25 | 0.04 ^a |
| benzo(k)fluoranthene | 40 BF | 1/25 | 0.04 ^a |
| chrysene | 82 F | 1/25 | 0.04 ^a |
| dibenzo(a,h)anthracene | 67 F | 1/25 | 0.04 ^a |
| indeno(1,2,3-cd)pyrene | 64 F | 1/25 | 0.04 ^a |
| naphthalene | 260 | 1/25 | 200 ^a |

Notes

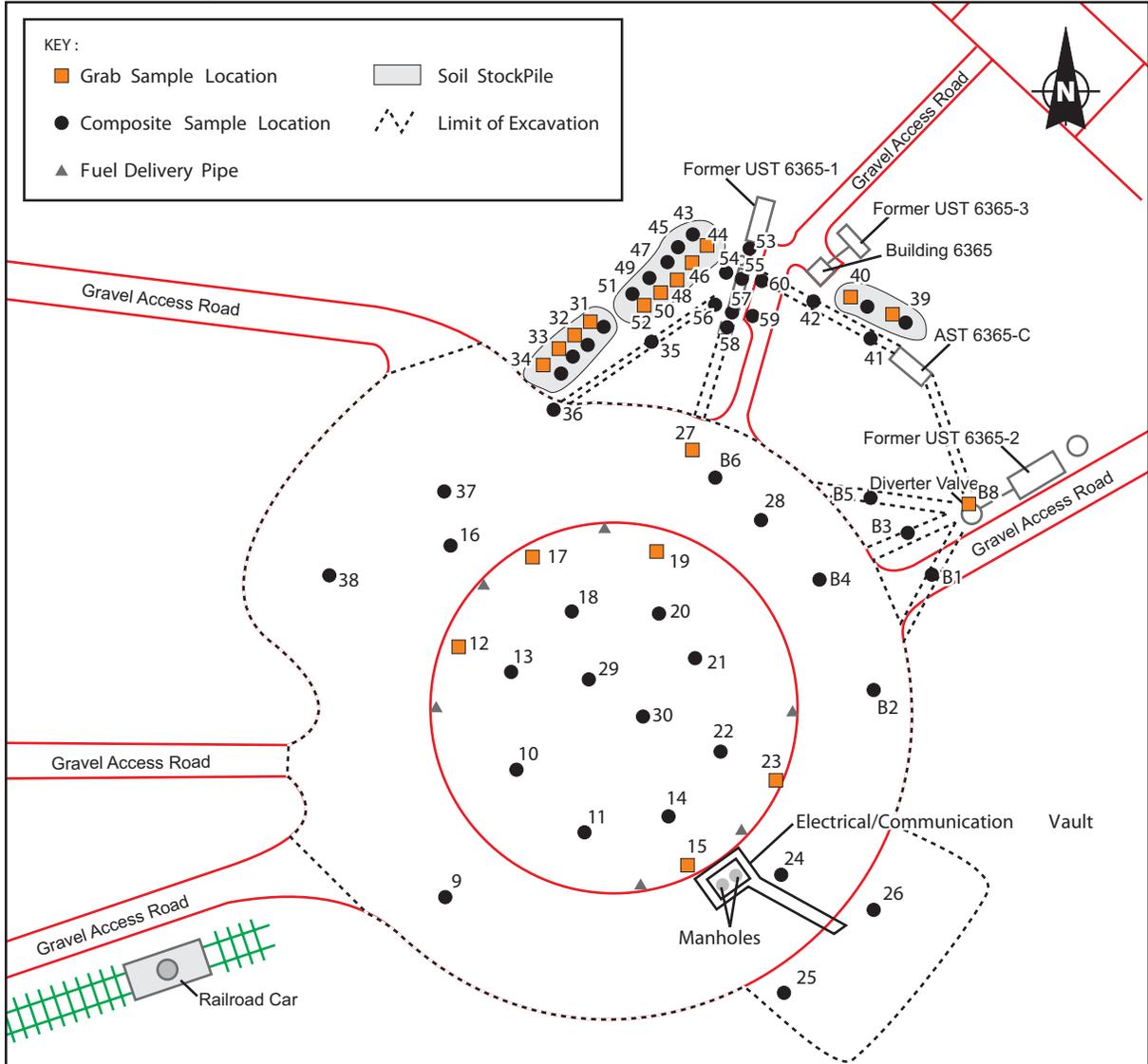
a = NYSDEC STARS Memo No. 1 TCLP Alternative Guidance Value.

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 6
1999 Interim Remedial Action
Confirmatory Soil Sampling Locations

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objectives. Three SVOCs were also detected at concentrations above STARS soil guidance values but not detected above the TAGM soil cleanup objectives.

2.5.2.2 Interim Remedial Action Phase 2

Phase 2 activities conducted 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 6 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 Phase 2 (in addition to Phase 1) 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 ROD for the FPTA AOC, 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.

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 soil cleanup objectives 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 micrograms per kilogram [$\mu\text{g}/\text{kg}$]) below the TAGM soil cleanup objective (224 $\mu\text{g}/\text{kg}$). 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.

2.5.3 Groundwater Monitoring

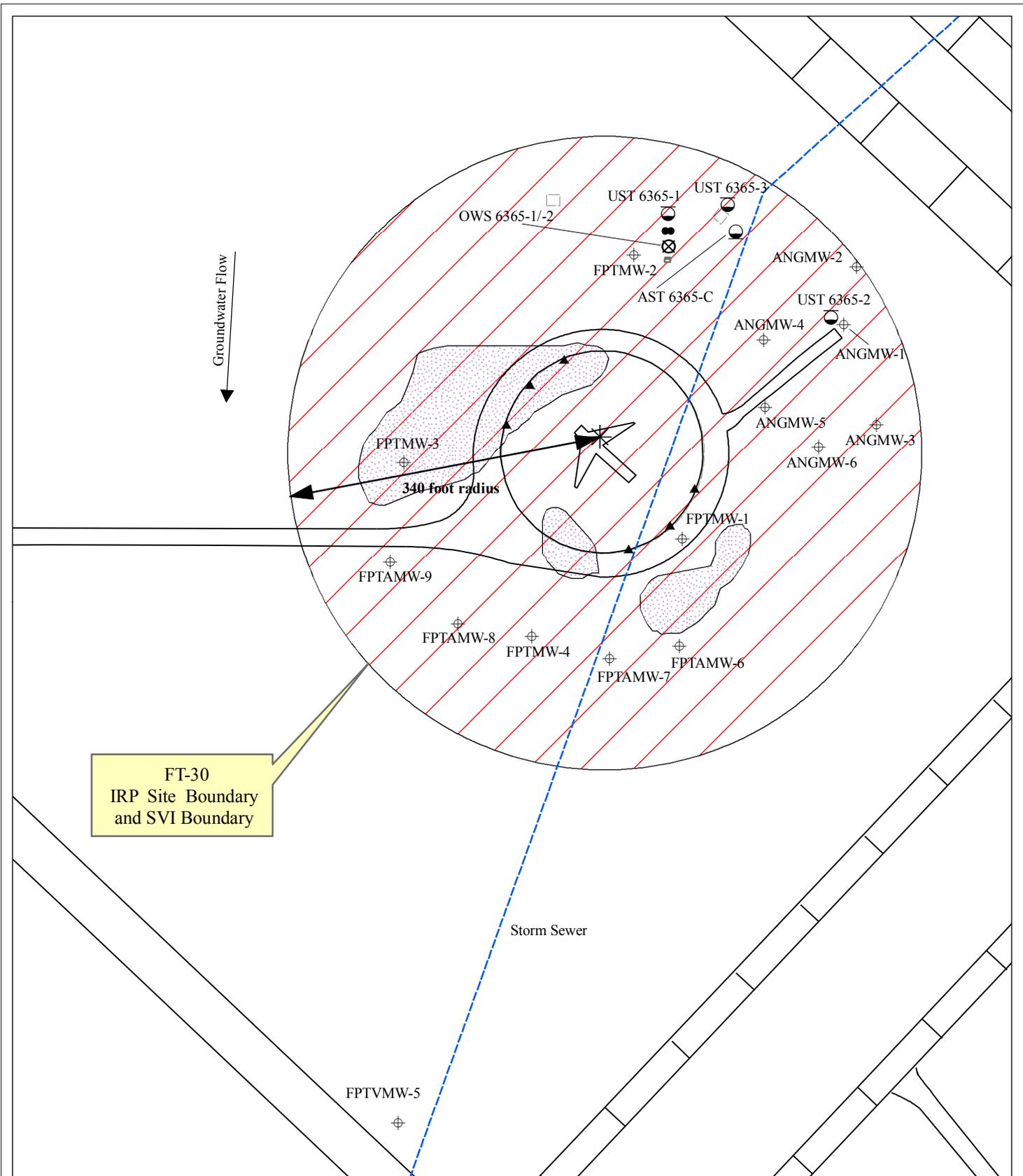
As a result of existing contamination of potentially saturated subsurface soils at depth of 8 to 14 ft bgs, four additional monitoring wells (FPTAMW-6, -7, -8, and -9) were installed in November 2003 under NYSDEC spill number 9510184. During installation, there were no visible signs of contamination and photoionization 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 locations are illustrated on Figure 7. 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 7. 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. March 2007 sampling data confirmed the absence of VOC detections above NYS Groundwater SCGs.

2.5.4 Soil Vapor Intrusion Evaluation

Although known contamination sources have been removed from the FPTA AOC, the Air Force evaluated the potential for SVI. The evaluation concluded that there are no structures located on the AOC that can be occupied. Consequently, SVI sampling was not performed. The AOC is located within the boundary of the operational County Airport. Federal Aviation Administration regulations prohibit construction within the AOC boundary. However, a land use control will be implemented requiring future property owners to perform a SVI evaluation prior to construction of a new facility within the FT-30 IRP Site boundary (Figure 7) should the Airfield close. Any such mitigation or evaluation will be coordinated with the EPA and NYSDEC. The need for the SVI LUC will be evaluated as part of the 5-Year Review process.

2.6 Current and Potential and Future Land and Resource Use

Oneida County is responsible for maintaining property and developing facilities, as necessary, to promote airport reuse. The planned future land use designations for the FPTA AOC are aviation support. The runway/flightline area, located west of the AOC (Figure 1), is part of the relocated Griffiss International Airport, and thus the FPTA AOC will be subject to Federal Aviation Administration restrictions.



Groundwater Flow

FT-30
IRP Site Boundary
and SVI Boundary

Storm Sewer

FPTVMW-5

340-foot radius

Key to Features

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

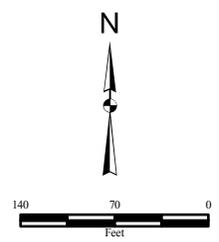


Figure 7
FPTA
Groundwater Monitoring
Network

Table 7
Fire Protection Training Area AOC
LTM Detected Groundwater Results (ANGMW-1)
November 2003 – April 2007

| Sample ID | NYS Groundwater Standard | ANGM 0111AA | ANGM0 111BA | ANGM01 11CA | ANGM01 11DA | ANGM01 11EA | ANGM01 11FA | ANGM01 11GA |
|------------------------|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Date of Collection | | Nov 03 | Apr 04 | Jun 04 | Sep 04 | Mar 05 | Mar 06 | Apr 07 |
| VOCs (µg/L) | | | | | | | | |
| 1,2,4-trimethylbenzene | 5 | 4.5 | 2.6 | U | 3.1 | 1.7 | U | U |
| 1,3,5-trimethylbenzene | 5 | 20 | 15 | 6.7 | 16 | 7.8 | U | U |
| ethylbenzene | 5 | 3.0 | 2.2 | 1.1 | 2.4 | 1.5 | U | 0.43 F |
| isopropylbenzene | 5 | 1.1 | 1.2 | 0.64 | 1.1 | 0.84 | U | 0.32 F |
| m,p-xylene | 5 | 2.5 | 1.65 | 1.4 | 1.8 | 0.84 | U | U |
| naphthalene | 10 | 20 | 10 | 4.9 | 11 | 5.9 | U | 3.13 |
| n-propylbenzene | 5 | 1.6 | 1.7 | 0.84 | 1.6 | 1.1 | U | 0.41 F |
| o-xylene | 5 | 0.84 | 0.51 | U | 0.52 | U | U | U |
| p-isopropyltoluene | 5 | 1.4 | 0.25 F | U | 0.47 F | 4.1 | U | 1.96 |
| sec-butylbenzene | 5 | 1.4 | 1.4 | 0.68 | 1.4 | 1.3 | U | 0.61 F |
| t-butylbenzene | 5 | 0.76 | 0.41 | 0.38 F | 0.78 | 0.71 | U | 0.36 F |

Notes

X – Exceedance of NYS Groundwater Standards.

F – The analyte was detected above the Method Detection Limit, but below the Reporting Limit.

U – The analyte was analyzed for but not detected above the Method Detection Limit.

2.7 Summary of Site Risks

Previous investigations, source removals, and groundwater monitoring have confirmed that contamination has been removed from the AOC. Given that Federal Aviation Administration regulations prohibit construction within the AOC boundary, the selected remedy for land use controls to manage SVI at the AOC is protective of human health and the environment.

2.8 Documentation of Significant Changes

There are no significant changes between the preferred alternative presented in the Proposed Plan for the FPTA AOC (FT-30) and the selected remedy presented in this ROD.

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3.0 RESPONSIVENESS SUMMARY

On June 13, 2009, AFRPA, following consultation with and concurrence of the EPA and NYSDEC, released for public comment the proposed plan for the FPTA AOC located at the former Griffiss AFB. The release of the proposed plan initiated the public comment period, which concluded on July 14, 2009.

During the public comment period, a public meeting was held on June 18, 2009 at the Griffiss Institute located at 725 Daedalian Drive, Rome, New York 13441. The selected remedy for the FPTA AOC was presented at the public meeting and a court reporter recorded the proceedings of the meeting. Copies 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 proposed plan for the FPTA AOC.

No verbal or written comments were received at the public meeting or during the public comment period.

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4.0 REFERENCES

AFCEE, Basewide Environmental Baseline Survey, Griffiss Air Force Base, New York, September 1994.

AFCEE, Model Field Sampling Plan, Griffiss Air Force Base, New York, September 1994.

AFCEE, Quality Assurance Project Plan, Version 3.1, August 2001.

EPS, January 1999 Quarterly Groundwater Monitoring Report, Griffiss MEA-Rome, New York, January 1999.

FPM Group Ltd., Draft Monitoring Report, On-Base Groundwater AOCs, Revision 1.0, November 2004.

FPM Group, Ltd., Draft Report, AOC Long-Term Monitoring Baseline Study, Griffiss Air Force Base, Revision 1.0, July 2000.

FPM Group, Ltd., Monitoring Report, On-Base Groundwater AOCs Monitoring Program, Former Griffiss Air Force Base, Rome, New York, Revision 0.0, August 2005.

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FPM Group, Ltd., Monitoring Report, On-Base Groundwater AOCs Monitoring Program, Former Griffiss Air Force Base, Rome, New York, Revision 0.0, August 2007.

FPM Group, Ltd./PEER, Final Interim Remedial Action Report for the Fire Protection Training Area (FT-30), Former Griffiss Air Force Base, Rome, New York, July 2003.

Law, Draft-Final Primary Report: Volume 28, Remedial Investigation Fire Protection Training Area of Concern, Griffiss Air Force Base, New York, December 1996.

PEER, Draft Preliminary Report: Underground Storage Tank and Oil/Water Separator Site Investigations, Griffiss Air Force Base, New York, September, 1998.

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GLOSSARY

Administrative Record: A file established and maintained in compliance with section 113(K) of the Comprehensive Environmental Response, Compensation, and Liability Act consisting of information upon which the lead agency bases its final decisions on the selection of remedial method(s) for a site. The Administrative Record is available to the public.

Applicable Requirements: Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those state standards that are identified by a state in a timely manner and that are more stringent than federal requirements may be applicable. See also Relevant and Appropriate Requirements.

Aquifer: A water-bearing formation or group of formations.

Chlorinated Hydrocarbons: Organic compounds that contain chloride such as trichloroethene (TCE) and dichloroethene (DCE). Also referred to as chlorinated solvents.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). The act requires federal agencies to investigate and remediate releases of hazardous substances.

Contaminant Plume: A volume of contaminated groundwater with measurable horizontal and vertical dimensions. Plume contaminants are dissolved in and move with groundwater.

Environmental Impact Statement: A study conducted to provide information on potential environmental impacts that could result from a proposed action.

Feasibility Study (FS): An evaluation to identify and evaluate appropriate remedial goals and remedial alternatives for a site based upon United States Environmental Protection Agency criteria.

Groundwater: Water found beneath the earth's surface that fills pores within materials such as sand, soil, gravel, and cracks in bedrocks, and often serves as a source of drinking water if found in an adequate quantity.

Hazard Index: A quantitative measure of non-carcinogenic risk associated with exposure to chemicals. The hazard index is determined for all chemicals of concern affecting a particular organ or acting by a common mechanism. If the sum of all hazard indices is less than 1 for a particular exposure scenario, the risk of adverse health effects is considered acceptable.

Hydrogeologic: Pertaining to subsurface waters and the related geologic aspects of subsurface waters.

Installation Restoration Program (IRP): The United States Air Force subcomponent of the Defense Environment Restoration Program (DERP) that specifically deals with investigating and remediating sites associated with suspected releases of toxic and hazardous materials from past activities. The DERP was established to clean up contaminated sites at Department of Defense facilities nationwide.

Monitoring: Ongoing collection of information about the environment that helps gauge the effectiveness of a cleanup action. Information gathering may include groundwater well sampling, surface water sampling, soil sampling, air sampling, and physical inspections.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): The NCP provides the organization, structure and procedures for preparing for and responding to discharges of oil

and releases of hazardous substances, pollutants, and contaminants. The NCP is required under CERCLA and the Clean Water Act, and USEPA has been delegated the responsibility for preparing and implementing the NCP. The NCP is applicable to response actions taken pursuant to the authorities under CERCLA and the Clean Water Act.

National Priorities List: USEPA's list of the most serious uncontrolled or abandoned sites with hazardous substance contamination identified for possible long-term remedial action under the Superfund program.

Organic Compounds: Any chemical compounds built on the carbon atom, i.e., methane, propane, phenol, etc.

Polychlorinated Biphenyl (PCB): An organic pollutant that was formerly used in electrical transformers and capacitors, their manufacture was banned in 1979. There are 210 different PCB compounds that typically have 40% to 60% chlorine by weight.

Polycyclic Aromatic Hydrocarbons (PAHs): Compounds often associated with combustion process and distillation tars.

Proposed Plan: A public document that solicits public input on a recommended remedial alternative to be used at a site. The Proposed Plan is based on information and technical analysis generated during the RI/FS. The recommended remedial action could be modified or changed based on public comments and community concerns.

Record of Decision (ROD): A public document that selected and explains the remedial alternative to be used at a CERCLA site. The ROD is based on information and technical analysis generated during the remedial investigation, and on consideration of the public comments and community concerns received on the Proposed Plan. The ROD includes a Responsiveness Summary of public comments.

Remedial Action: An action that stops or substantially reduces a release or threat of a release of hazardous substances that is serious but not an immediate threat to human health or the environment.

Remedial Alternatives: Options evaluated to address the source and/or migration of contaminants to meet health-based or ecology-based remediation goals.

Remedial Investigation (RI): An investigation that determines the nature and extent and composition of contamination at a hazardous waste site. It is used to assess the types of remedial options that are developed in the feasibility study.

Risk Assessment: A systematic scientific process of determining risk estimates based on the presence of contaminants in the environment and who might be exposed to the contaminants.

Semivolatile Organic Compounds (SVOCs): Organic constituents which are generally insoluble in water and are not readily transported in groundwater.

Source: Area at a hazardous waste site from which contamination originates.

To Be Considered (TBC): Federal and state policies, advisories, and other non-promulgated health and environment criteria, including numerical guidance values, that are not legally binding. TBCs are used for the protection of public health and the environment if no specific ARARs for a chemical or other site conditions exist, or if ARARs are not deemed sufficiently protective.

Toxicity: The quality or condition of a destructive, deadly, or poisonous substance.

Vadose Zone: The volume located between the ground surface and the water table. Also known as the unsaturated zone.

Volatile Organic Compounds (VOCs): Organic constituents which tend to volatilize or to change from a liquid to a gas form when exposed to the atmosphere. Many VOCs are readily transported in groundwater.

Water Table: The surface of a body of unconfined groundwater at which the water pressure is equal to that of the atmosphere.

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