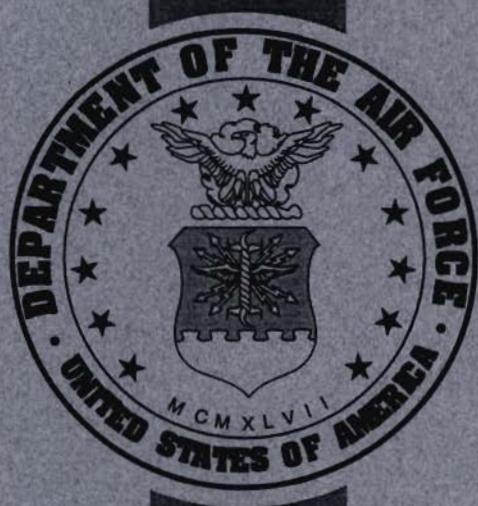

**SITE SS-018 AUTO HOBBY SHOP
AND
SITE SS-028 OPEN STORAGE AREA**

PROPOSED PLAN

***Plattsburgh Air Force Base
Installation Restoration Program***



prepared for:

**United States Department of The Air Force
Plattsburgh Air Force Base
Plattsburgh, New York**

**Final
June 2000**

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AND
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**PLATTSBURGH AIR FORCE BASE
PLATTSBURGH, NEW YORK**

**UNITED STATES DEPARTMENT OF THE AIR FORCE
INSTALLATION RESTORATION PROGRAM**

**Prepared by:
URS CONSULTANTS, INC.**

FINAL

JUNE 2000

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1.0 INTRODUCTION

This Proposed Plan recommends a combined remedial alternative for SS-018, the Auto Hobby Shop, and the adjacent SS-028, Open Storage Area at the Plattsburgh Air Force Base (AFB) in Plattsburgh, New York (Figure 1). The United States Air Force (USAF) is proposing this plan to address contaminated soil and groundwater present on the sites as a result of past activities. Based on the findings of the various Installation Restoration Program (IRP) investigations and the removal action at site SS-028, the USAF recommends institutional controls (groundwater and land use restrictions) and groundwater monitoring as the combined remedial alternative.

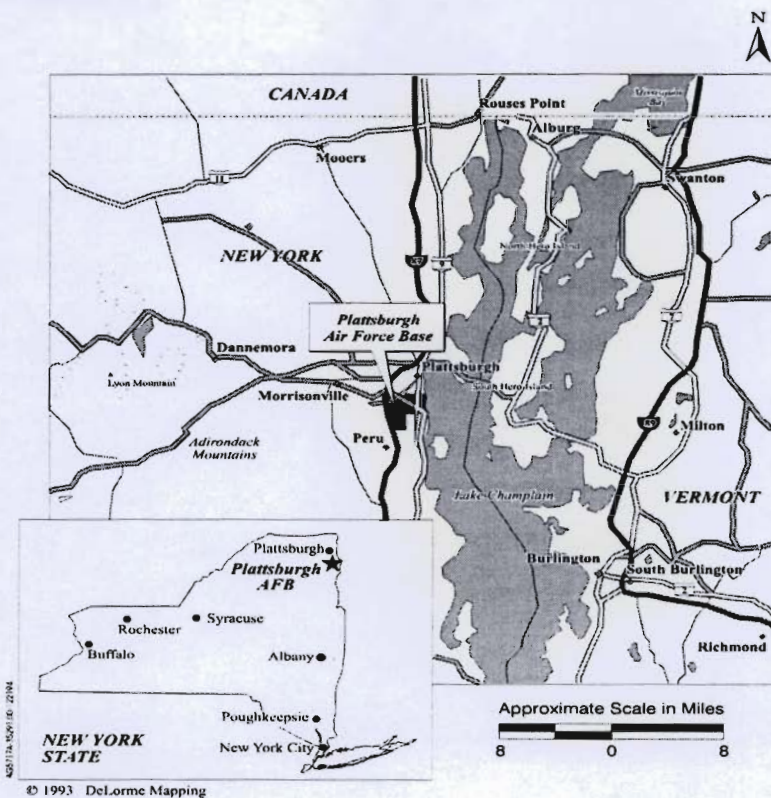


FIGURE 1 – LOCATION OF PLATTSBURGH AFB

The Proposed Plan has been evaluated in detail as part of the Department of Defense's IRP and Base Realignment and Closure (BRAC) regulations and guidance. The Proposed Plan is being published in accordance with Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Section 300.430(f) of the National Contingency Plan (NCP). Its purpose is to summarize the results and conclusions of previous

studies, and to provide information for public review and comment on the remedial alternative being considered. The USAF will consider public input on the remedial alternative proposed in this plan. Therefore, the public is encouraged to review and comment on the alternative being considered. The Administrative Record File contains the information upon which the selection of the response action will be based. This information is available to the public at the Information Repository, which is located at the Feinberg Library at the State University of New York (SUNY) at Plattsburgh campus. The repository documents are on reserve (see the Special Collections Librarian). Photocopying equipment is available.

Administrative Record File Location	
Feinberg Library SUNY at Plattsburgh Plattsburgh, New York 12901	
Special Collections Department	
Hours:	
Sunday and Monday	Closed
Tuesday	4:00 p.m. to 7:00 p.m.
Wednesday and Thursday	9:00 a.m. to 12:30 p.m.; 1:00 p.m. to 4:00 p.m.
Friday	10:00 a.m. to 12:30 p.m.; 1:00 p.m. to 4:00 p.m.

This plan addresses contamination that has resulted from spills at SS-018 and SS-028. Remedial investigation (RI) activities, conducted from 1992 to 1996 at SS-018 and from 1996 to 1999 at SS-028, identified possible migration pathways of chemical contaminants to potential receptors. In addition, the risks posed to human health and the environment were evaluated using a combination of the data gathered during IRP activities at the two sites. Site contamination includes polycyclic aromatic hydrocarbons (PAHs) and metals present in regraded materials along the edge of and underneath pavement at the sites; chemicals in soil related to past small fuel and solvent spills; and chemicals in groundwater related to the small spills.

The assessment of risk to human health assumed that, in the future, the sites would be used generally as a commercial area with a portion of the area, closest to Lake Champlain, developed as a recreational bike/walk path. This assumption is consistent with the *Comprehensive Reuse Plan for Plattsburgh Air Force Base* (PARC 1995). The assessment concluded that there is no unacceptable risk associated with human exposure to site contaminants given the reuse scenarios evaluated. Exposure to site soils and groundwater under a future

residential scenario was not considered in the human health risk assessment since residential redevelopment is highly unlikely due to the land use plans developed for the sites, the immediate proximity of the area to an active rail line, and the development procedure that will be emplaced as a result of the historic status of the area (the area is eligible for nomination to the National Register of Historic Places and will be subject to protective covenants in accordance with the National Historic Preservation Act). Therefore, the USAF's recommended alternative includes emplacing institutional controls to limit the use of the site to nonresidential land use. An assessment of ecological risks concluded that there is no significant risk to ecological resources posed by chemical releases at SS-028 and SS-018.

Several volatile organic compounds (VOCs) detected in groundwater exceed New York State Class GA ambient water quality standards. As a result of RI field activities, an area of contaminated soil believed to be the source for the majority of the groundwater contamination was identified. In December 1998, a removal action was undertaken to excavate 158 tons of contaminated soil and dispose of it off base. As a result of this action, the source likely has been removed, and contaminant levels in groundwater should decrease with time due to natural attenuation. Since contaminants currently remain in groundwater above regulatory limits, the USAF's recommended alternative includes emplacing institutional controls to prohibit the installation of any wells for drinking water or any other purpose that may result in the use of the underlying groundwater. Also, groundwater withdrawn from the site for construction dewatering may require a SPDES permit prior to discharge and the recommended alternative, therefore, prohibits such discharge without the prior approval of the New York State Department of Environmental Conservation (NYSDEC). In addition, the recommended alternative includes monitoring groundwater in several wells until contamination has been reduced to below regulatory limits. The area of groundwater restriction is depicted in Figure 8.

2.0 SITE BACKGROUND

Plattsburgh AFB, located in Clinton County in northeastern New York State, is bordered on the north by the City of Plattsburgh, on the west by Interstate 87, on the south by the Salmon River, and on the east by Lake Champlain. It lies approximately 26 miles south of the Canadian border and 167 miles north of Albany. Plattsburgh AFB was closed on September 30, 1995 as part of the (third round of) base closures mandated under the Defense Base Closure and Realignment Act of 1993, and its reuse is being administered by the Plattsburgh Airbase

Redevelopment Corporation (PARC). PARC is responsible for maintaining the base property, marketing and controlling base reuse, leasing and managing property, and developing base facilities, as necessary, to promote advantageous reuse. According to land use plans (PARC 1995), the planned reuse at sites SS-018 and SS-028 will be commercial, with a strip of land nearest Lake Champlain designated for recreational use. The base land use plans developed by PARC were incorporated into the Environmental Impact Statement (Tetra Tech 1995) and are currently being incorporated into the City of Plattsburgh Master Plan.

As part of the USAF's IRP and the BRAC program, Plattsburgh AFB has initiated activities to identify, evaluate, and restore identified hazardous waste sites. The IRP at Plattsburgh AFB is being implemented according to a Federal Facilities Agreement, Docket No. II-CERCLA-FFA-10201, signed between the USAF, United States Environmental Protection Agency (USEPA), and NYSDEC on July 10, 1991. Plattsburgh AFB was placed on the National Priorities List (NPL) on November 21, 1989.

2.1 Site Description and History

SS-018 and SS-028 are located adjacent to one another on the old base portion of Plattsburgh AFB near the intersection of Wisconsin Street and Ohio Avenue (Figure 2).

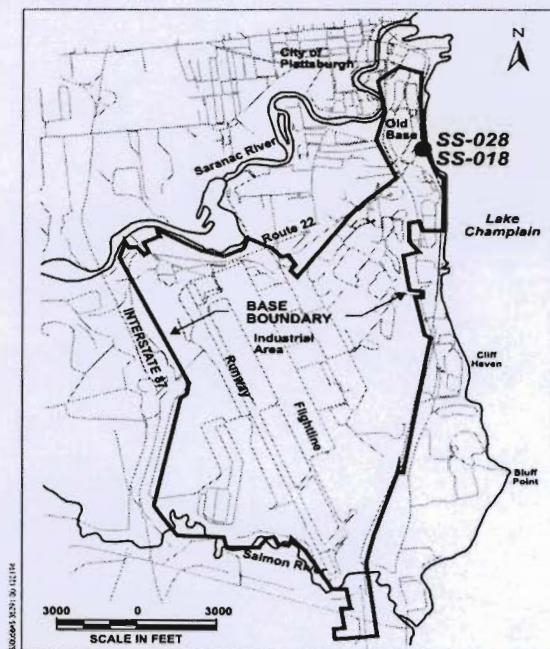


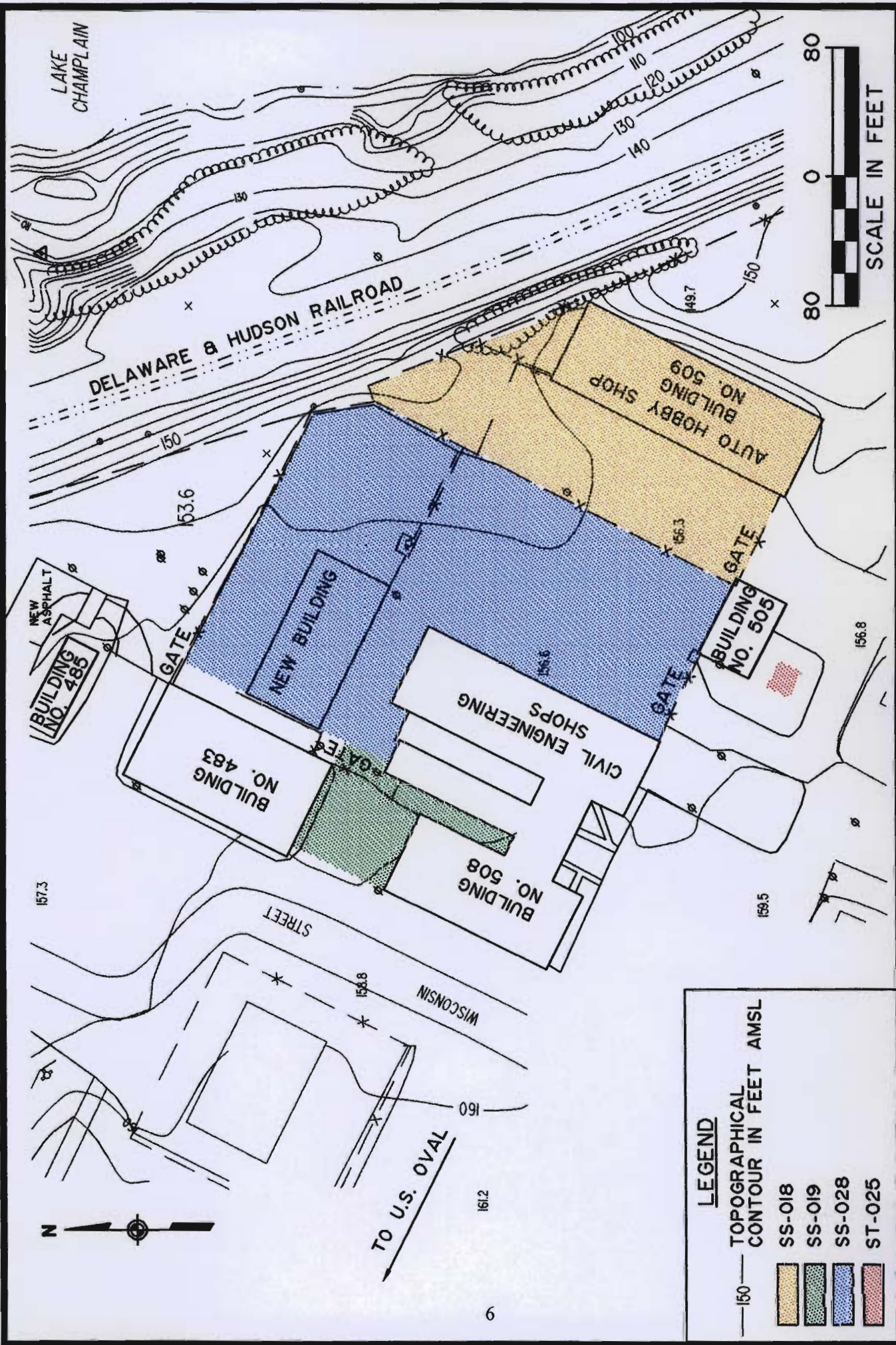
FIGURE 2: LOCATION OF SS-018 AND SS-028

Two other sites, SS-019 (Civil Engineering Squadron Paint/Shop) and ST-025 (Building 505 Abandoned Underground Storage Tank) are situated in the immediate vicinity of SS-018 and SS-028. All of these sites are shown in Figure 3.

Building 509 (Auto Hobby Shop) was built in 1936 by the United States Army (Plattsburgh AFB was formerly Plattsburgh Army Barracks) for use as a regimental parking garage. From the early 1970s until base closure, Building 509 was used for the maintenance of private vehicles owned by base personnel. Principal wastes generated by the facility were mineral spirits, paints, and petroleum-based automotive waste fluids. A paved waste accumulation point was situated along the fence line west of Building 509 and adjacent to SS-028. One 1,000-gallon fuel oil underground storage tank (UST), one 300-gallon oil/water separator, and one 800-gallon plastic aboveground storage tank (AST) containing waste oil/hydraulic fluid were formerly located on site. These tanks are described in greater detail in Appendix A. The 300-gallon oil/water separator, which discharged to the sanitary sewer, was not observed to be leaking upon its removal. Some evidence of spillage was noted during removal of the other tanks, although some of the contained material was removed.

SS-028, the Open Storage Area, is associated with Building 508, which housed several base engineer maintenance shops. Building 508 was built in 1935 and also served as a regimental parking garage. North and east of Building 508 is a paved open area which the USAF used for the general storage of equipment and containerized product. Product stored in drums and tanks at the site included diesel fuel, roofing tar, hydraulic fluid, waste oil and solvents, and antifreeze. In September 1990, approximately thirty 55-gallon drums stored at SS-028 were disposed of. The contents of the disposed drums are listed in Appendix A. Several USTs (fuel oil) and ASTs (fuel oil/gasoline) are or were formerly located near the site (see Appendix A for details regarding contents and disposition).

Currently, the Open Storage Area is used to store excess equipment and construction material, Building 508 houses several PARC caretaker maintenance shops, and Building 509 is used for storage. Because of the age of Buildings 508 and 509 (over 50 years old) and their potential contribution to an existing historic district, the general area surrounding and including SS-028 and SS-018 is eligible to be nominated to the National Register of Historic Places. Negotiations are currently underway with the New York State Office of Historic Preservation



LOCATION OF THE AUTO HOBBY SHOP (SS-018), OPEN STORAGE AREA (SS-028) AND ADJACENT IRP SITES

FIGURE 3

(NYSOHP) to establish a programmatic agreement to protect historical resources. The agreement will specify protective covenants for Buildings 508 and 509 and adjacent property in accordance with Section 106 of the National Historic Preservation Act.

Sites SS-018 and SS-028 lie about 150 feet west of the shoreline of Lake Champlain. An active Delaware and Hudson rail line is situated between the sites and the lake. The topography drops off steeply between SS-018/SS-028 and the lake; the rail line lies about 10 feet below the grade of the sites and the lake lies about 50 feet below the grade of the sites.

The stratigraphy in the SS-018/028 area generally consists of four hydrogeologic units: an upper unconsolidated sand aquifer, an underlying confining layer formed by a silty clay unit, a glacial till water-bearing unit, and a thinly-bedded limestone bedrock aquifer. Fill (regraded material) is present below the site asphalt pavement and adjacent grassy areas to a maximum depth of 7 feet below grade. The fill material consists of sand with gravel, coal fragments and dust, cinders, ash, and debris (metal, brick, plastic, and paint chips). Between 1903 and 1924, the United States Army stored up to 815 tons of coal in a shed at the location of what is now Building 508. This 23-foot by 217-foot shed was destroyed by fire and the area was regraded. Coal storage and regrading activities at this building over its 21-year existence may account for the coal pieces, dust, and cinders found in the fill layer.

Groundwater flows in the sand aquifer eastward underneath the site at a depth of about 15 feet below grade. Eventually, groundwater flows to the steep embankment above the shoreline of Lake Champlain, where it is expressed along a seepage face at the sand/clay geologic contact.

2.2 Scope and Role of Operable Unit

Sites SS-018 and SS-028 are only two of a number of sites administered under the Plattsburgh AFB IRP. Records of Decision (RODs) have previously been signed for nine operable units at the base, and additional RODs are planned for other IRP sites. It is intended that the proposed action be the final action for sites SS-018 and SS-028. A removal action conducted from December 1998 through June 1999 at site SS-028 resulted in the removal of contaminated soil that constituted the principal threat wastes at the sites.

2.3 Summary of Previous Investigation

2.3.1 SS-018

In 1987, site SS-018 was added to the IRP. A site investigation, consisting of a record search and soil gas survey, was performed and concluded that additional soil and groundwater sampling was necessary to characterize the site (E.C. Jordan 1989). Subsequently, a remedial investigation was performed which included advancing of seven soil borings with associated soil sampling, collecting 11 surface soil samples, groundwater screening (used to optimize the location of monitoring wells), sampling the contents of a UST, and installing and sampling three monitoring wells (Malcolm Pirnie 1996). Contamination at the site was found to consist primarily of PAH-contaminated surface soil in an area of fill material immediately adjacent to the eastern portion of SS-028.

2.3.2 SS-028

In 1992, a preliminary assessment of the Open Storage Area was completed and included a review of historical records, personnel interviews, and a site walkover (Malcolm Pirnie 1994). A site investigation was initiated in the fall of 1994 to carry out recommendations of the preliminary assessment for further investigation of the site, including the analysis of soil and groundwater samples (URS 1995a). Field activities included advancing four soil borings, collecting and analyzing eight soil samples from the borings, installing and sampling two monitoring wells, sampling two site SS-018 monitoring wells, collecting and analyzing one composite surface soil sample, and observing the site's physical condition. PAH-contaminated soil was identified in borings advanced adjacent to site SS-018. The downgradient groundwater samples collected during the site investigation contained low-level chlorinated hydrocarbon contamination.

Consequently, the USAF agreed to a request by the NYSDEC to install two additional wells. Because chlorinated hydrocarbons were detected in the new wells at concentrations exceeding New York State groundwater standards, a remedial investigation was initiated to evaluate the source and extent of chlorinated hydrocarbons at the site. In the summer of 1997, 50 soil samples and 27 groundwater screening samples were collected at 27 boring locations, two groundwater seep samples were collected, three monitoring wells were installed, and groundwater

from seven new and previously existing wells was sampled (URS 1999a). The soil samples and groundwater screening samples were analyzed by an onsite portable gas chromatograph. The seep samples, the groundwater samples from wells, and 20 percent of the soil and groundwater screening samples (taken in duplicate) were analyzed at an offsite laboratory. Based on the investigation's recommendations, a removal action was initiated in December 1998 to remove contaminated soil believed to be a source of the chlorinated hydrocarbon contamination detected in groundwater. The removal action is discussed in greater detail in Section 4.0 of this Plan. Approximately 158 tons of soil were removed, transported to a thermal desorption facility in New Hampshire, and disposed of (URS 1999a). In June 1999, the excavation was backfilled with clean soil and restored subsequent to regulatory agency concurrence that a sufficient quantity of soil had been removed from the Removal Action excavation.

2.3.3 Other Adjacent Sites

Two other IRP sites, SS-019 (Civil Engineering Squadron Paint Shop) and ST-025 (Building 505 Abandoned Underground Storage Tank), are located in the immediate vicinity of SS-018 and SS-028. The data collected during investigation of these sites were considered in the evaluation of the nature and extent of contamination at sites SS-018 and SS-028. The results from these investigations are discussed below.

Site SS-019 is an approximately 1/3-acre area located near the northern portion of the western wing of Building 508, adjacent to the northwest portion of SS-028. Painting and/or cleaning of painting equipment in this area may have led to spills on the ground surface. The site was identified during a preliminary assessment in 1987 (Malcolm Pirnie 1994) and proceeded to a site investigation which included installing and sampling a monitoring well, and collecting and analyzing 13 surface soil samples, 12 subsurface soil samples, and a sediment sample. Most soil samples collected at the site contained chemicals at concentrations below their respective New York State guidance values (see Section 2.4 for a description of the guidance). However, four PAHs and antimony in surface soil and one PAH and zinc in subsurface soil were detected at concentrations slightly above the guidance value in some samples. No organic compounds were detected in the sample from the monitoring well; however, four metals (aluminum, iron, sodium, and thallium) were detected at concentrations above New York State Class GA groundwater standards. Because of the low levels of chemicals detected during the SI, no further investigation or remedial action was recommended for the site. In addition, a human health risk assessment

(URS 1995b) was performed in 1995 which confirmed that no further action was necessary to protect human health. The USEPA concurred with the recommendation in comments to the SI on May 11, 1994.

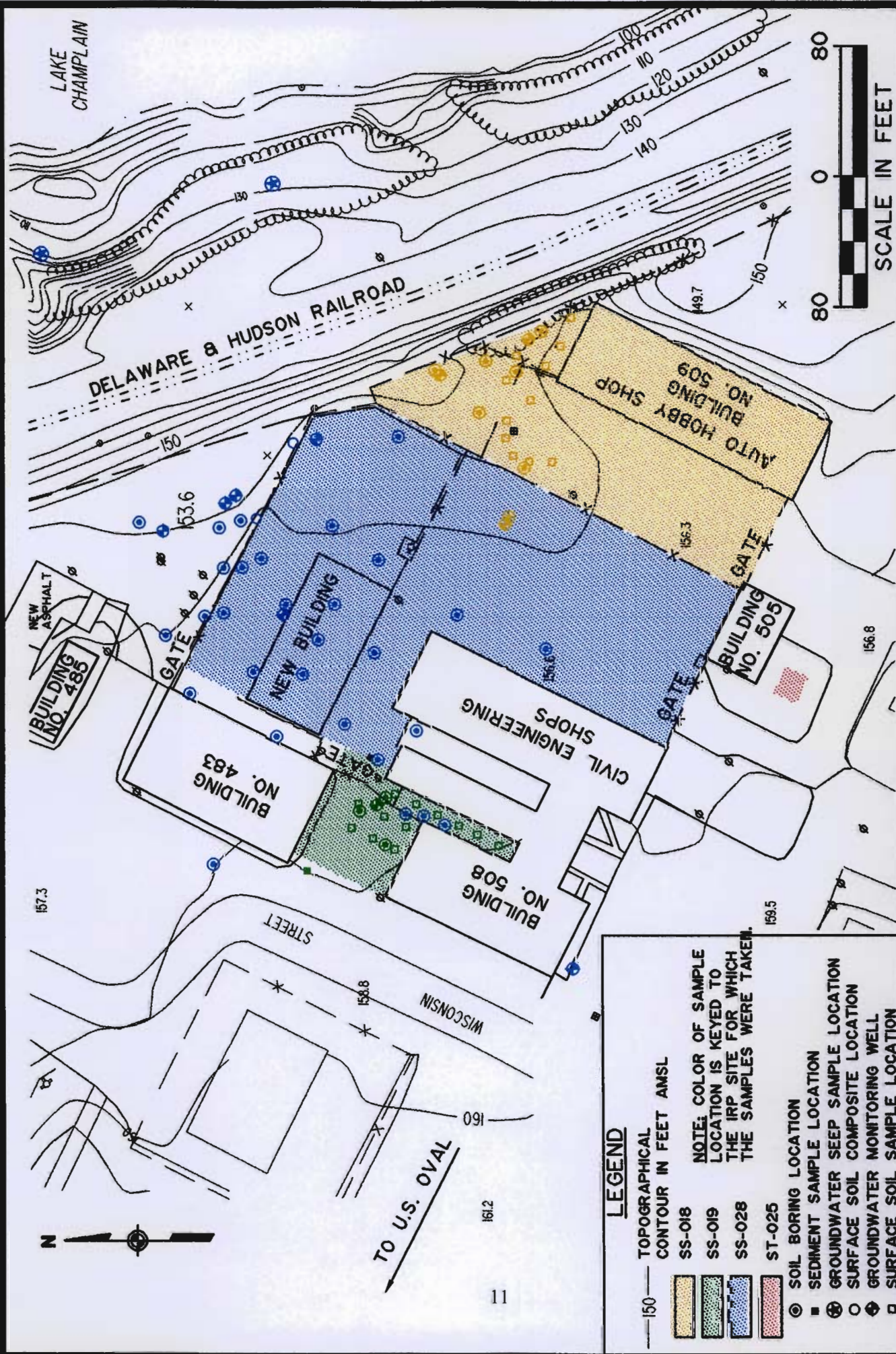
ST-025 is located along the south side of Building 505, just south of site SS-028 and west of site SS-018. In 1991, a 10,000-gallon UST was removed from the site. Following tank removal, samples were collected before the pit was backfilled with clean soil. In 1991, a decision document was prepared that recommended no further action at the site. The NYSDEC – Region V Environmental Quality Office concurred in writing on March 21, 1997.

2.4 Summary of Site Contamination

The soil and groundwater sampling at sites SS-018 and SS-028 was extensive and comprehensive. Soil sampling locations are depicted in Figure 4. Samples taken at the sites were chemically analyzed for the following general groups of contaminants: volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and metals. All samples were not analyzed for all parameters; many of the samples were targeted primarily for VOCs, since these compounds were detected in groundwater at the sites and are generally mobile.

The contamination found at the sites can be evaluated by comparing the results of sampling and analysis to established requirements and guidelines. The levels of contamination from organic compounds in soil (both subsurface and surface soil) were evaluated by comparing to guidance values specified in the *Technical and Administrative Guidance Memorandum* (TAGM) #4046 entitled, "Determination of Soil Cleanup Objectives and Cleanup Levels" (NYSDEC 1994). As recommended by TAGM #4046, levels of contamination from inorganic chemicals (metals) in soil were evaluated by comparing the detected concentrations to site background levels (URS 1996) referred to as To Be Considered values (TBCs).

For groundwater, contaminant levels were compared to the site groundwater applicable or relevant and appropriate requirements (ARARs), which are derived from the NYSDEC water quality standards and guidance values specified in NYSDEC *Technical and Operational*



Guidance Series (TOGS) 1.1.1 (NYSDEC 1998), New York State water standards (Title 6 of New York Code of Rules and Regulations, Part 703), USEPA drinking water standards (Title 40 of the Code of Federal Regulations, Part 141), and site backgrounds TBCs (for metals only).

2.4.1 SS-018 Surface Soil

A summary of chemicals detected at concentrations above TBCs in surface soil at site SS-018 is presented in Table 1. Chemicals detected at concentrations above TBCs include PAHs and metals; VOCs, pesticides, and PCBs were not detected above TBCs. PAHs are by-products of the combustion of organic materials, such as coal and petroleum products, and are commonly found in creosote, asphalt, and soot. Concentrations of seven of the PAHs detected exceeded TBCs. The pattern of PAH occurrences in surface soil for both SS-018 and SS-028 is presented in Figure 5. The highest concentration of PAHs occur in the northeastern portion of site SS-018 and are associated with a layer of regraded materials that contains ash, building debris, cinders, and coal.

The layer of regraded materials is believed to contain the burned remnants of a coal storage shed and oil house that were destroyed by fire in the 1920s and appears to be the source of the PAHs. The abundant coal fragments in the fill layer also may have served as an organic matrix onto which PAH compounds from petroleum spills may have been adsorbed. Eight metals (arsenic, beryllium, calcium, lead, magnesium, potassium, sodium, and zinc) also were detected at concentrations above TBCs.

2.4.2 SS-018 Subsurface Soil

A summary of chemicals detected in subsurface soil at site SS-018 at concentrations exceeding TBCs is presented in Table 2. Similar to the surface soils, only PAHs and metals were detected at concentrations above their respective TBCs. These included seven PAHs [benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, ideno(1,2,3-cd)pyrene, and dibenz(a,h)anthracene] and nine metals (cadmium, calcium, chromium, copper, lead, magnesium, manganese, nickel, and zinc). PAHs were detected at decreasing concentrations with depth, with the highest concentrations of PAHs detected from the

TABLE 1

SS-018 SUMMARY OF CHEMICALS DETECTED IN SURFACE SOIL ABOVE TBCs

Chemical	TBC Value*	Maximum Detected Value
SVOCs		
Benzo(a)anthracene	224.00 µg/kg	11,677.00 µg/kg
Chrysene	400.00 µg/kg	10,191.00 µg/kg
Benzo(b)fluoranthene	1,100.00 µg/kg	9,979.00 µg/kg
Benzo(k)fluoranthene	1,100.00 µg/kg	8,403.00 µg/kg
Benzo(a)pyrene	61.00 µg/kg	9,873.00 µg/kg
Indeno (1,2,3-cd)pyrene	3,200.00 µg/kg	4,762.00 µg/kg
Dibenz(a,h)anthracene	14.00 µg/kg	1,100.00 µg/kg
Metals		
Arsenic	7.50 mg/kg	44.00 mg/kg
Beryllium	0.74 mg/kg	2.00 mg/kg
Calcium	30,200.00 mg/kg	207,006.00 mg/kg
Lead	79.40 mg/kg	493.00 mg/kg
Magnesium	3,340.00 mg/kg	12,845.00 mg/kg
Potassium	929.00 mg/kg	1,815.00 mg/kg
Sodium	520.00 mg/kg	1,943.00 mg/kg
Zinc	63.40mg/kg	206.00 mg/kg

TABLE 2

SS-018 SUMMARY OF CHEMICALS DETECTED IN SUBSURFACE SOIL ABOVE TBCs

Chemical	TBC Value*	Maximum Detected Value
SVOCs		
Benzo(a)anthracene	224.00 µg/kg	13,100.00 µg/kg
Chrysene	400.00 µg/kg	13,100.00 µg/kg
Benzo(b)fluoranthene	1,100.00 µg/kg	11,715.00 µg/kg
Benzo(k)fluoranthene	1,100.00 µg/kg	8,624.00 µg/kg
Benzo(a)pyrene	61.00 µg/kg	10,262.00 µg/kg
Indeno(1,2,3-cd)pyrene	3,200.00 µg/kg	6,223.00 µg/kg
Dibenz(a,h)anthracene	14.00 µg/kg	2,620.00 µg/kg
Metals		
Cadmium	1.30 mg/kg	3.00 mg/kg
Calcium	30,200.00 mg/kg	99,778.00 mg/kg
Chromium	19.50 mg/kg	37.00mg/kg
Copper	44.10 mg/kg	48.00 mg/kg
Lead	79.40 mg/kg	831.00 mg/kg
Magnesium	3,340.00 mg/kg	7,412.00 mg/kg
Manganese	474.00 mg/kg	1,381.00 mg/kg
Nickel	13.00 mg/kg	27.00 mg/kg
Zinc	63.40 mg/kg	344.00 mg/kg

* From NYSDEC TAGM HWR-94-4046 (January 1994) or Site Background (URS 1996)

surface (see Section 2.4.1 above) to a depth of 2 feet below grade. Metals concentrations also generally decreased in concentration with depth.

2.4.3 SS-028 Soil

A summary of chemicals detected in soil at site SS-028 at concentrations exceeding TBCs is presented in Table 3. The majority of soil samples taken at the site were located below the surface or were located below existing pavement. Contaminants detected in samples taken in unpaved surface soil fell within the range of concentrations detected in subsurface soil. During the SI, eight discrete and one composite soil sample were taken and analyzed for a full range of parameters. Results were found to be generally similar to sampling results from SS-018; PAHs and metals were the only contaminants detected above TBCs. Because VOCs were detected in groundwater during the SI, 50 soil samples from 27 borings were collected during the RI in an attempt to identify and delineate any contaminant sources present in site soils. Eight VOCs [tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE), benzene, toluene, xylenes, methylene chloride, and acetone] were detected in the samples. Only one VOC, PCE at 1,900 micrograms per kilogram ($\mu\text{g}/\text{kg}$) at boring G-17, was detected at a concentration exceeding TBCs. Since boring G-17 (shown in Figure 6) was situated immediately upgradient from where the groundwater contamination was detected, the area was suspected as a source for the observed groundwater contamination.

2.4.4 SS-018 and SS-028 Groundwater

Groundwater at sites SS-018 and SS-028 has been investigated by several groundwater sampling events from 1993 through 1999. Sampling was undertaken during the SS-018 RI (January 1993 and April 1993), the SS-028 SI (November 1994), the SS-028 RI (July – August 1997), and during interim and supplemental events (October 1996 and April – May 1999). A summary of chemicals detected above ARARs in these events is given in Table 4. Chemicals detected above ARARs include metals and VOCs. In general, metals concentrations were higher in upgradient wells (MW-18-001, MW-19-001, and MW-28-001) than in downgradient wells.

Therefore, the SS-018 and SS-028 sites do not appear to be sources of metals contamination to groundwater. Since the metals other than sodium and antimony fell within the

TABLE 3
SS-028 SUMMARY OF CHEMICALS DETECTED IN SOIL ABOVE TBCs

Chemical	TBC Value*	Maximum Detected Value
VOCs		
Tetrachloroethene	1,400.00 µg/kg	1,900.00 µg/kg
SVOCs		
Benzo(a)anthracene	224.00 µg/kg	10,000.00 µg/kg
Chrysene	400.00 µg/kg	7,600.00 µg/kg
Benzo(b)fluoranthene	1,100.00 µg/kg	9,700.00 µg/kg
Benzo(k)fluoranthene	1,100.00 µg/kg	3,800.00 µg/kg
Benzo(a)pyrene	61.00 µg/kg	6,400.00 µg/kg
Indeno (1,2,3-cd)pyrene	3200 µg/kg	4100.00 µg/kg
Metals		
Calcium	30,200.00 mg/kg	52,200.00 mg/kg
Chromium	19.50 mg/kg	24.10 mg/kg
Lead	79.40 mg/kg	90.60 mg/kg
Magnesium	3,340.00 mg/kg	4,590.00 mg/kg
Mercury	0.10 mg/kg	0.18 mg/kg
Zinc	63.40 mg/kg	219.00 mg/kg

* From NYSDEC TAGM HWR-94-4046 (January 1994) or Site Background (URS 1996)

TABLE 4
SS-018/SS-028 SUMMARY OF CHEMICALS DETECTED IN GROUNDWATER ABOVE ARARs

Chemical	ARAR Value**	Maximum Detected Value
VOCs		
Benzene	1.00 µg/L	2.00 µg/L
1,1-Dichloroethene	5.00 µg/L	7.00 µg/L
1,2-Dichloroethene (Total)	5.00 µg/L	9.00 µg/L
Trichloroethene	5.00 µg/L	5.70 µg/L
Tetrachloroethene	5.00 µg/L	28.00 µg/L
Chloroform	7.00 µg/L	49.00 µg/L
MTBE	50.00 µg/L	430.00 µg/L
Metals		
Aluminum	200.00 µg/L	14,800.00 µg/L
Manganese	300.00 µg/L	385.00 µg/L
Sodium	20,000.00 µg/L	384,000.00 µg/L
Antimony	3.00 µg/L	29.60 µg/L
Iron	300.00 µg/L	35,600.00 µg/L

** The most stringent of NYSDEC T.O.G.S. 1.1.1 (NYSDEC 1998), Title 6 NYCRR, Part 703, and USEPA Drinking Water Standards, Title 40 CFR, Part 141.

expected range of background groundwater concentrations (URS 1996), an upgradient source for elevated metals concentrations is not suspected.

Occasional detections of chloroform may be attributable to potable water and are not of concern (chloroform has been documented to be present in the base water supply and fire hydrant blow down tests and water line leaks were documented at the time of sampling). Benzene and 1,1-dichloroethene were detected at site SS-018 (MW-18-002) at concentrations above regulatory standards, however, these detections were not repeated in the 1995 sampling event. The absence of these compounds in the later sampling event may be due to the decommissioning and removal of USTs in the immediate vicinity of Building 509.

Tetrachloroethene (PCE) and/or its degradation products dichloroethene (DCE) and trichloroethene (TCE) were detected in groundwater from five monitoring wells and at one boring location where groundwater was collected using a Geoprobe®. Detections of these compounds, which are known as chlorinated hydrocarbons, are shown on Figure 6. The highest detected concentration of PCE in groundwater (28 µg/l in MW-28-004) occurred downgradient of the highest detected PCE concentration in soil (1,900 µg/kg at boring G-17). A removal action was undertaken in December 1998 to remove PCE contaminated soil in the vicinity of boring G-17. The removal action is described in Section 4.0 of this Plan. Volatile organic compounds including PCE were not detected at two downgradient groundwater seeps that were sampled within approximately 100 feet of the Lake Champlain shoreline. Therefore, it does not appear that SS-028 is impacting Lake Champlain at this time. In addition, the soil removal action undertaken in the area of G-17 likely removed the major source of chlorinated hydrocarbons in groundwater and concentrations of these compounds should decrease in groundwater as a result.

Methyl tert-butyl ether (MTBE) was detected at five monitoring well locations with the highest concentration (430 µg/l) occurring at MW-28-007. Due to the distribution of MTBE detected at these sites and the absence of other fuel-related compounds in the groundwater, it is apparent that the MTBE contamination originated upgradient of sites SS-018 and SS-028. An investigation into the upgradient source of the MTBE contamination is currently being undertaken under the supervision of NYSDEC Region 5, Division of Environmental Remediation, Bureau of Spill Prevention & Response. Because the remedial action for sites SS-018 and SS-028 proposed in this Plan is groundwater monitoring and institutional controls to: a) limit the development of this site and b) to prohibit the use of the groundwater, future

investigation and remediation of the MTBE contamination beneath the site will not conflict with the remedial action proposed here.

3.0 SUMMARY OF SITE RISKS

During the RIs for SS-018 and SS-028, baseline health risk assessments were conducted to estimate the current and future risk at the sites if no remedial action was to be taken. Possible human health and ecological risks were evaluated.

3.1 Human Health Risk Assessment

Five steps are followed in assessing site-related human health risks: *Hazard Identification* – determines the chemicals of concern at the site based on toxicity, frequency of occurrence, and concentration. *Exposure Assessment* – estimates the magnitude of actual and/or potential human exposures, and the pathways (e.g., dermal contact with soil) by which humans potentially are exposed. *Toxicity Assessment* – determines adverse health effects associated with chemical exposures and the relationship between magnitude of exposure (dose) and severity of adverse effects (response). *Risk Characterization* – summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks. *Uncertainty Analysis* – qualifies the quantitative results of the risk assessment based upon the uncertainty associated with the assumptions made in the analysis. Generally, assumptions made in the assessment process are conservative and yield a reasonable overestimation, rather than an underestimation, of risk.

The human health risk assessment (HRA) follows federal guidelines to estimate the potential carcinogenic (i.e., cancer-causing) and adverse noncarcinogenic health effects due to potential exposure to site contaminants of concern from assumed exposure scenarios and pathways. These guidelines consider an excess upper bound lifetime cancer risk to an individual to be acceptable if it is calculated to be less than one-in-one million (10^{-6}), and risks in the range of one-in-ten thousand (10^{-4}) to one-in-one million are evaluated on a case-by-case basis. The guidance also specifies a maximum health hazard index (which reflects noncarcinogenic effects for a human receptor) less than or equal to 1.0. The Hazard Index (HI) is a representation of risk based on a quotient or ratio of chronic daily intake to a reference (safe) dose. An HI greater than 1.0 indicates a potential of adverse noncarcinogenic health effects.

3.1.1 SS-018 HRA

Potential risks posed to human health for site SS-018 were assessed given the current scenario at the time of the assessment and a hypothetical reuse of the area (Malcolm Pirnie 1996). During the assessment, the base was still serving as an active Air Force Base. Current risks were assessed for a civilian landscape worker and trespassers and potential future risks were evaluated given construction, regrading, and redevelopment of the site for industrial use. The calculated risks are given in Table 5. Cancer risks for all scenarios evaluated fell within or below the range of risk that may be considered acceptable on a case-by-case basis (i.e., 1×10^{-4} to 1×10^{-6} excess cancer risk) by current USEPA guidelines. Similarly, the noncancer HI for all scenarios evaluated were below the acceptable USEPA specified upper limit of 1.

TABLE 5
SS-018 SUMMARY OF HAZARD INDICES AND CANCER RISKS

EXPOSURE POPULATION AND PATHWAY	HAZARD INDEX	CANCER RISK
<i>CURRENT SCENARIO</i>		
CIVILIAN LANDSCAPE WORKER		
Ingestion of Surface Soil	2×10^{-2}	1×10^{-5}
TOTAL PATHWAY HAZARD INDEX/CANCER RISK:	2×10^{-2}	1×10^{-5}
TRESPASSERS		
Ingestion of Surface Soil	2×10^{-2}	1×10^{-6}
TOTAL PATHWAY HAZARD INDEX/CANCER RISK:	2×10^{-2}	1×10^{-6}
<i>FUTURE SCENARIO</i>		
SITE WORKER		
Ingestion of Subsurface Soil	5×10^{-3}	9×10^{-6}
TOTAL PATHWAY HAZARD INDEX/CANCER RISK:	5×10^{-3}	9×10^{-6}
CONSTRUCTION/UTILITY MAINTENANCE WORKER		
Ingestion of Soil	3×10^{-2}	8×10^{-7}
Inhalation of Respirable Particulates from Subsurface Soil	1×10^{-2}	2×10^{-7}
TOTAL PATHWAY HAZARD INDEX/CANCER RISK:	5×10^{-2}	9×10^{-7}

3.1.2 SS-028/SS-018 HRA

Because sites SS-028 and SS-018 are adjacent to each other and appear to be impacted by the same level, type, and pattern of contamination, the HRA in the SS-028 RI was based on the combination of analytical results sampled at the two sites. This HRA is considered to be more accurate than the HRA developed solely for SS-018, since the assessment evaluates a combination of risk posed by sites, uses more up-to-date toxicological data, and more reasonably assumes the projected reuse of the sites. Contaminants of concern for the combined database for surface soil, subsurface soil, and groundwater are presented in Table 6.

An evaluation of risk posed under present conditions at the site was not completed because there is currently little potential for human contact with contaminated media. Most of the area is paved, preventing exposure to soil, and a municipal water supply is available. At present, only the paved area is in use as a storage area. Pathways evaluated for human exposure under a future use scenario include incidental ingestion of and dermal contact with excavated soil (0- to 2-foot depth) by construction workers, and surface soil (0- to 2-foot depth) by future commercial workers upon site redevelopment or recreational users along a proposed bike/walk path. Construction workers could be exposed via inhalation of dust during construction activities, so this pathway was also evaluated. In addition, ingestion of onsite groundwater by future commercial workers was assumed and evaluated. This was a conservative assumption, since a municipal water supply is already available.

A residential exposure scenario was not evaluated in the assessment because redevelopment for residential reuse is highly unlikely for the following reasons:

- Land use plans, which are currently being incorporated into the Town of Plattsburgh Master Plan, do not designate this area for residential use.
- Alteration of historically significant building, such as the Auto Hobby Shop, will be limited in coordination with the NYSOHP; moreover, the Auto Hobby Shop is currently a warehouse with only three personnel doors and nine garage doors and is not suited for residential use without major alteration.

TABLE 6
SS-018/SS-028 HRA CHEMICALS OF POTENTIAL CONCERN

Chemical	Chemical of Concern		
	Surface Soil	Soil	Groundwater
2-Hexanone		X	
Acetone	X	X	X
Benzene	X	X	X
Bromodichloromethane			X
Chlorobenzene			X
Chloroform	X	X	X
Dibromochloromethane		X	
Ethylbenzene	X	X	
Methyl ethyl ketone (2-Butanone)		X	
Methyl isobutyl ketone		X	
Methylene chloride	X	X	
Tetrachloroethene (PCE)	X	X	X
Toluene	X	X	X
Total 1,2-dichloroethene	X	X	X
Total xylenes	X	X	
1,1-Trichloroethane			X
Trichloroethene (TCE)	X	X	X
2,4-Dimethylphenol	X	X	
2-Methylnaphthalene	X	X	
4-Methylphenol (p-cresol)	X	X	
Acenaphthene	X	X	
Acenaphthylene	X	X	
Anthracene	X	X	
Benzo(a)anthracene	X	X	
Benzo(a)pyrene	X	X	
Benzo(b)fluoranthene	X	X	
Benzo(g,h,i)perylene	X	X	
Benzo(k)fluoranthene	X	X	
Benzoic acid	X	X	
Benzyl butyl phthalate	X	X	
Carbazole	X	X	
Chrysene	X	X	
Di-n-butyl phthalate	X	X	
Dibenz(a,h)anthracene	X	X	
Dibenzofuran	X	X	
Diethyl phthalate	X	X	X
Fluoranthene	X	X	
Fluorene	X	X	
Indeno(1,2,3-c,d)pyrene	X	X	
Naphthalene	X	X	
Phenanthrene	X	X	

TABLE 6 (Continued)

Chemical	Chemical of Concern		
	Surface Soil	Soil	Groundwater
Pyrene	X	X	
bis-(2-ethylhexyl)phthalate	X	X	X
DDD	X	X	
DDE	X	X	
DDT	X	X	
Dieldrin	X	X	
Arsenic	X	X	X
Barium	X	X	
Beryllium	X	X	
Cadmium	X	X	X
Cobalt		X	
Copper	X	X	
Lead	X	X	
Manganese	X	X	
Zinc	X	X	
Antimony			X
Selenium			X

- An active railroad is located close by, devaluing this immediate area for residential use.

Calculated cancer risks and hazard indices are given in Table 7. For the construction worker, the total cancer risk was estimated as 1×10^{-6} , which is at the lower end of the range of risks that may be considered acceptable on a site-specific basis according to current USEPA guidelines. The estimated cancer risk to commercial workers and recreational users were both 1×10^{-4} , which falls at the upper limit of the range of risks that may be acceptable on a site-specific basis according to current USEPA guidelines. Noncancer hazard indices were estimated to be 0.05, 0.9, and 0.07 for construction workers, commercial workers, and recreational users, respectively. These results are below the acceptable USEPA-specified upper limit of 1.

3.2 Ecological Risk Assessment

In the SS-028 RI, the risk posed to local ecological communities was assessed using the data gathered from both SS-028 and SS-018.

A four-step process is utilized for assessing site-related ecological risks for a reasonable maximum exposure scenario: *Problem Formulation* – a qualitative evaluation of contaminant release, migration, and fate; identification of chemicals of potential concern (CPCs), ecological receptors, exposure pathways, and known ecological effects of the contaminants; and selection of endpoints for further study. *Exposure Assessment* – a quantitative evaluation of contaminant release, migration, and fate; characterization of exposure pathways and receptors; and measurement of the estimation of exposure point concentration. *Ecological Effects Assessment* – literature reviews, field studies, and toxicity tests, linking contaminant concentrations to effects on ecological receptors. *Risk Characterization* – a measurement of estimation of current adverse effects.

A screening level ecological risk assessment was performed to evaluate risk via two exposure pathways.

- 1) Direct contact by terrestrial wildlife with contaminated soil. The short-tailed shrew, muskrat, red fox, and crow were used as representative species in the assessment.

**TABLE 7
SUMMARY OF CANCER RISKS AND HAZARD INDICES FOR SS-018/SS-028 RISK ASSESSMENT**

EXPOSURE PATHWAY	CONSTRUCTION WORKER (ALL DEPTHS)						FUTURE USE			
	CANCER RISK		HAZARD INDEX SUBCHRONIC		CANCER RISK		HAZARD INDEX CHRONIC		RECREATIONAL USER (DEPTH = <2 Feet)	
	CANCER RISK	HAZARD INDEX SUBCHRONIC	CANCER RISK	HAZARD INDEX CHRONIC	CHILD	ADULT	CHILD	ADULT	CHILD	ADULT
Dermal Contact with Soil	1×10^{-6}	8×10^{-3}	6×10^{-5}	2×10^{-2}	3×10^{-5}	6×10^{-5}	3×10^{-2}	2×10^{-2}	3×10^{-5}	2×10^{-2}
Ingestion of Soil	4×10^{-7}	1×10^{-2}	6×10^{-6}	5×10^{-3}	5×10^{-6}	3×10^{-6}	2×10^{-2}	3×10^{-3}	5×10^{-6}	3×10^{-3}
Inhalation of Fugitive Dust	4×10^{-9}	3×10^{-2}	---	---	---	---	---	---	---	---
Ingestion of Groundwater	---	---	4×10^{-5}	9×10^{-1}	---	---	---	---	---	---
TOTAL EXPOSURE CANCER RISK	1×10^{-6}	---	1×10^{-4}	---	1×10^{-4}	1×10^{-4}	---	---	1×10^{-4}	---
TOTAL EXPOSURE HAZARD INDEX	---	5×10^{-2}	---	9×10^{-1}	---	---	---	7×10^{-2}	---	7×10^{-2}

Notes:

--- - Pathway not evaluated in the HRA

- 2) Contact by vegetative communities and Lake Champlain aquatic wildlife to site contaminants via the transport of the contaminants in groundwater seeps along the lakeshore.

Except for lead and DDT in soil, all of the chemicals that potentially could cause damage to ecological resources were determined to be at concentrations well below the thresholds established for toxicity to aquatic and terrestrial organisms. In addition, hazard quotients calculated for lead and DDT, given exposure by a range of terrestrial receptors, were less than the threshold limit of 1. Therefore, the assessment concluded that there is no significant risk to ecological resources posed by chemical releases at SS-028 and SS-018.

4.0 REMOVAL ACTION

From December 1998 through June 1999, the USAF performed a soil removal action at site SS-028.

During the RI at site SS-028, soil containing PCE at a concentration of 1,900 µg/kg (which exceeded the NYSDEC TBC of 1,400 µg/kg) was detected at boring G-17, outside the northeastern fence line of the open storage area (Figure 7). This boring was located immediately upgradient from monitoring well MW-28-004, where PCE, TCE, and DCE were detected above their respective NYSDEC groundwater standards. These chemicals were not detected at monitoring well MW-28-006, located upgradient of G-17. Therefore, the soil contamination detected in the vicinity of G-17 was determined to be a source of PCE, TCE, and DCE contamination in groundwater at monitoring well MW-28-004.

The USAF determined that a removal action should be undertaken to mitigate this source of chlorinated hydrocarbon contamination. The proposed removal action, which recommended the excavation and offsite disposal of the contaminated soil, was presented in the *Building 508 Open Storage Area (SS-028) Action Memorandum* (URS 1998). The proposed action also was presented to the public at a meeting held on November 19, 1998. The soil removal action was undertaken in consultation with NYSDEC and the USEPA.

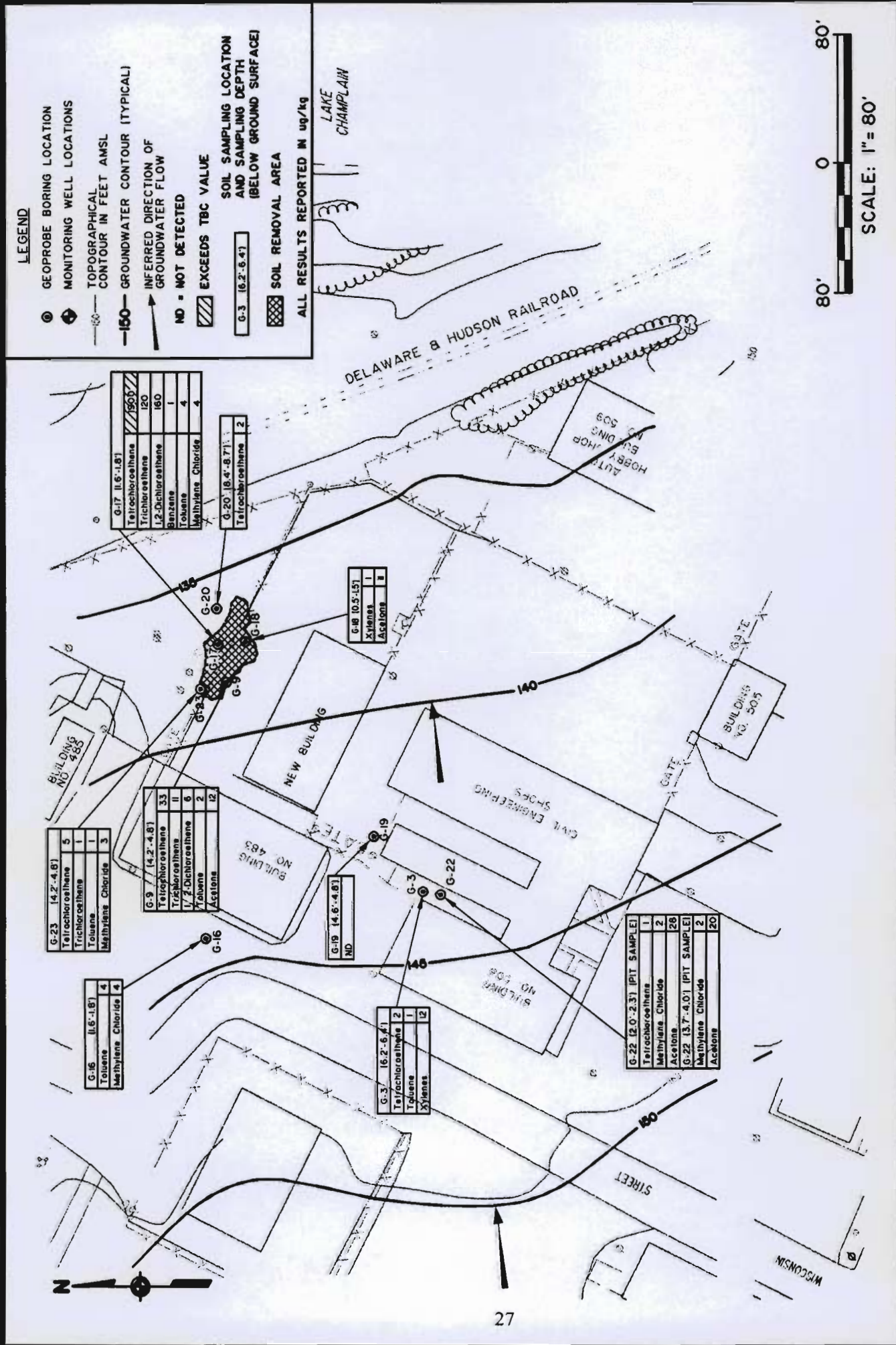


FIGURE 7

MAXIMUM VOLATILE ORGANIC COMPOUND DETECTIONS IN GEOPROBE SOIL SAMPLES (JULY 1997)

The removal action was conducted in two stages: an initial excavation of 99 cubic yards (in-place volume) occurred on December 21, 1998, and an additional 13 cubic yards were removed on December 30, 1998. Field screening using a photoionization detector was conducted to determine the limits of the excavation (shown in Figure 7), which was initiated at the location of boring G-17. Soil contaminated above action levels (NYSDEC 1994) was excavated over a total area of about 1,169 square feet to depths of between 2.5 and 4 feet. Laboratory confirmation sampling was used to verify the limits of the excavation. In the first set of confirmation samples conducted following the initial excavation, PCE (up to 20,000 µg/kg) and DCE (650 µg/kg) were detected above action levels. This prompted the additional excavation of soil on December 30, 1998. Five side wall and four bottom confirmatory samples containing VOCs below action levels were used to verify the limits of the excavation. The excavated soil, which weighed approximately 158 tons, was transported to New Hampshire where it was treated by thermal desorption and properly disposed of. The USAF submitted an Informal Technical Information Report (ITIR) that described the removal action activities through January 1999 (URS 1999b). Based upon regulatory comments to the ITIR, additional confirmatory samples were taken (two bottom and one side wall in May 1999). These additional samples also contained VOCs below action levels. In June 1999, with USEPA and NYSDEC approval of the USAF's response to regulatory comments to the ITIR, the excavation was backfilled with clean soil and restored. The completed action was documented by a closure report, submitted to USEPA and NYSDEC in October 1999 (URS 1999c).

5.0 DESCRIPTION OF THE PREFERRED ALTERNATIVE

The USAF is proposing institutional controls as the preferred alternative for SS-018 and SS-028. The institutional controls would consist of deed restrictions prohibiting residential development on the sites and restrictions of groundwater use. In addition, contaminant concentrations in groundwater will be monitored periodically until regulatory limits are achieved. There also will be five-year reviews of the selected remedy in accordance with Section 121(c) of CERCLA.

5.1 Basis

A Removal Action conducted from December 1998 through June 1999 at Site SS-028 resulted in the removal of contaminated soil that constituted the principal threat wastes at the

sites. As a result, no other alternatives were evaluated to reduce contaminated levels in soil or groundwater at the sites. Groundwater contaminants will remain above regulatory standards until they are naturally dispersed with time. An evaluation of potential human health risk was not undertaken for a residential reuse scenario since residential reuse is unlikely at the site given the land use plans developed for the area, the immediate proximity of the site to an active rail line, and the development procedure that will be emplaced as a result of the historic status of the area.

5.2 Identification of Alternative

Because no evaluation of human health risk posed by site media was conducted for a residential development scenario and because contaminants are present in groundwater beneath the site at concentrations exceeding regulatory standards, the following actions are included in the preferred alternative:

- Restrictions will be imposed to limit development of the sites to facilities that support nonresidential use
- Prohibition of the installation of any wells for drinking water or any other purposes which could result in the use of the underlying groundwater
- Prohibition of discharge of groundwater withdrawn during construction dewatering to the ground or surface water, without prior approval of the New York State Department of Environmental Conservation.
- Periodic monitoring of site groundwater and groundwater seeps for VOCs and MTBE until groundwater contaminant levels are below current regulatory standards
- Evaluation of the above institutional controls, which will be implemented through lease and deed restrictions, and review of groundwater monitoring data, will be undertaken as part of five-year reviews of the remedy

The areas that will be subjected to institutional controls is shown in Figure 8. A monitoring plan will be developed following ROD signing, in consultation with the USEPA and NYSDEC, that specifies groundwater sampling locations, frequencies, and parameters.

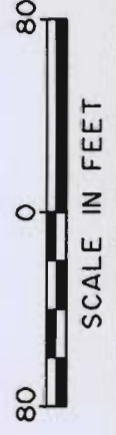
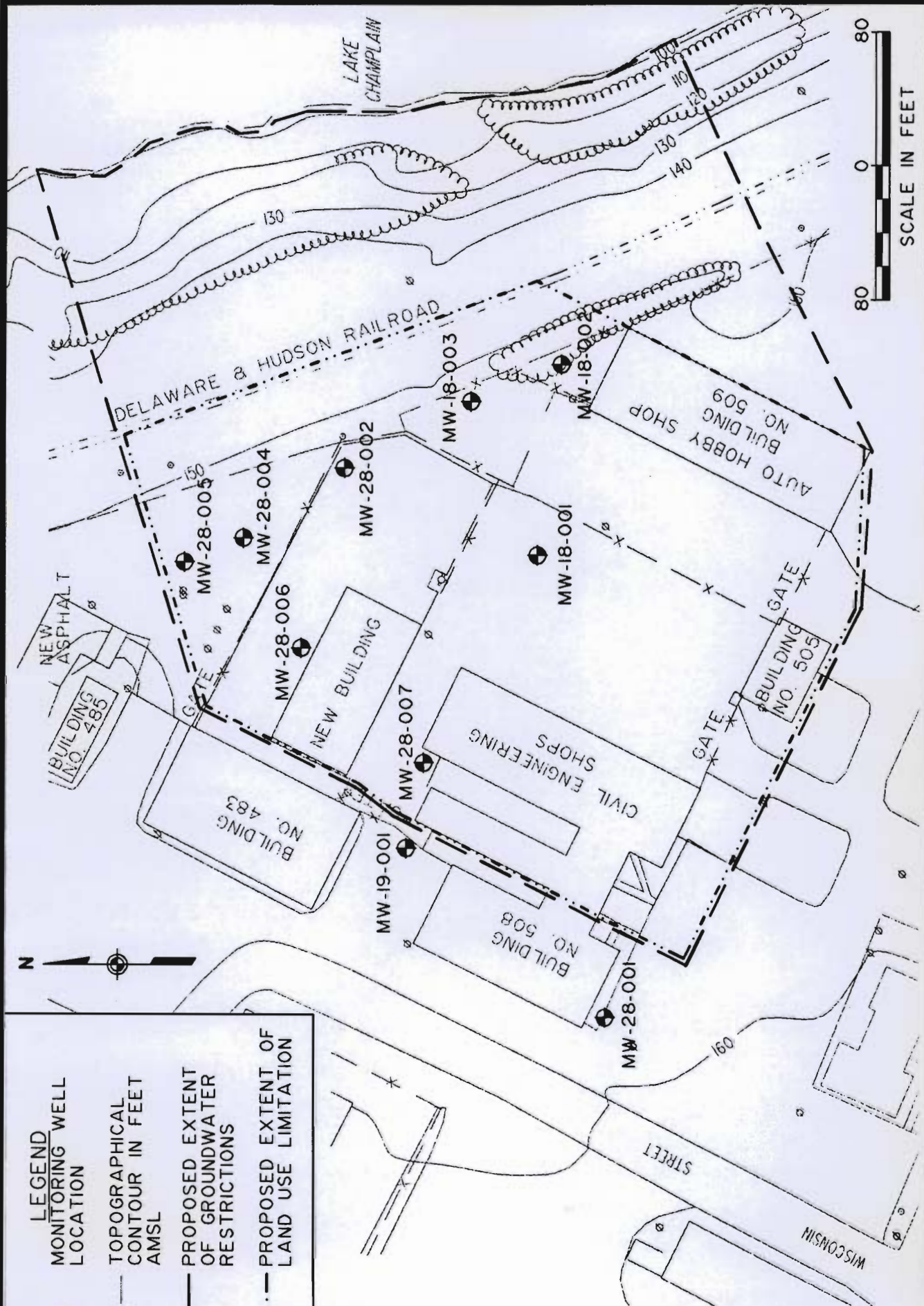


FIGURE 8

SS-018/SS-028 RECOMMENDED ALTERNATIVE EXTENT OF REUSE RESTRICTIONS

LEGEND

- MONITORING WELL LOCATION
- 150 TOPOGRAPHICAL CONTOUR IN FEET AMSL
- PROPOSED EXTENT OF GROUNDWATER RESTRICTIONS
- PROPOSED EXTENT OF LAND USE LIMITATION

6.0 COMMUNITY PARTICIPATION

The following paragraphs explain how the public can become involved in the selection process after reviewing the Proposed Plan.

6.1 Public Comment Period

Plattsburgh AFB will hold a 30-day public comment period from June 19 to July 18, 2000 to solicit public input. During this period, the public is invited to review the Proposed Plan, the SS-018 and SS-028 Remedial Investigation Reports and to comment on the preferred alternative being considered. These documents are included in Administrative Record for the SS-018 and SS-028 sites. The full-length reports are available at the Information Repository located at the Feinberg Library (see page two of this Proposed Plan for the address and available hours).

6.2 Public Informational Meeting

Plattsburgh AFB will host a Public Meeting on July 13, 2000 at the Old Court House, Second Floor Meeting Room, 133 Margaret Street. The date and time of the meeting will be published in the *Press Republican*. The meeting will be divided into two segments. In the first segment, data gathered at the site, the preferred alternative, and the decision-making process will be discussed. The public is encouraged to attend this presentation and to ask questions. Immediately after the informational presentation, Plattsburgh AFB will accept comments about the remedial alternative being considered for the SS-018 and SS-028 sites. The meeting will provide the opportunity for people to comment officially on the plan. Public comments will be recorded and transcribed, and a copy of the transcript will be added to the Administrative Record and Information Repository.

6.3 Written Comments

If you would like to submit written comments about Plattsburgh AFB's preferred alternative or other issues relevant to the site remediation, please deliver your comments to Plattsburgh AFB's IRP Coordinator at the Public Meeting or mail your written comments (to be received no later than the week of July 18, 2000) to:

Mr. Michael D. Sorel, P.E.
BRAC Environmental Coordinator/Site Manager
Air Force Base Conversion Agency
22 U.S. Oval Suite 2200
Plattsburgh, NY 12903
(518) 563-2871

6.4 Plattsburgh AFB's Review of Public Comments

Public comments are part of the process of reaching a final decision on an appropriate remedial alternative for SS-018 and SS-028. Plattsburgh AFB's final choice of a remedial alternative will be issued in a ROD for the site and will be submitted to the USEPA for review, approval, and signature and to the NYSDEC for review and concurrence. A Responsiveness Summary of public comments and Plattsburgh AFB's responses to these comments will accompany the ROD. Once the ROD is signed, it becomes part of the Administrative Record.

6.5 Additional Public Information

Because the Proposed Plan only summarizes the field investigations at sites SS-018 and SS-028 and the Removal Action at site SS-028, the public is encouraged to consult the Administrative Record which contains the complete RIs and other supporting reports.

GLOSSARY

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

Applicable or Relevant and Appropriate Requirements (ARARs): ARARs include any state or federal statute or regulation that pertains to protection of public health and the environmental in addressing certain site conditions or using a particular remedial technology at a Superfund site. A state law to preserve wetland areas is an example of an ARAR. USEPA must consider whether a remedial alternative meets ARARs as part of the process for selecting a remedial alternative for a Superfund site.

Carcinogenic Compound: Chemical that may produce cancer.

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 abandoned or uncontrolled hazardous waste sites.

Ecological Receptors: Fauna or flora in a given area that could be affected by contaminants in surface soils, surface water, and/or sediment.

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

Groundwater Seep or Seepage Face: A point or layer where groundwater is expressed from soil to the surface where it eventually flows downhill to a surface water body or evaporates.

Inorganic Compounds: A class of naturally occurring compounds that includes metals, cyanide, nitrates, sulfates, chlorides, carbonate, bicarbonate, and other oxide complexes.

Installation Restoration Program (IRP): The U.S. 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 hazardous waste disposal and spill 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 the 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: The USEPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program.

Noncarcinogenic Compound: A chemical that may produce adverse health effects other than cancer.

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

Polynuclear Aromatic Hydrocarbons (PAHs): A chemical compound consisting of carbon and hydrogen and containing two or more fused benzene rings. They are a group of organic compounds found in motor oil, as a common component of creosotes, and as a byproduct of the incomplete burning of wood products. Many are carcinogenic.

Polychlorinated Biphenyl (PCB): A compound that formerly was used as a lubricant and transformer coolant.

Proposed Plan: A public document that solicits public input on a recommended remedial alternative to be used at a National Priorities List (NPL) 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 explains the remedial alternative to be used at a National Priorities List (NPL) 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: A long-term 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): The Remedial Investigation determines the nature, extent, and composition of contamination at a hazardous waste site and directs the types of remedial options that are developed in the Feasibility Study.

SPDES Permit: State Pollutant Discharge Elimination System is a permit issued by New York State to allow for the discharge of controlled chemicals to surface water bodies.

Semivolatile Organic Compound (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.

Superfund: The trust fund, created by CERCLA out of special taxes, used to investigate and clean up abandoned or uncontrolled hazardous waste sites. Out of this fund the USEPA either: (1) pays for site remediation when parties responsible for the contamination cannot be located or

are unwilling or unable to perform the work or (2) takes legal action to force parties responsible for site contamination to clean up the site or pay back the federal government for the cost of the remediation. Federal facilities are not eligible for Superfund monies.

Technical and Administrative Guidance Memorandum (TAGM): TAGM #4046 issued by NYSDEC Division of Hazardous Waste Remediation (currently named the Division of Environmental Remediation) establishes chemical-specific soil cleanup objectives in the vadose zone. The document is entitled *Determination of Soil Cleanup Objectives and Cleanup Levels* (NYSDEC 1994).

Terrestrial Wildlife: Animals living on land (e.g., reptiles, small mammals, small birds, predatory mammals, predatory birds).

To Be Considered (TBCs): 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.

Volatile Organic Compounds (VOCs): Organic compounds that have a high propensity to volatilize or to change from a liquid to a gas form.

REFERENCES

- E.C. Jordan. 1989. *Installation Restoration Program, Site Investigation Report, Plattsburgh Air Force Base, Plattsburgh, NY.*
- Malcolm Pirnie. 1994. *Final Report, Preliminary Assessment.*
- Malcolm Pirnie. 1996. *Revised Draft-Final Remedial Investigation Report Attachment I Sites: SS-005, SS-006, SS-017, and SS-018.*
- New York State Department of Environmental Conservation (NYSDEC). 1998. "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations." *Technical and Operational Guidance Series (TOGS 1.1.1)*. June. Albany: Division of Water.
- New York State Department of Environmental Conservation (NYSDEC). 1994. "Determination of Soil Cleanup Objectives and Cleanup Levels." *Technical and Administrative Guidance Memorandum*, HWR-94-4046. Albany: Division of Hazardous Waste Remediation.
- Plattsburgh Airbase Redevelopment Corporation (PARC). 1995. *Comprehensive Reuse Plan for Plattsburgh Air Force Base.*
- Tetra Tech. 1995. *Final Environmental Impact Statement, Disposal and Reuse of Plattsburgh Air Force Base, New York.* Prepared for the Plattsburgh Airbase Redevelopment Corporation.
- URS Consultants, Inc. (URS). 1999a. *Building 508 Open Storage Area (SS-028) Remedial Investigation Report, Plattsburgh Air Force Base Installation Restoration Program.* July. Buffalo, NY.
- URS Consultants, Inc. (URS). 1999b. *Interim Draft Informal Technical Report Building 508 Open Storage Area (SS-028) Time Critical Removal Action.* Buffalo, NY. February
- URS Consultants, Inc. (URS). 1999c. *Closure Report, Building 508 Open Storage Area (SS-028), Time Critical Removal Action.* October. Buffalo, NY.
- URS Consultants, Inc. (URS). 1998. *Building 508 Open Storage Area (SS-028) Action Memorandum.* Buffalo, NY.
- URS Consultants, Inc. (URS). 1996. *Background Surface Soil and Groundwater Survey for Plattsburgh Air Force Base.* Buffalo, NY.
- URS Consultants, Inc. (URS). 1995a. *Draft Building 508 Open Storage Area (SS-028) Site Investigation Report.* December. Buffalo, NY.
- URS Consultants, (URS). 1995b. *Site SS-019 Civil Engineering Squadron Paint Shop Human Health Risk Assessment.* Buffalo, NY.

APPENDIX A
SS-018/SS-028 SITE AREA STORAGE TANK DATA

TABLE A-1

BLDG. 508 OPEN STORAGE AREA (SS-028) - REMEDIAL INVESTIGATION
STORAGE TANK DATA SUMMARY

ID No.	Year Installed	Year Removed	Leak Test	Description
UNDERGROUND STORAGE TANKS				
UST-483	1964	1995	1992-P 1991-P	Bldg. 483 Storage Facility 550-Gallon No. 2 Fuel Oil Underground Storage Tank. Tank was located on the southeast side of Building 483. Approximately 69 cubic yards of contaminated soil was removed from the tank excavation.
UST-485	1964	1996	1992-P 1991-P	Bldg. 485 Storage Facility 550-Gallon No. 2 Fuel Oil Underground Storage Tank. Tank was located on the north side of the building. Approximately 28 cubic yards of contaminated soil was removed from the tank excavation.
UST-505-A	1964	1995	1992-I 1991-P	Bldg. 505 Vehicle Dispatch 550-Gallon No. 2 Fuel Oil Underground Storage Tank. Tank was located on the southwest side of the building, along the wall. Inconclusive results were obtained from the 1992 tank test. Approximately 52 cubic yards of contaminated soil was removed during the tank excavation.
UST-505-B	Unknown	1991	NA	Bldg. 505 Vehicle Dispatch 10,000-Gallon Gasoline Underground Storage Tank. Some sources refer to this tank as Facility 506. Historic drawings indicated that this was a former vehicle fueling station. Drawings show a 5,000-gallon tank that was determined to be a 10,000-gallon tank located southwest of Bldg. 505. It was removed in 1991 as part of the IRP (Site ST-025). No soil contamination was found during the tank excavation. No signs of other tanks were observed during the April 1994 visual site inspection.
UST-508-A	1964	1996	1992-P 1992-P	Bldg. 508 Civil Engineering Workshops 1,000-Gallon No. 2 Fuel Oil Underground Storage Tank. Tank was located on the southwest side of the building. Approximately 6 cubic yards of soil was removed during the tank excavation.
UST-508-B	Unknown	Unknown	NA	Bldg. 508 Civil Engineering Workshops 500-Gallon No. 2 Fuel Oil Underground Storage Tank. Historic drawing PLB-B-508-2, sheet 1 of 1, shows a 500-gallon oil tank connected to a furnace with a concrete base outside the building. Personnel interviews indicate that the tank was most likely an AST which was replaced by UST 508-A.
UST-509	1964	1996	1992-P 1991-P	Bldg. 509 Auto Hobby Shop 1,000-Gallon No. 2 Fuel Oil Underground Storage Tank. Tank was located at the northeast end of the building. Excavated soil had 12,400 ppb PAHs, but the soil was returned to the excavation, as this is a CERCLA site and the tank was removed as a compliance issue.

TABLE A-1 (Continued)
BLSF. 508 OPEN STORAGE AREA (SS-028) – REMEDIAL INVESTIGATION
STORAGE TANK DATA SUMMARY

ID No.	Year Installed	Year Removed	Leak Test	Description
ABOVEGROUND STORAGE TANKS				
AST-483	Unknown	Unknown	Unknown	Bldg. 483 Base Engineer Covered Storage Facility 275-Gallon Aboveground Storage Tank. Tank was located on the southeast side of Building 483. Tank had been removed before the April 1994 visual site inspection. The tank saddle was still in place. No evidence of surface contamination was observed.
AST-485	1996	NA	NEW 1996	Bldg. 485 - 500-Gallon Double-Walled No. 2 Fuel Oil Aboveground Storage Tank - Installed on the north side of Bldg. 485 in the summer of 1996 to replace UST-485.
AST-508-1	1996	NA	NEW 1996	Bldg. 508 - 1,000-Gallon Double-Walled No. 2 Fuel Oil Aboveground Storage Tank - Installed on the southwest side of Bldg. 508 in the summer of 1996 to replace UST-508-A.
AST-508-2	1996	NA	NEW 1993	Bldg. 508 - 600-Gallon Double-Walled Gasoline Aboveground Storage Tank - Tank is located between Bldg. 483 and Bldg. 508 and stores gasoline for buildings/grounds equipment. Tank was relocated from the base marina.
AST-509-1	Unknown	1996	Unknown	Bldg. 509 Automotive Hobby Shop 800-Gallon Waste Oil/Hydraulic Fluid Aboveground Storage Tank. Tank was located outside on the northeast side of Building 509. During the April 1994 visual site inspection, significant spills were observed around the tank, although the spills were contained within a concrete vault in which the tank was situated. The area was cleaned up after the tank was removed (no soil removal was necessary).
AST-509-2	Unknown	Unknown	Unknown	Bldg. 509 Automotive Hobby Shop Aboveground Storage Tank. Tank saddles are in place at the northeast end of Bldg. 509 but the tank is gone. Former tank contents and size are unknown. No evidence of contamination was observed during April 1994 visual site inspection.

NOTES:

1. Storage tank information was obtained from Tetra Tech (1997) and OHM (1997).
2. Contaminated soils removed from tank excavations was landfarmed on base.
3. For Leak Test Results: P = Pass, I = Inconclusive results.
4. NA = Not Applicable. Tank was not removed

TABLE A-2

BLDG. 508 OPEN STORAGE AREA (SS-028)-PRELIMINARY ASSESSMENT
 SEPTEMBER 1990 DRUM REMOVAL ACTION INVENTORY

Drum	Description	Label
1	# 2 Diesel - 10% fuel, 90% water	Not labeled as H.W.
2	Rusty water - 10% fuel, 90% water	D018
3	Roofing tar	Not labeled as H.W.
4	Aircraft heavy compound	Not labeled as H.W.
5	Sewer grit debris	Not labeled as H.W.
11	Sludge liquid with waste solvent	D030
12	Transparent yellow fluid	D043
13	Waste solvent, nonspecific	Not labeled as H.W.
15	Viscous, dark, oily material	
16	Roofing tar	
17	Viscous, dark, oily material (same as Drum #15)	
18	Fuel spill residue	D043
19	Unknown, transparent, slightly viscous yellow material	D043
20	Unknown, hard, clay-like material - 1/3 full	No label
22	HYD fluid contaminated water	
23	HYD fluid contaminated water	
25	95% water, 4% oil waste, 1% trash	
28	5-gal. pails electrical insulating fluid	
29	Roofing tar	
30	Waste antifreeze mixed with waste solvent	D043
	Lab waste	
	Hydraulic fluid purge, full	

SOURCE: Table taken from Malcolm Pirnie (1992a) Draft Final Report Preliminary Assessment.

NOTES: HW = Hazardous Waste
 USEPA Hazardous Waste Numbers
 D018 = Benzene
 D030 = 1,4-dichlorobenzene
 D043 = Phenol