Scotia Air National Guard Site #447022
SI Work Plan, EC Jordan 1991

Response (SIR) program. The activities required to conduct the SI were determined from the PA conducted in 1988, the SI Kickoff Meeting, and a site visit November 27, 1990.

1.2.1 Overall

The PA indicated that the potential existed for contaminant migration at two sites on the Base: Site 1, Fire Training Area, and Site 2, Drum Storage Area. Subsequent to the PA, one additional site has been identified: Site 3, Drum Burial Area. An SI will be performed at these three sites to confirm if contamination exists at the sites and if so, to evaluate the nature of any confirmed contamination. Results and recommendations for the disposition of each site will be presented in the SI Report. Should findings from the SI support a recommendation for no further action, then a Decision Document (DD) will be prepared. If findings from the SI support further action for a site, then overall project scope could include one or more of the following:

- Remedial Investigation (RI);
- Feasibility Study (FS);
- Focused Feasibility Study and Remedial Measure (FFS/RM); and
- RD.

Also included in the overall project scope is the requirement to provide general technical and community relations support through project completion.

1.2.2 Site Specific

The PA, performed by the Hazardous Materials Technical Center (HMTC, June 1989), identified two sites for SI activities: Site 1, Fire Training Area, and Site 2, Drum Storage Area. Site 3, Drum Burial Area, was identified when buried drums were uncovered during Base construction activities.

Screening and confirmation activities will be conducted at each site. Based on the results of these activities, optional data acquisition activities may be implemented. A Preliminary Risk Evaluation (PRE) will be performed based on information obtained from the SI. A report of SI results will be prepared including recommendations for the disposition of each site.

1.3 BACKGROUND

1.3.1 Facility Description

The 109th TAG of the NYANG is located on the eastern and southern portions of the Schenectady County Airport in Scotia, New York. As shown on Figure 1-1, the Base is located on two separate land parcels and comprises an area of approximately 106 acres.

The NGB authorized the formation of the 139th Fighter Squadron of the NYANG in 1948. The unit was first located at the Scotia Navy Depot, which is approximately three (3) miles west of the present Base. By 1950 permanent facilities for the unit were completed at the Schenectady County Airport. In 1960, the unit was redesignated the 109th TAG.

The land to the north, east, and west of the Base is agricultural and residential. South of the Base is the Mohawk River, a railway, and commercial and residential properties. Prior to construction of the Base, the property was utilized as agricultural land.

1.3.2 Initial Evaluation

The PA conducted in 1988 under the NGB IRP consisted of interviewing past and present Base employees concerning the use and disposal of materials that have been categorized as hazardous. Base records were reviewed, and a field survey was conducted. The PA identified two sites as having the potential for residual contamination of soil and/or groundwater: Site 1, Fire Training Area; and Site 2, Drum Storage Area. One additional site has been identified subsequent to the PA, Site 3, Drum Burial Area. All three sites are to be investigated under the NGB IRP and are addressed herein.

Wastes known to have been used at Site 1, Fire Training Area, include JP-4 jet fuel, aviation gasoline, waste oil, PD-680 solvent, and paint thinner. At Site 2, Drum Storage Area, materials formerly stored in drums and possibly present in soil at the site include new and used PS-661 and PD-680 solvent and waste oil. Wastes suspected of being present at Site 3, Drum Burial Area, include oil, fuel, solvents, paint, magnetron tubes contained within the APS 42 radar on the C-47 aircraft, asbestos, construction debris, and junk vehicles.

1.3.3 Sites To Be Investigated

This SIWP describes the investigation program developed for the two sites identified in the PA and the one site identified subsequent to the PA (Figure 1-2). The sites are designated as follows:

Site 1 - Fire Training Area. Located approximately 300 feet north of the Base's sewage treatment plant, the fire training area (Site 1) consisted of an unlined circular depression with an earthen berm. The site has not been used since 1960. The exact configuration of the area is not presently discernible. Flammable liquids such as JP-4 jet fuel, waste oil, PD-680 solvent, and paint thinners were disposed of at the site. These materials may have caused residual contamination of soils. Constituents of potential concern for the SI include volatile organic compounds (VOCs), semivolatile compounds (SVOCs), metals, and Total Petroleum Hydrocarbons (TPH).

Site 2 - Drum Storage Area. Located between Buildings 12 and 13 is an area formerly used as a drum storage area. Drums containing new and used PS-661 and PD-680 solvent and waste oil were staged on an earthen area between the buildings. Incidental spillage during day-to-day operations may have resulted in contamination of soils at the site. The area is currently paved with asphalt or covered with crushed stone. Constituents of potential concern include VOCs, SVOCs, metals, and TPH.

Site 3 - Drum Burial Area. In April 1990, construction crews working on a gravel road adjacent to the Base's sewage treatment plant unearthed four metal drums. The drums and a small amount of soil were removed and properly disposed. On July 9, 1990, the New York State Department of Environmental Conservation (NYSDEC) collected water samples from a domestic well north of the site upgradient of the regional flow. Analytical results indicated that radioactivity levels, organic chemicals, and all inorganics were within the expected background range. This domestic water well was approximately one-fourth mile north of the site.

It is suspected that additional buried materials may be in the vicinity. Buried materials may include drums and/or containers of oil, fuel, solvents, and paint; vehicles; possibly asbestos; and construction debris. Magnetron tubes contained within the APS 42 Radar on the C-97 aircraft may be present in the burial area. According to a representative from the Aerospace Maintenance and Regeneration Center at Davis Monthan AFB, Arizona, the specific radioisotope used could vary to include cesium-137, cobalt-60, krypton-85, nickel-63, and rhenium-186. Activity levels range from .00001 microcuries to 1 microcuries. Constituents of potential concern for the investigation include VOCs, SVOCs, metals, TPH, and radioactive metals and gases (krypton).

Locations of the three sites are shown in Figures 1-3 through 1-5.

1.3.4 Environmental Setting

The 109th TAG NYANG facility is located in Schenectady County approximately 1.3 miles north of the city of Schenectady at the Schenectady County Airport. The Base is situated in the Mohawk-Hudson lowlands. The lowlands are bounded to the northwest and west by the Adirondack Mountains, to the east by the Taconic Mountains, and the Catskill Mountains and Helderberg Escarpment to the southwest. Elevations in the Schenectady region range from 1,104 feet at Glenville Hill to 200 feet at the Mohawk River.

1.3.4.1 Meteorology

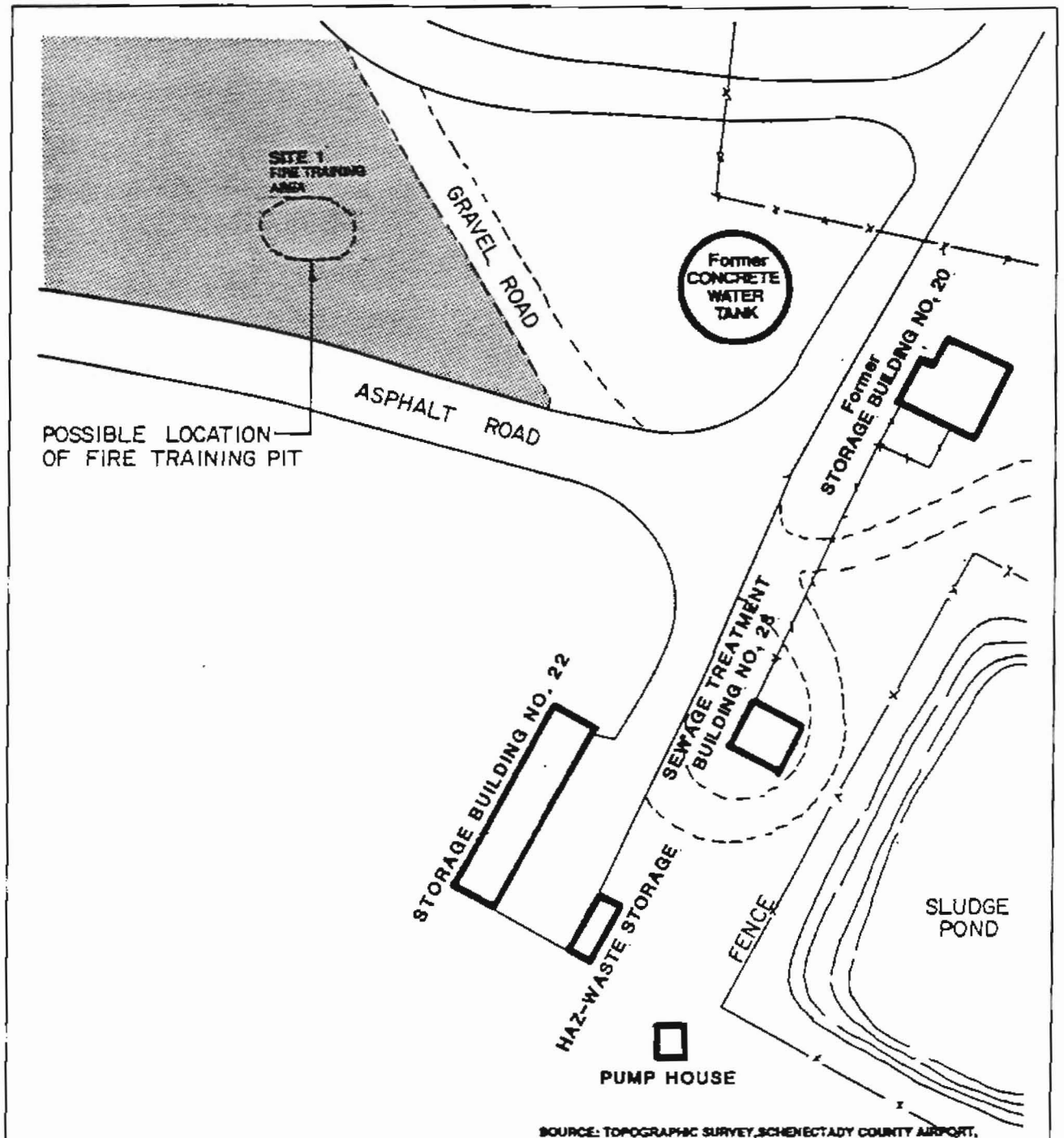
The climate in Schenectady County is humid continental. Winters are long and cold with below zero temperatures occurring on 10 to 20 days each winter. Summers are short and humid with temperatures above 90 degrees fahrenheit on 8 to 12 days of each summer. Based on information contained in the PA, annual precipitation averages 36.23 inches. Net precipitation is reported to be 9.2 inches, 27 inches being lost to lake evaporation. Maximum rainfall intensity for a 1-year, 24-hour rain event is calculated to be 2.25 inches. Snow cover is typical from mid-December to early March. Total seasonal snowfall averages 60 to 65 inches per season.

1.3.4.2 Soils

The PA reports the soils at the Base consist of the Urban land-Colonie complex, Lordstown gravelly silt loam, Hornell silt loam, Fuller-Brockport complex, Burdette-Scriba association, and the Nunda extremely stony soils. The Base's soils are further described as clayey silt till with some sand and shaley gravel. Soil depths are reported to be 1 to greater than 12 feet. During wet seasons groundwater may be less than one foot below surface in some areas.

1.3.4.3 Geology and Hydrogeology

The bedrock in most of eastern Schenectady County and beneath the Base is comprised of Ordovician shales and siltstones of the Schenectady Formation (See Figure 1-6). In the area of the NYANG facility the beds are nearly flat-lying. Bedrock is generally a poor source of groundwater because of low yields. The shales and siltstones are relatively impermeable and occurrence of groundwater is controlled by joints, fractures, and bedding planes. Wells in bedrock are reported to yield two to four gallons per minute (gpm).



109th Tactical Airlift Group
New York Air National Guard
Schenectady County Airport
Scotia, New York

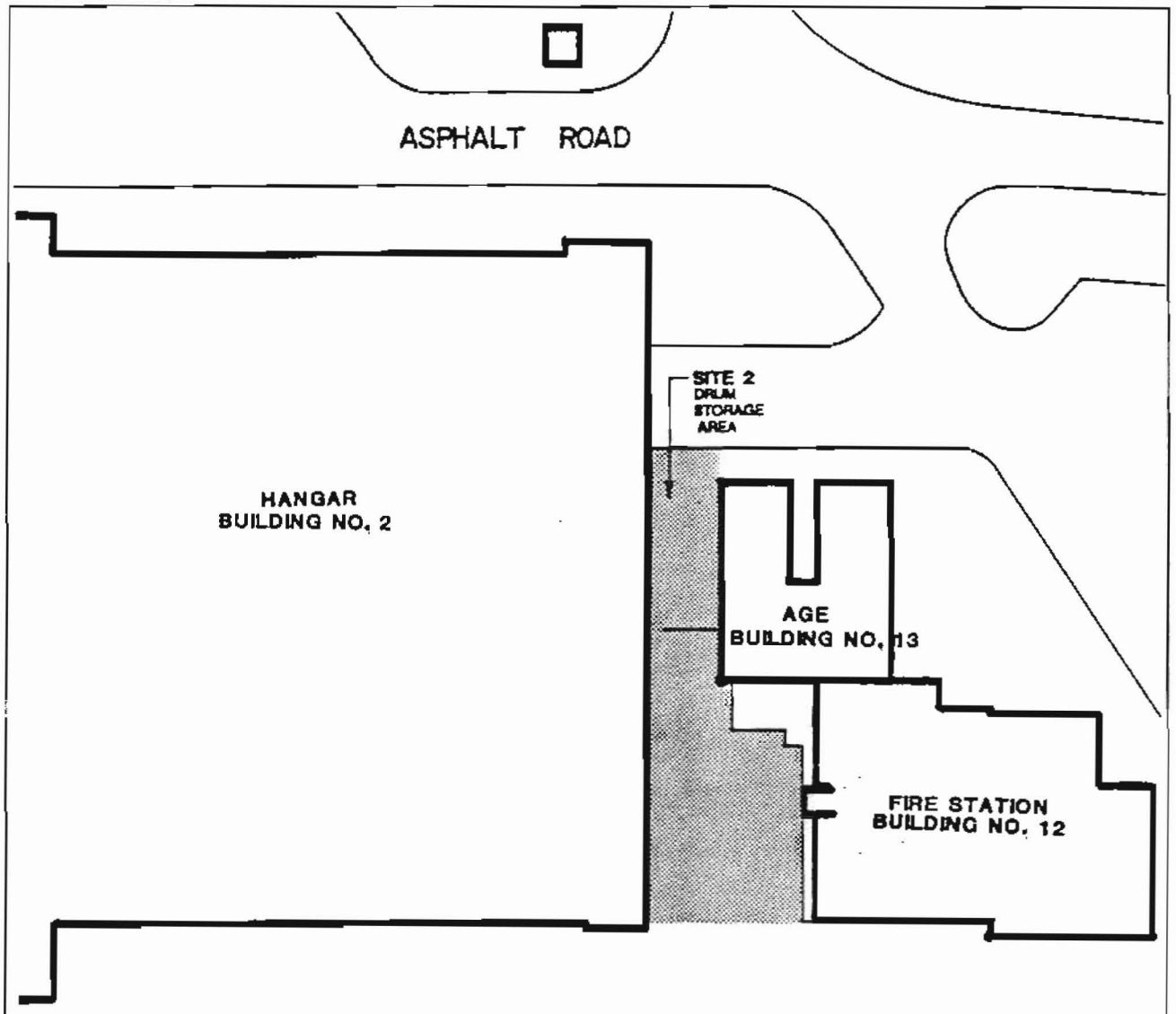
SITE 1 - FIRE TRAINING AREA

Base Engineering 109th TAGp/DE
Schenectady County Airport
Air National Guard Road
Scotia, New York

SCALE 0 25 50 75

FIG. NO. 1-3

JAN 1991



LEGEND

STUDY AREA

SOURCE: TOPOGRAPHIC SURVEY, SCHENECTADY COUNTY AIRPORT, CLOUGH, HARBOUR & ASSOC., FEB. 1983

109th Tactical Airlift Group
New York Air National Guard
Schenectady County Airport
Scotia, New York

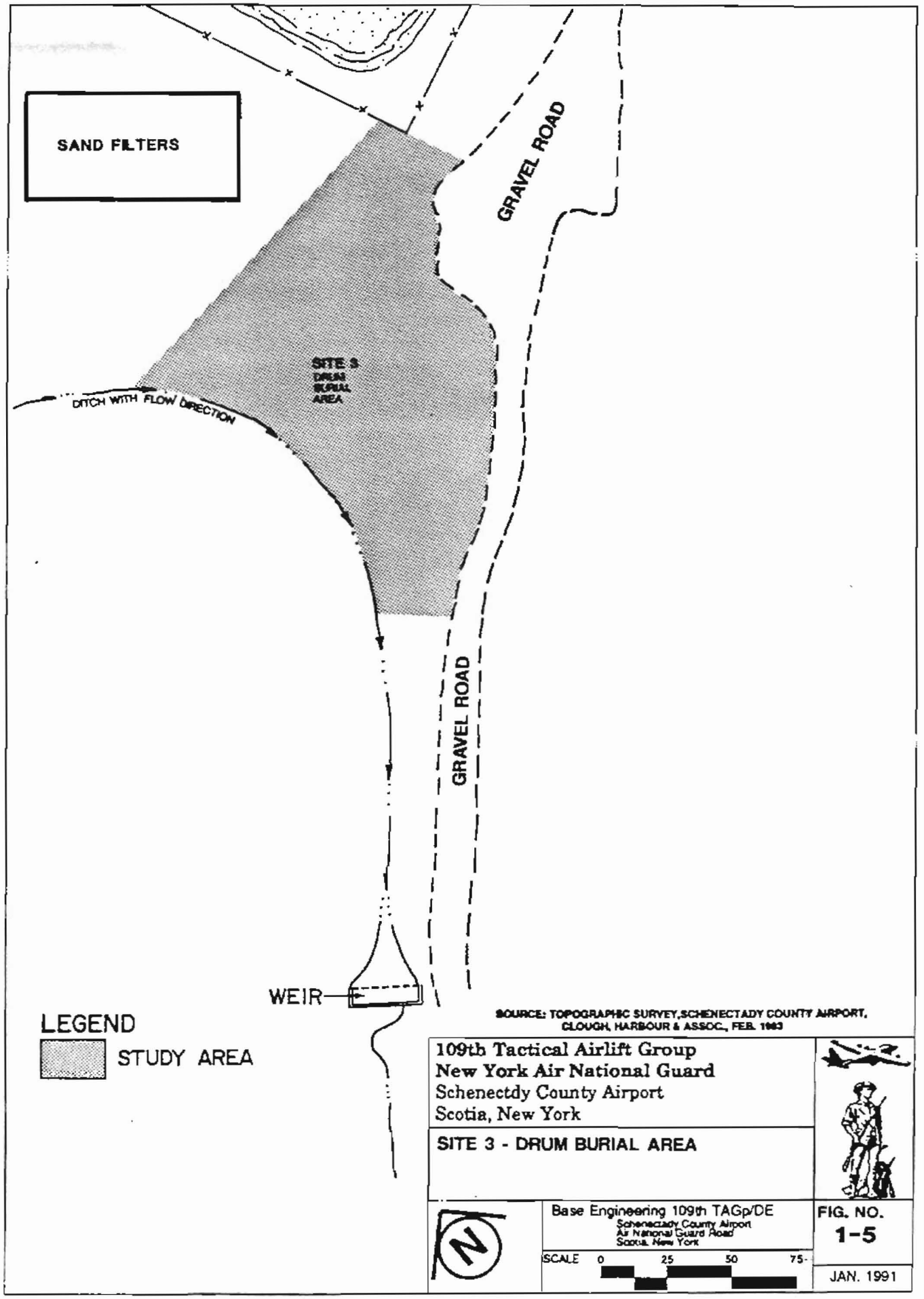
SITE 2 - DRUM STORAGE AREA

Base Engineering 109th TAGp/DE
Schenectady County Airport
Air National Guard Road
Scotia, New York

SCALE 0 25 50 75

FIG. NO. 1-4

JAN 1991


SAND FILTERS
GRAVEL ROAD
SITE 3
DRUM
BURIAL
AREA
DITCH WITH FLOW DIRECTION
GRAVEL ROAD
WEIR
LEGEND
STUDY AREA
SOURCE: TOPOGRAPHIC SURVEY, SCHENECTADY COUNTY AIRPORT, CLOUGH, HARBOUR & ASSOC., FEB. 1983
109th Tactical Airlift Group
New York Air National Guard
Schenectdy County Airport
Scotia, New York
SITE 3 - DRUM BURIAL AREA
Base Engineering 109th TAGp/DE
Schenectady County Airport
Air National Guard Road
Scotia, New York
SCALE 0 25 50 75
FIG. NO.
1-5
JAN. 1991

Unconsolidated deposits overlying bedrock in eastern Schenectady County are composed of till and stratified proglacial deposits. As the Pleistocene glaciers advanced over the Schenectady area, till was deposited directly by the ice. Upon retreat of the Pleistocene glaciers, meltwater formed streams and lakes in front of the retreating ice resulting in deposition of stratified deposits of sand, silt, and clay (stratified proglacial deposits). These strata were deposited over till in the lower elevations where meltwater accumulated to form lakes. Glacial Lake Albany is reported to have occupied most of eastern Schenectady County. Lake sands, silts, and clays are reported at elevations up to 400 feet above mean sea level.

Elevations at the NYANG facility near the four sites range from 300 feet to 350 feet above mean sea level. The Base and adjacent Schenectady County Airport occupy an area bounded by the Alplaus Kill and Mohawk River floodplains to the east and south, respectively. The area is drained by Alplaus Kill and the Mohawk River (see Figure 1-7).

Shallow groundwater infiltrating soils generally flows along the bedrock surface entering the bedrock at fractures. It is anticipated that SI field activities will take place during a dry season and that the first water bearing zone will be approximately 70 feet into bedrock.

Potential environmental pathways for contaminant migration from each site include surface water and groundwater flow. Water infiltrating through the surficial glacial deposits generally follow the bedrock surface, entering the bedrock at fractures. It is anticipated that bedrock will be 10 to 15 feet below ground surface. The first water bearing zone is expected to be at approximately 70 feet into bedrock.

1.4 INSTALLATION RESTORATION PROGRAM APPROACH

The NGB IRP involves the identification of former waste disposal sites at DOD facilities. If contamination is identified, an evaluation of its nature and extent is conducted and remedial action is implemented. The NGB IRP emphasizes cooperation with state environmental regulatory agencies and thorough community relations planning.

The NGB IRP consists of several tasks, each with specific work elements designed to flow from site characterization through development and implementation of remediation. Figure 1-8 shows the order of implementation and interrelationships of the NGB IRP phases and the various decision points that exist. The three NGB IRP goals are identification (PA), investigation (SI and RI), and cleanup (FS, FFS/RM, and RD/RA). The discussion below describes the activities included in the SOW issued to Jordan which may be undertaken at the Base.

1.4.1 Expanded Site Investigation

In general, the Expanded SI evaluates each site for the presence or absence of contamination and to determine the health and environment implications. If contamination is found, the SI identifies the preliminary nature of contaminants and provides some quantification. The Expanded SI evaluates the nature of any identified contamination, provides for a geologic/hydrogeologic study, establishes the priority for further NGB IRP work, and supports remedial measures and DDs where necessary. More specifically, the Expanded SI falls into three distinct categories: screening activities, confirmation activities, and optional activities. Screening activities are conducted to gather preliminary data. In

Table 2-1 Summary of Field Investigation Activities
109th TAG New York Air National Guard
Scotia, New York

LOCATION	FIELD ACTIVITIES			MATERIALS OF CONCERN	MEDIA ANALYSIS	
	SCREENING	CONFIRMATION	OPTIONAL		WATER	SOIL AND SEDIMENT
Site 1: Fire Training Area	• Perform Field Soil Gas Survey (50 survey points) • OVA screening of soil samples • Up to 32 subsurface soil samples screened by field GC • Screen 1 groundwater sample with field GC • Screen surface soil samples with field GC	• 8 soil borings • Collect up to 24 subsurface samples • Collect up to 3 surface soil samples • Install 1 monitoring well • Collect groundwater sample	• Install up to 2 additional borings • Collect up to 6 additional subsurface soil samples • Install up to 2 additional monitoring wells • Collect additional groundwater samples • Collect 1 surface soil sample • Collect 2nd round of groundwater samples	JP-4 Jet Fuel PD-680 Solvent Paint Thinner Waste Oil	• TCL VOCs (CLP) 3-90 SOW • TCL SVOCs (CLP) 3-90 SOW • TPH (USEPA 418.1) • TAL Inorganics (CLP) 3-90 SOW	• TCL VOCs (CLP) 3-90 SOW • TCL SVOCs (CLP) 3-90 SOW • TPH (USEPA 418.1) • TAL Inorganics (CLP) 3-90 SOW
Site 2: Drum Storage Area	• OVA screening of soil samples • Up to 16 soil samples screened by field GC • Screen 1 groundwater sample with field GC • Screen surface soil samples with field GC	• 4 soil borings • Collect up to 12 subsurface samples • Collect up to 3 surface soil samples • Install 1 monitoring well • Collect groundwater sample	• Collect 2nd round of groundwater samples	PD-680 Solvent PS-661 Solvent Waste Oil	• TCL VOCs (CLP) 3-90 SOW • TCL SVOCs (CLP) 3-90 SOW • TPH (USEPA 418.1) • TAL Inorganics (CLP) 3-90 SOW	• TCL VOCs (CLP) 3-90 SOW • TCL SVOCs (CLP) 3-90 SOW • TPH (USEPA 418.1) • TAL Inorganics (CLP) 3-90 SOW

Table 2-1 (continued)

LOCATION	FIELD ACTIVITIES			MATERIALS OF CONCERN	MEDIA ANALYSIS	
	SCREENING	CONFIRMATION	OPTIONAL		WATER	SOIL AND SEDIMENT
Site 3: Drum Burial Area	• Ground Penetrating Radar Survey • Screen for low-level radioactivity • Screen 1 groundwater sample with field GC • Screen soil, sediment, and surface water samples with field GC	• Collect up to 3 surface soil samples • Collect 3 sediment samples • Collect 1 surface water sample • Install 1 monitoring well • Collect groundwater sample	• Collect up to 3 surface soil samples • Install up to 2 monitoring wells • Collect groundwater samples • Collect 2nd round of groundwater samples	Fuels Solvents Metals Waste Oil	• TCL VOCs (CLP) 3-90 SOW • TCL SVOCs (CLP) 3-90 SOW • TPH (USEPA 418.1) • TAL Inorganics (CLP) 3-90 SOW	• TCL VOCs (CLP) 3-90 SOW • TCL SVOCs (CLP) 3-90 SOW • TPH (USEPA 418.1) • TAL Inorganics (CLP) 3-90 SOW
Background	• Install 3 baseline piezometers • Screen up to 4 subsurface soil samples from baseline monitoring well soil boring with field GC • Screen surface water, sediment, and groundwater samples with field GC	• Install 1 baseline monitoring well • Collect up to 3 subsurface soil samples from baseline monitoring well soil boring • Collect 1 groundwater sample • Collect 1 surface water sample • Collect 1 sediment sample	• Collect 2nd round of groundwater sample	JP-4 Jet Fuel Solvent Metals Waste Oil PD-680 solvent PS-661 Solvent Paint thinner	• TCL VOCs (CLP) 3-90 SOW • TCL SVOCs (CLP) 3-90 SOW • TPH (USEPA 418.1) • TAL Inorganics (CLP) 3-90 SOW	• TCL VOCs (CLP) 3-90 SOW • TCL SVOCs (CLP) 3-90 SOW • TPH (USEPA 418.1) • TAL Inorganics (CLP) 3-90 SOW

2.2.1.2 Confirmation Activities

- Drill soil borings and sample surface and subsurface soils in order to evaluate the vertical and horizontal extent of potential soil contamination in source areas.
- Install groundwater monitoring wells downgradient of site locations to evaluate site hydrogeology and to evaluate potential contaminant migration in groundwater.
- Collect background soil, sediment, surface water, and groundwater samples to evaluate analyte concentrations in areas unaffected by the sites.

2.2.1.3 Optional Activities

- Install additional downgradient groundwater monitoring wells and sample groundwater to further evaluate potential contaminant migration in groundwater.
- Collect additional surface soil and subsurface soil samples to further evaluate the extent of potential soil contamination in source areas.

2.2.2 Site 1 - Fire Training Area

Figure 2-1 is a flow diagram showing the anticipated order of activities to be conducted at Site 1 to complete the SI.

2.2.2.1 Screening Activities

The following screening activities will be conducted at Site 1 during the SI

- Soil gas survey of up to 50 soil gas points to identify areas of potential VOC contamination and determine locations for soil borings and aid in placement of monitoring wells;
- Field screening, using an OVA, of all split-spoon samples from 8 borings;
- Field GC screening of up to 32 subsurface soil samples;
- Field GC screening of up to three surface soil samples; and
- Field GC screening of a groundwater sample.

The precise location of the Fire Training Area is not apparent from present site surface conditions, nor was it determined in the PA. Therefore, a soil gas survey consisting of up to 50 sample points will be performed to screen for VOCs. If found, the concentration and distribution of VOCs in the soil will indicate the boundaries of the Fire Training Area. Soil gas data will be used to determine the appropriate placement of soil borings.

Notes:
1. Background Activities will not be Repeated on Diagrams for Sites 2, 3, and 4.
2. Optional Activities CANNOT be Initiated without approval from the HAZWRAP PM via the Jordan PM (or designee)

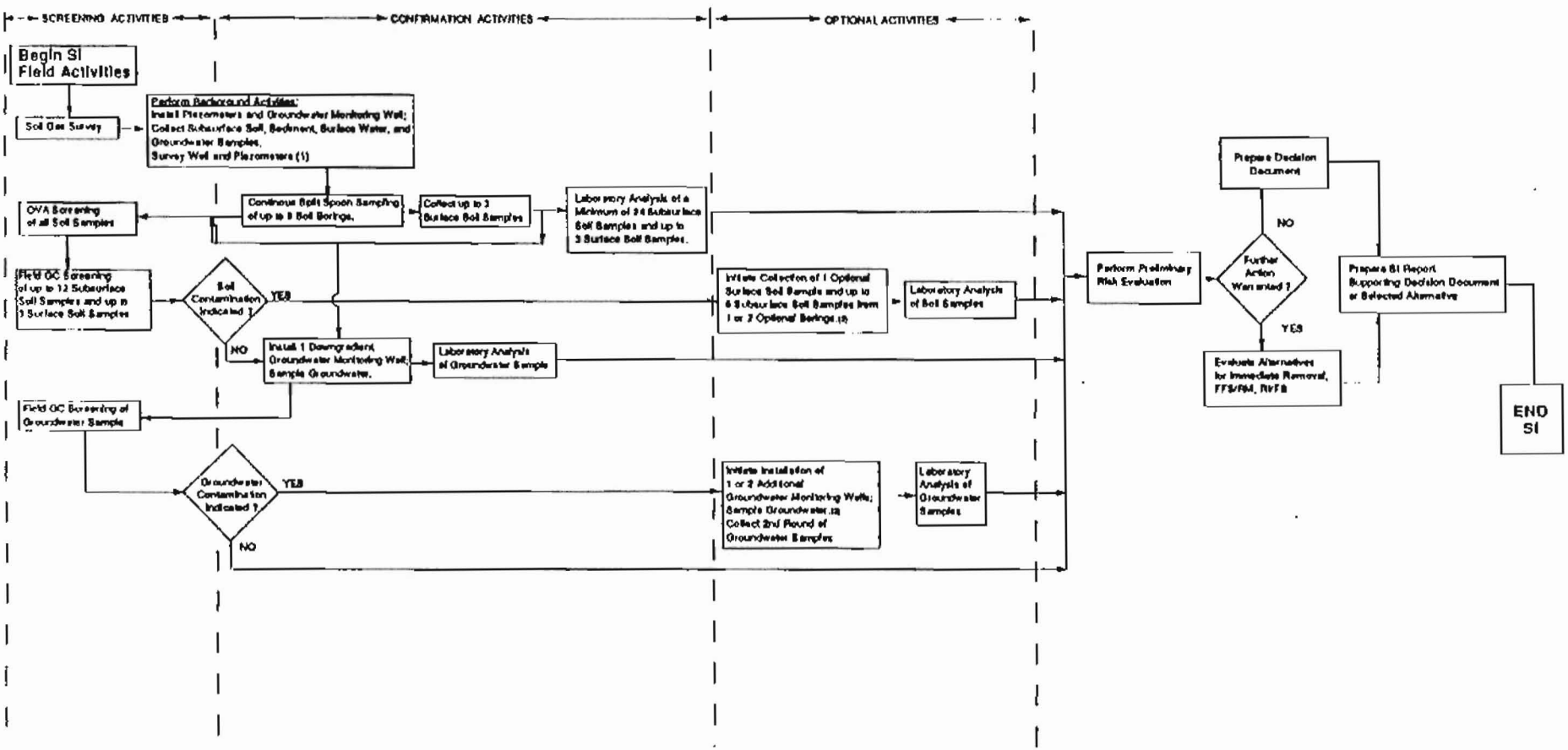


FIGURE 2-1
SITE 1-FIRE TRAINING STUDY AREA

Certain screening activities have been included in order to obtain information necessary to determine the need for implementation of optional activities. These screening activities include OVA and field GC screening of surface soil, subsurface soil, and groundwater samples collected in conjunction with confirmation samples. All subsurface soil samples collected from soil borings will be screened with the OVA to indicate VOC content. Up to 24 subsurface soil samples will be selected for field GC screening based on OVA readings. Up to three surface soil samples and one groundwater sample will be screened with the OVA and field GC.

2.2.2.2 Confirmation

Confirmation activities at Site 1 will include the following:

- Installation and sampling of 8 soil borings to evaluate the lateral and vertical distribution of potential contaminants in the subsurface;
- Laboratory analysis of up to 24 subsurface soil samples, where selection is based on field GC data, OVA readings, and field observations;
- Laboratory analysis of up to three surface soil samples;
- Installation and development of one monitoring well downgradient of the site to evaluate potential groundwater contamination; and
- Groundwater sampling and subsequent laboratory analysis of groundwater samples.

Data from the chemical analysis of the soil samples will be used to characterize the depth and magnitude of soil contamination in source areas at the site. Data from the chemical analysis of groundwater samples will be used to characterize potential groundwater contamination. Lithologic information and groundwater elevations from the downgradient monitoring well will be used in conjunction with information obtained from the baseline piezometers and baseline groundwater monitoring well to provide hydrogeological data on the shallow aquifer, including groundwater gradient and flow direction at the site. A potentiometric surface map will be developed from the data obtained during the field program. If significant changes in groundwater elevations (flow directions will not change if elevations remain constant) are measured during the SI, additional potentiometric surface maps will be developed to illustrate the changes. This information will be used in evaluating the potential for contaminant migration.

2.2.2.3 Optional Activities

Optional activities at Site 1 may include any or all of the following:

- Installation and sampling of one or two additional monitoring wells;
- Drilling of one or two additional borings and collection of up to six additional subsurface samples; and
- Collection of one surface soil sample.

The decision to perform the optional work at the site will be based on the data collected during screening and confirmation activities. If the results of field GC screening indicate soil and/or groundwater is contaminated, optional field exploration activities will be undertaken to adequately characterize site conditions. If no indications of contamination are encountered during the screening and confirmation activities, the optional work will not be performed.

Soil samples collected during confirmation activities which are screened with the OVA and/or field GC may indicate elevated VOC concentrations at the outermost sample locations. Additional borings and sample collection may be warranted to further delineate potential soil contamination. Three subsurface soil samples will be collected from each boring. An additional surface soil sample may also be collected.

If field GC screening of the initial groundwater monitoring well suggest that groundwater contamination has occurred, one or two additional monitoring wells may be warranted to evaluate the extent of groundwater contamination.

2.2.3 Site 2 - Drum Storage Area

Figure 2-2 is a flow diagram showing the anticipated order of activities to complete the SI at Site 2.

2.2.3.1 Screening Activities

The following screening activities will be conducted at Site 2:

- Field screening, using an OVA, of all split-spoon samples from four borings conducted to bedrock;
- Field GC screening of up to 16 subsurface soil samples;
- Field GC screening of one groundwater monitoring well sample; and
- Field GC screening of up to three surface soil samples;

These screening activities have been included in order to obtain information necessary to optimize confirmation sampling locations and to determine the need for developing optional activities at Site 2. These screening activities include OVA and field GC screening of surface soil, subsurface soil, and groundwater samples collected in conjunction with confirmation samples. All subsurface soil samples collected from soil borings will be screened with the OVA to indicate VOC content. Up to 12 subsurface soil samples will be selected for field GC screening based on OVA readings. Up to three surface soil samples may be collected and screened with the field GC. One groundwater sample will be screened with the OVA and field GC. OVA and field GC data from initial borings will determine whether the remainder of proposed soil borings are appropriately located.

2.2.3.2 Confirmation Activities

The following confirmation activities are planned for Site 2:

Notes:
(1) No optional activities are planned for the site. However, following each screening activity, especially GC screening, an evaluation of the need for optional sampling should be done.

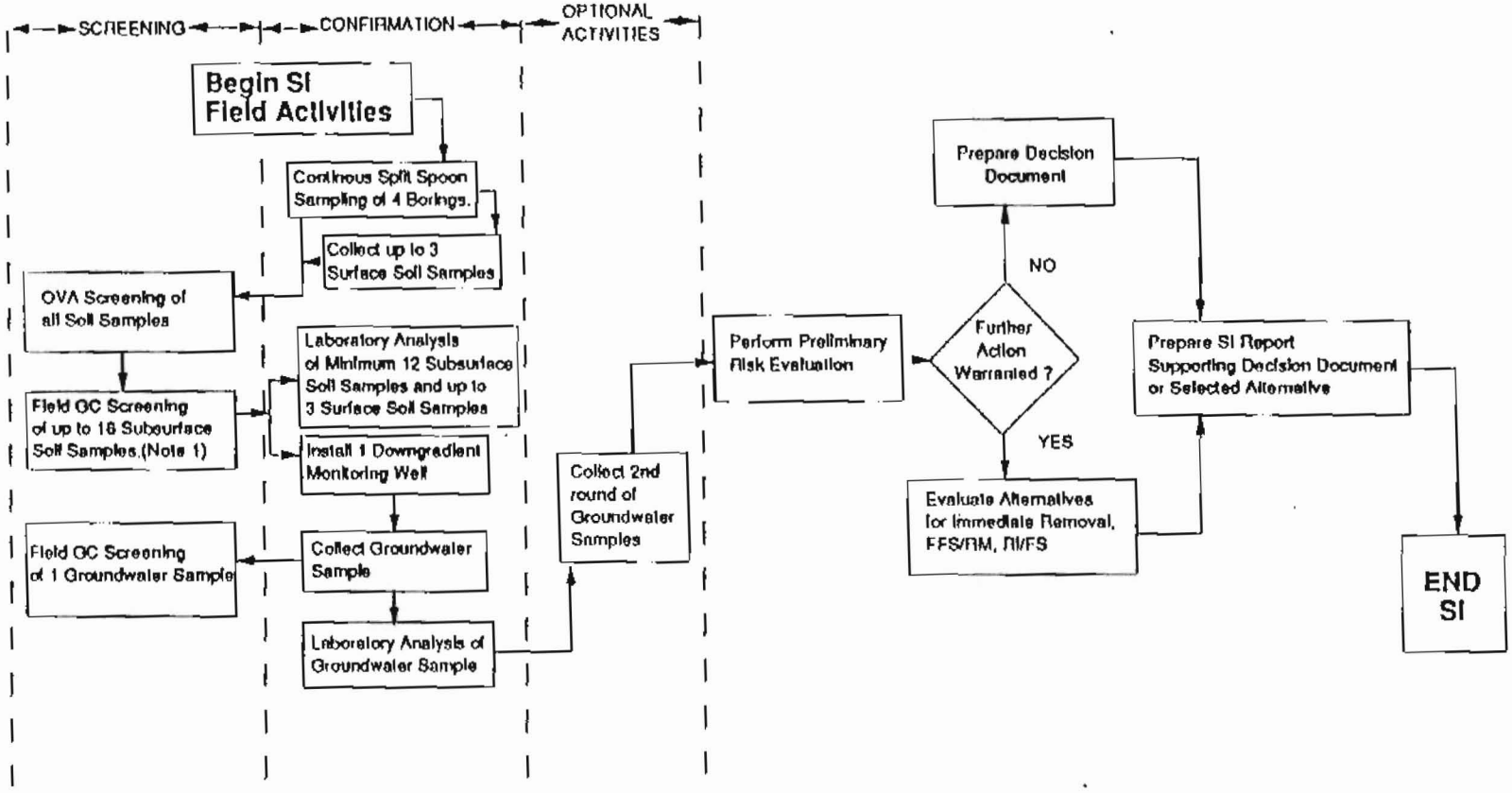


FIGURE 2-2
SITE 2-DRUM STORAGE STUDY AREA

- Laboratory analysis of up to 12 subsurface soil samples with at least three soil samples boring, based on field GC data and field observations; per boring, including one surface sample and one bedrock/soil interface sample per based on field GC data and field observations;

- Collection and laboratory analysis of up to three surface soil samples;

- Installation and development of one groundwater monitoring well downgradient of site; and

- Groundwater sampling and laboratory analysis of one groundwater sample.

Data from the chemical analysis of the soil samples will be used to characterize the depth and magnitude of soil contamination in source areas at the site. Data from the chemical analysis of groundwater samples will be used to characterize potential groundwater contamination. Lithologic information and groundwater elevations from the downgradient monitoring well will be used in conjunction with information obtained from the baseline piezometers and baseline groundwater monitoring well to provide hydrogeological data on the shallow aquifer, including groundwater gradient and flow direction at the site. A potentiometric surface map will be developed from the data obtained during the field program. If significant changes in groundwater elevations are measured during the SI, additional potentiometric surface maps will be developed to illustrate the changes. This information will be used in evaluating the potential for contaminant migration.

2.2.3.3 Optional Activities

Except for a second round of groundwater sampling, optional activities are not proposed for Site 2 because of the following:

- The small quantity of material stored at the site at any one time;

- The small size of the site and its proximity to several buildings (limited site accessibility); and

- The site has not been operational for over 30 years and much of the site has been covered with asphalt since 1958.

2.2.4 Site 3 - Drum Burial Area

Figure 2-3 is a flow diagram showing the anticipated order of activities to complete the SI at Site 3.

2.2.4.1 Screening Activities

The following screening activities will be conducted at Site 3:

- ground penetrating radar (GPR) and electromagnetic (magnetometry) survey (EM) to delineate the limits of buried material;

- field screening, using an OVA, of three surface soil and two sediment samples;

- field GC screening of one surface water sample, three sediment samples, and three surface soil samples;
- field GC screening of a groundwater monitoring well sample;
- field screening for low levels of radioactive material using a Geiger-Muller detector.

Geophysical techniques will be used at Site 3 to delineate the boundaries of the burial area. Magnetometry will be used as the primary screening technique for Site 3. GPR will be used to complement the magnetometer results. As the magnetometer has an internal storage capacity, data will be processed and evaluated in the field. Using this data the optimum location of the GPR traverses can then be established for Site 3.

Three surface soil samples, three sediment samples and one surface water will be collected at Site 3. All six samples will be screened for VOC content with the field GC and for radioactivity with a Geiger Muller detector. In the event that radioactivity is detected above the threshold value of 2 mR/hr during field operations at Site 3, all sampling activities will cease at this site. Solicitation of bids for subcontractor services and the drafting of a detailed sampling plan would be conducted after the need for such a program is established.

2.2.4.2 Confirmation

Confirmation activities planned for Site 3 include the following:

- collection and laboratory analysis of surface soil, sediment, and surface water samples;
- installation and development of one monitoring well downgradient of site; and
- groundwater sampling and subsequent laboratory analysis of groundwater samples.

Data from the chemical analysis of the soil samples will be used to characterize magnitude of soil contamination in source areas at the site. Data from the chemical analysis of surface water and groundwater samples will be used to characterize potential contaminant migration via surface water and groundwater flow. Lithologic information and groundwater elevations from the downgradient monitoring well and baseline piezometers and baseline groundwater monitoring well will provide hydrogeological data on the shallow aquifer, including groundwater gradient and flow direction at the site. A potentiometric surface map will be developed from the data obtained during the field program. If significant changes in groundwater elevations are measured during the SI, additional potentiometric surface maps will be developed to illustrate the changes. This information will be used in evaluating the potential for contaminant migration.

Notes:
(1) Optional activities CANNOT be implemented without prior approval of HAZWRAP PM via Jordan PM (or designee)

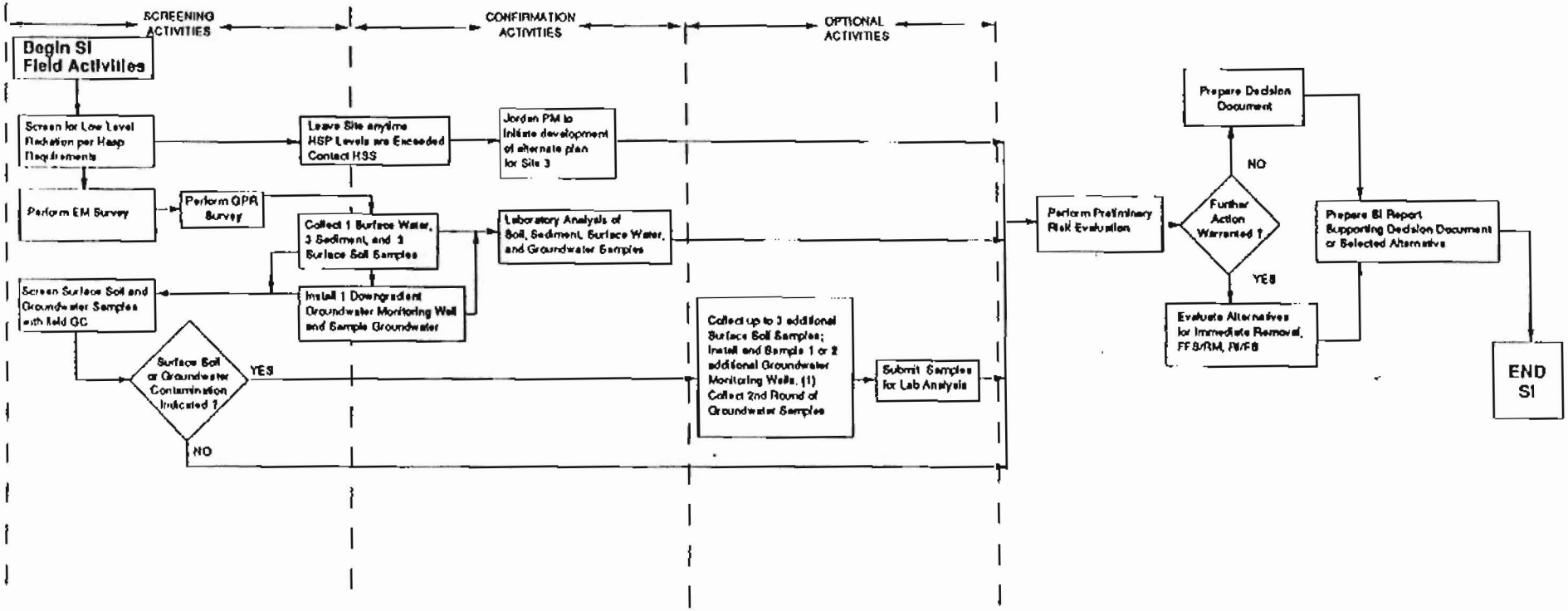


FIGURE 2-3
SITE 3-DRUM BURIAL STUDY AREA

2.2.4.3 Optional Activities

Optional activities at Site 3 may include any or all of the following:

- Installation and sampling of one or two additional monitoring wells; and
- Collection of up to three surface soil samples and groundwater samples.

The decision to perform the optional work at the site will be based on the data collected during screening and confirmation activities. If the results of field GC screening indicate soil and/or groundwater is contaminated, optional field exploration activities will be undertaken to adequately characterize site conditions. If no indications of contamination are encountered during the screening and confirmation activities, the optional work will not be performed.

Soil samples collected during confirmation activities which are screened with the OVA and/or field GC may indicate elevated VOC concentrations at the outermost sample locations. Borings and collection of subsurface soil samples may be warranted to delineate potential soil contamination outside the limits of buried materials. Three subsurface soil samples will be collected from each boring. Up to three additional surface soil samples may also be collected.

If field GC screening of the initial groundwater monitoring well sample suggests that groundwater contamination has occurred, one or two additional monitoring wells may be warranted to evaluate the extent of groundwater contamination.

2.3 SAMPLING LOCATIONS AND FREQUENCIES

This section provides the technical rationale for the selection of sampling locations and frequencies for the SI to be conducted at the Base. The overall objective of the sampling effort is to collect sufficient data to evaluate the presence or absence of contamination at each site under investigation and to determine potential risks to human health and the environment. A summary of the field work to be conducted at each site is presented in Table 2-1.

2.3.1 Background Evaluation

Certain field activities to be conducted during the SI are included to document background conditions of soils and groundwater at areas unaffected by the sites. A soil boring will be conducted in an area to the north of all three sites to characterize background soil conditions. Three subsurface soil samples will be collected for laboratory analysis. A baseline groundwater monitoring well will be constructed in this soil boring. The baseline groundwater monitoring well will be used to obtain groundwater samples for field GC screening and laboratory analysis, and to obtain water level measurements.

Three baseline piezometers will be installed for purposes of obtaining water level measurements. Additionally, one background sediment sample and one background surface water sample will be collected from the drainage ditch which passes through the Base property. These samples will be collected near where the ditch enters the Base property.

Proposed locations of the baseline piezometers, baseline groundwater monitoring well, and background sample locations are shown in Figure 2-4. One baseline soil sample and one baseline groundwater sample

Table 2-2 Summary of Exploration and Sampling Program[1]
109th TAG New York Air National Guard
Scotia, New York

SITE NO.	SOIL GAS SURVEY	FIELD GC[2]	SOIL BORINGS	MONITORING WELLS	PIEZOMETERS	ANALYTICAL SAMPLES					
						SUBSURFACE SOIL	SURFACE SOIL	GROUNDWATER SAMPLES[3,4]	SURFACE WATER	SEDIMENT SAMPLES	SI-DERIVED WASTE
Site 1 - Fire Training Area											
Basic	50 pts	36	8	1	0	24	3	1	---	---	1
Optional	---	11	2	2	0	6	1	5	---	---	---
Site 2: Drum Storage Area											
Basic	---	20	4	1	0	12	3	2	---	---	1
Optional	No optional activities planned for Site 2 other than the collection of 2nd round of groundwater samples.										
Site 3 - Drum Burial Area											
Basic	---	8	0	1	0	0	3	1	1	3	1
Optional	---	5	0	2	0	0	3	5	---	---	---
Background	---	7	1	1	3	3	---	2	1	1	1
TOTAL											
Basic	50 pts	64	12	3	0	36	9	4	1	3	64
Optional	---	16	2	4	---	6	4	10	---	---	---
Background	---	7	1	1	3	3	---	2	1	1	1

1 This summary presents the maximum number of borings, piezometers, wells, and samples that are proposed for SI activities. Section 3.0 describes the exploration activities that may be eliminated based on site conditions.

2 This summary is based on four GC analyses of split-spoon samples per boring, one groundwater sample from each monitoring well, and three surface soil samples.

3 Sample totals do not include QA/QC samples for waste disposal criteria.

4 Optional optional groundwater samples include first round of sampling of optional monitoring wells and second round of sampling of all monitoring wells at the site.

Table 2-2a Summary of Analytical Program (Confirmation Activities)
109th TAG NYANG

SAMPLE SOURCE	MEDIUM	TCL-VOC	TCL-SVOC	TAL-INORGANICS	TPH	TCLP
Site 1 - Fire Training Area	Soil	27	27	27	27	1
	Water	1	1	1	1	---
Site 2 - Drum Storage Area	Soil	15	15	15	15	1
	Water	1	1	1	1	---
Site 3 - Drum Burial Area	Soil/Sediment	6	6	6	6	1
	Water	2	2	2	2	---
Background	Soil	4	4	4	4	1
	Water	2	2	2	2	---
SUBTOTAL OF SITES	Soil	52	52	52	52	4
	Water	6	6	6	6	1 composite
Field Duplicates	Soil	6	6	6	6	---
	Water	1	1	1	1	---
Equipment Rinseate Blanks[1]	Soil	6	6	6	6	---
	Water	2	2	2	2	---
Trip Blanks[2]	Water	14	---	---	---	---
Field Blanks[3]	Water	4	4	4	4	---
Matrix Spike (MS/MSD)	Soil	6	6	6	6	---
	Water	2	2	2	2	---
Waste Disposal Criteria Samples[4]	Soil	---	---	---	---	---
	Water	---	---	---	---	5
SUBTOTAL BY MEDIUM	Soil	70	70	70	70	---
	Water	29	15	15	15	---
TOTAL ANALYTICAL		99	85	85	85	5

1 All equipment rinseate blanks will be aqueous samples; some of these blanks are associated with the collection of soil samples (e.g., split-spoon sampler rinseate blank). 10% per matrix per event. Assume 3 matrix, one event.
2 One trip blank per cooler containing VOC samples. Number is approximate.
3 Source water blanks. Assume 2 sources, 2 events.
4 Numbers of SI-waste samples are approximate.

Table 2-2b Summary of Analytical Program (Optional Activities)
109th TAG NYANG

SAMPLE SOURCE	MEDIUM	TCL-VOC	TCL-SVOC	TAL-INORGANICS	TPH	TCLP
TOTAL OF SITES[1]	Soil	10	10	10	10	---
	Water	10	10	10	10	---
Field Duplicates	Soil	3	3	3	3	---
	Water	2	2	2	2	---
Equipment Rinseate Blanks[2]	Soil	3	3	3	3	---
	Water	2	2	2	2	---
Trip Blanks[3]	Water	3	---	---	---	---
Field Blanks[4]	Water	0	0	0	0	---
Matrix Spike (MS/MSD)	Soil	2	2	2	2	---
	Water	2	2	2	2	---
Waste Disposal Criteria Samples[5]	Soil	---	---	---	---	---
	Water	---	---	---	---	0
SUBTOTAL BY MEDIUM	Soil	18	18	18	18	---
	Water	19	16	16	16	0
TOTAL ANALYTICAL		37	34	34	34	0

1 Total number of samples based on optional sampling activities summarized in Table 2-1.

2 All equipment rinseate blanks will be aqueous samples; some of these blanks are associated with the collection of soil samples (e.g., split-spoon sampler rinseate blank). 10% per matrix per event. Assume 3 matrix and 1 event for soils and 1 matrix per 2 events for groundwater.

3 One trip blank per cooler containing VOC samples. Number is approximate.

4 Assumes optional samples will be collected during confirmation sampling event(s).

5 Numbers of SI-waste samples are approximate.

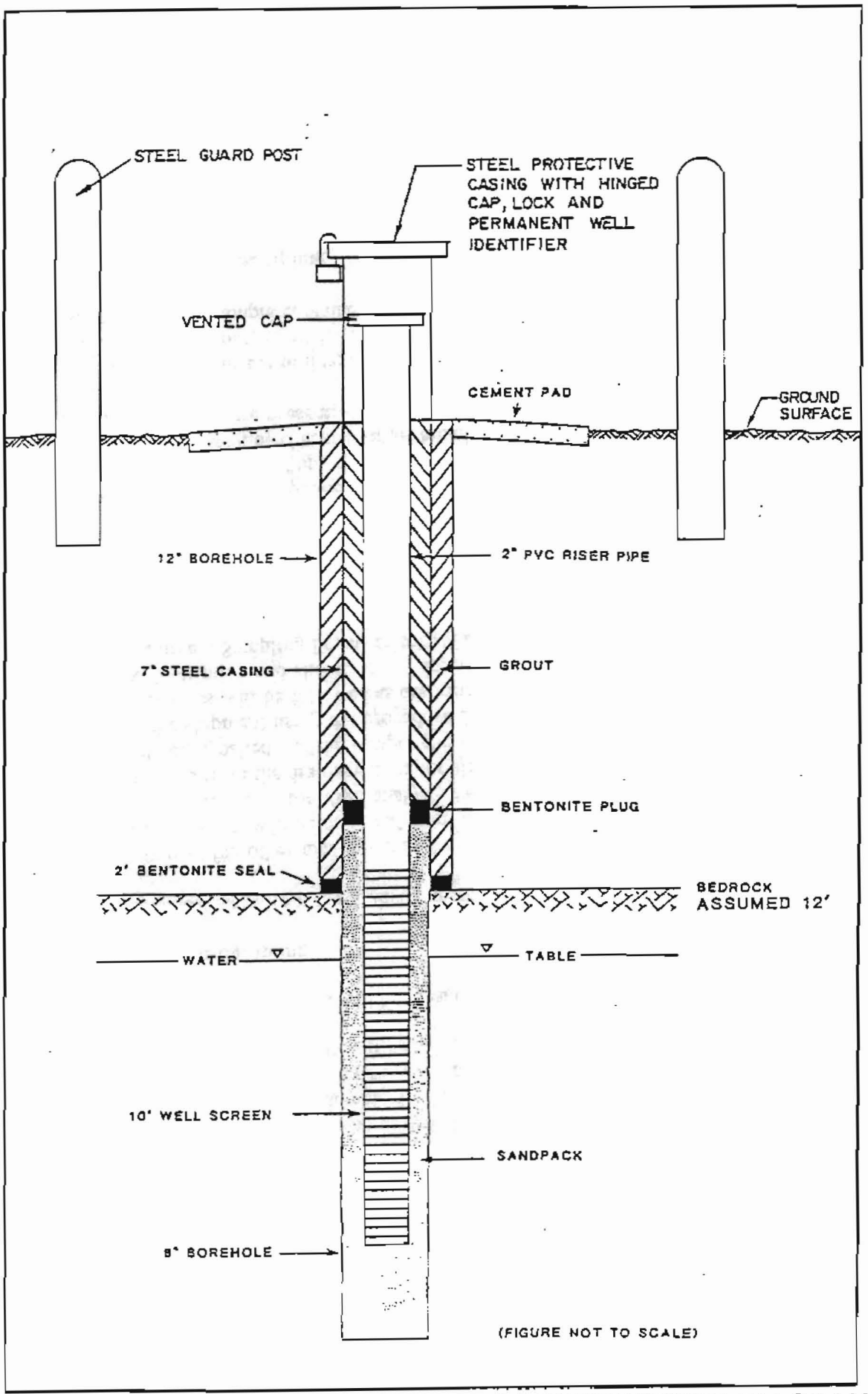


FIGURE 2-10 MONITORING WELL CONSTRUCTION DIAGRAM

accomplished by pumping or bailing. Temperature, pH, and conductivity will also be monitored during sampling activities (Section 3.4.1.2.2 of the QAPP). The well will be sampled within 3 hours of purging if recharge is sufficient (greater than 80%). Wells purged dry and with slow recharge will be sampled when the well recovers to 70% of original water level. Form 4 in Appendix A is a copy of the Well Purging Record Form.

Groundwater samples will be collected from each monitoring well using a properly decontaminated bailer. Decontamination procedures will be followed as specified in Section 2.7. For each well sampled, a new nylon or polypropylene cord will be used and then discarded. The static water level in the well will be measured and recorded in the field logbook. Sample containers will be filled directly from the bailer. When filling the sample containers for volatile organic analysis care will be used to insure that no headspace or air bubbles are present in the sample. Water remaining in the bailer will be collected and the pH, temperature, and conductivity measured and recorded in the field logbook. Table 2-3 presents a summary of the analytical methods as well as sample containers, preservatives and holding times. Required preservatives will be added to the sample containers prior to sampling. Groundwater sampling will be documented on Form 5 in Appendix A.

2.6.5 Sample Handling

All samples will be placed in pre-cleaned (DOE/HWP-65/R1) glass and plastic bottles for shipment to the laboratory. All bottles will have Teflon® lined lids. Aqueous samples may require the addition of chemical preservatives in accordance with the information presented in Table 2-3.

Individual sample bottles will be wrapped in bubble pack and placed in sealed plastic bags to prevent breakage during shipment. The bags will be placed into insulated shipping coolers with plastic bags of crushed ice. A Chain-of-Custody Record describing the contents of the cooler will be placed in a sealed plastic bag and taped to the upper lid of the cooler. The shipping coolers will be sealed to prevent leakage of melting ice and affixed with security labels taped over opposite ends of the lid. The coolers will be labeled in accordance with DOT regulations for transport and shipped for overnight delivery to the laboratory. The laboratory will be notified by telephone of the shipment along with the estimated time of arrival.

2.6.6 Quality Control Samples

During each sampling effort, a number of quality control (QC) samples must be collected and submitted for laboratory analysis. The number and frequency of the QC sample collection are given in Table 2-2a and 2-2b. A list of the types of QC samples that shall be collected along with a brief description of each sample type is outlined in the following sections.

2.6.6.1 Trip Blanks

Trip blanks are collected for chemical analysis of volatile organics. The analytical results serve as a baseline measurement of volatile organic contamination that samples may be exposed to during transport and laboratory storage prior to analysis.

Trip blanks originate in the laboratory. They are comprised of ASTM Type II water which is placed in sample containers by the subcontracted laboratory, transported to the sample collection site, handled along with the samples, and returned to the laboratory along with samples of water and/or soil collected for

3.0 SAMPLING APPROACH AND RATIONALE

This section details the general and site-specific approach for sample and physical data collection.

3.1 GENERAL APPROACH

The primary goal of SI sampling activities is to provide the data needed to assess the presence or absence of contamination in soil and groundwater at the three sites. This section presents the sampling approach and rationale to be used during the SI. Specific sampling procedures are provided in Section 2 of the SAP. The proposed approach to the SI for the identified sites is to conduct the field investigation in a single effort. This will be achieved through a sequence of activities consisting of screening, confirmation, and optional activities. This approach has been designed to provide a sampling program sufficient to evaluate for the presence of hazardous constituents at the three sites and to accomplish limited quantification.

Table 3-1 summarizes the exploration and sampling program to be performed at each site. Table 3-2a and 3-2b summarize the analytical program for each site to be investigated. Screening activities will be used to determine optimal placement of groundwater wells and soil borings during the subsequent confirmation activities. Optional activities have been included to provide the field team with the flexibility to accommodate unforeseen site conditions and may be used to provide limited quantification of the extent of contamination.

3.1.1 Screening Activities

Geophysics. Geophysical techniques will be used at Site 3, Drum Burial Area to delineate the boundaries of the burial area at Site 3. Magnetometry will be used as the primary screening technique for Site 3. Ground penetrating radar (GPR) will be used to complement the magnetometer results. As the magnetometer has an internal storage capacity, data will be processed and evaluated in the field. Using this data, the optimum location of the GPR traverses can then be established for Site 3.

Soil Gas Survey. Soil gas surveys will be conducted at Site 1, Fire Training Area. The soil gas survey will be used to identify VOCs in suspected areas of contamination. Each point of the soil gas survey will be sampled and then screened with a Hewlett Packard 5890A GC or equivalent equipped with flame ionization detector (FID) and an ECD to detect fuel-related hydrocarbons and VOCs. The soil gas survey will help optimize the placement of soil borings during confirmation activities. Benzene, toluene, ethylbenzene, xylene, trichloroethylene, tetrachloroethylene, and 1-2 dichloroethylene will be the target compounds because of the identification in the PA of oils, fuels, and solvents as the primary materials of concern at both sites. Soil gas surveys will be conducted as discussed in Section 2.0 of the SAP.

Field OVA Screening. Subsurface soil samples collected during split-spoon sampling will be field screened with an OVA for an indication of total VOC content. Field screening will be a qualitative measurement of headspace VOC content using a consistent methodology specified in the SAP. OVA screening results will aid the selection of samples for field GC analysis and for confirmatory analytical samples. Samples will be selected for confirmation laboratory analysis based on field GC screening.

Table 3-1 Summary of Exploration and Sampling Program[1]
109th TAG New York Air National Guard
Scotia, New York

SITE NO.	SOIL GAS SURVEY	FIELD GC[2]	SOIL BORINGS	MONITORING WELLS	PIEZOMETERS	ANALYTICAL SAMPLES					
						SUBSURFACE SOIL	SURFACE SOIL	GROUNDWATER SAMPLES[3,4]	SURFACE WATER	SEDIMENT SAMPLES	SI-DERIVED WASTE
Site 1 - Fire Training Area											
Basic	50 pts	36	6	1	0	24	3	1	—	—	1
Optional	—	11	2	2	0	6	1	5	—	—	—
Site 2: Drum Storage Area											
Basic	—	20	4	1	0	12	3	2	—	—	1
Optional	No optional activities planned for Site 2 other than the collection of 2nd round of groundwater samples.										
Site 3 - Drum Burial Area											
Basic	—	8	0	1	0	0	3	1	1	3	1
Optional	—	5	0	2	0	0	3	5	—	—	—
Background	—	7	1	1	3	3	—	2	1	1	1
TOTAL											
Basic	50 pts	64	12	3	0	36	9	4	1	3	54
Optional	—	16	2	4	—	6	4	10	—	—	—
Background	—	7	1	1	3	3	—	2	1	1	1

1 This summary presents the maximum number of borings, piezometers, wells, and samples that are proposed for SI activities. Section 3.0 describes the exploration activities that may be eliminated based on site conditions.
2 This summary is based on four GC analyses of split-spoon samples per boring, one groundwater sample from each monitoring well, and three surface soil samples.
3 Sample totals do not include QA/QC samples for waste disposal criteria.
4 Optional optional groundwater samples include first round of sampling of optional monitoring wells and second round of sampling of all monitoring wells at the site.

Table 3-2a Summary of Analytical Program (Confirmation Activities)
109th TAG NYANG

SAMPLE SOURCE	MEDIUM	TCL-VOC	TCL-SVOC	TAL-INORGANICS	TPH	TCLP
Site 1 - Fire Training Area	Soil	27	27	27	27	1
	Water	1	1	1	1	---
Site 2 - Drum Storage Area	Soil	15	15	15	15	1
	Water	1	1	1	1	—
Site 3 - Drum Burial Area	Soil/Sediment	6	6	6	6	1
	Water	2	2	2	2	—
Background	Soil	4	4	4	4	1
	Water	2	2	2	2	---
SUBTOTAL OF SITES	Soil	52	52	52	52	4
	Water	6	6	6	6	1 composite
Field Duplicates	Soil	6	6	6	6	---
	Water	1	1	1	1	---
Equipment Rinseate Blanks[1]	Soil	6	6	6	6	---
	Water	2	2	2	2	---
Trip Blanks[2]	Water	14	---	—	—	—
Field Blanks[3]	Water	4	4	4	4	---
Matrix Spike (MS/MSD)	Soil	6	6	6	6	—
	Water	2	2	2	2	---
Waste Disposal Criteria Samples[4]	Soil	—	---	---	---	—
	Water	—	---	---	—	5
SUBTOTAL BY MEDIUM	Soil	70	70	70	70	---
	Water	29	15	15	15	---
TOTAL ANALYTICAL		99	85	85	85	5

1 All equipment rinseate blanks will be aqueous samples; some of these blanks are associated with the collection of soil samples (e.g., split-spoon sampler rinseate blank). 10% per matrix per event. Assume 3 matrix, one event.

2 One trip blank per cooler containing VOC samples. Number is approximate.

3 Source water blanks. Assume 2 sources, 2 events.

4 Numbers of SI-waste samples are approximate

Table 3-2b Summary of Analytical Program (Optional Activities)
109th TAG NYANG

SAMPLE SOURCE	MEDIUM	TCL-VOC	TCL-SVOC	TAL-INORGANICS	TPH	TCLP
TOTAL OF SITES[1]	Soil	10	10	10	10	—
	Water	10	10	10	10	—
Field Duplicates	Soil	3	3	3	3	—
	Water	2	2	2	2	—
Equipment Rinseate Blanks[2]	Soil	3	3	3	3	—
	Water	2	2	2	2	—
Trip Blanks[3]	Water	3	—	—	—	—
Field Blanks[4]	Water	0	0	0	0	—
Matrix Spike (MS/MSD)	Soil	2	2	2	2	—
	Water	2	2	2	2	—
Waste Disposal Criteria Samples[5]	Soil	—	—	—	—	—
	Water	—	—	—	—	0
SUBTOTAL BY MEDIUM	Soil	18	18	18	18	—
	Water	19	16	16	16	0
TOTAL ANALYTICAL		37	34	34	34	0

1 Total number of samples based on optional sampling activities summarized in Table 2-1.

2 All equipment rinseate blanks will be aqueous samples; some of these blanks are associated with the collection of soil samples (e.g., split-spoon sampler rinseate blank). 10% per matrix per event. Assume 3 matrix and 1 event for soils and 1 matrix per 2 events for groundwater.

3 One trip blank per cooler containing VOC samples. Number is approximate.

4 Assumes optional samples will be collected during confirmation sampling event(s).

5 Numbers of SI-waste samples are approximate.

Field GC Screening. Field GC screening results will be used to select soil samples to be analyzed by a laboratory for the parameters of concern and to assist in delineation of contamination. GC screening will allow in-field decisions regarding the placement of borings and monitoring wells. Soil samples will be selected for field GC screening based on OVA headspace readings. A Hewlett Packard 5890A GC or equivalent equipped with both an PID and an ECD as described in Section 2.4.2. The GC analyses will provide quantitative results for target analytes and qualitative results for non-target VOCs. These data will be of sufficient quality to characterize contamination distribution and support field decisions at each site.

3.1.2 Surface Soils, Sediments, and Surface Water

Surface soils will be sampled, based on the soil gas results, for a determination of potentially contaminated areas. Sediment and surface water samples will be collected to determine whether contaminants have migrated from the source area. Samples will be placed in areas of suspected contamination based on soil gas results and in areas of stained soils or stressed vegetation where soil borings will not be placed. Collection of surface soils, sediment, and surface water samples for chemical analyses are confirmatory activities. Sampling procedures are provided in Section 2.0 of the SAP.

Up to three surface soil samples from each of the three sites may be taken in areas where soil borings will not be placed (i.e., not accessible to drilling equipment). These may be taken within the 0 to 2.0 ft. interval of the soil borings or from surface locations not accessible by drilling equipment. The proposed surface soil sample locations are discussed in Sections 3.2, 3.3, 3.4, and 3.5.

Surface water and sediment samples will be taken from the drainage ditch adjacent to Site 3, Drum Burial Area, as discussed in Section 3.3. Three sediment samples will be taken, one upgradient and two downgradient from the site. One surface water sample will be taken at the weir in the ditch adjacent to the site. Samples will be analyzed for VOCs, SVOCs, TAL Inorganics, and TPH. Sites 1 and 2 are located such that surface water contamination would not be anticipated.

3.1.3 Soil Borings and Subsurface Soil Sampling

Soil borings will be used during confirmation activities to describe physical characteristics of the subsurface environment as well as to confirm and evaluate the presence and nature of contamination. During drilling, soil samples will be collected continuously to a depth of 10 feet, thereafter every five feet, for lithologic evaluation and laboratory analysis using split-spoon samplers and liners.

Borings will be conducted at two of the three sites: Site 1, Fire Training Area and Site 2, Drum Storage Area. The purpose of soil borings is to (1) collect geologic data to characterize the subsurface environment; (2) collect soil samples for field GC analysis to provide real time data regarding the nature and extent of contamination, if any, and assist in laboratory selection; and (3) obtain soil samples for laboratory analysis to document the nature and vertical and lateral extent of contamination. All borings will be advanced to auger refusal or bedrock. Available information suggests that the bedrock is approximately 10 to 20 feet below ground surface across the Base. Continuous split-spoon sampling will be performed to a depth of 10 feet, thereafter every five feet to obtain information regarding subsurface characteristics. Up to three samples per boring will be submitted for Level C laboratory analysis, including one surface sample and one at the water table or bedrock interface, whichever is encountered first. An optional sample may be sent to the lab based on field GC screening or other field observations.

Split-spoon samples will be screened with an OVA, and up to four samples per boring will be analyzed by the field GC. Samples selected for confirmation will be submitted for laboratory analysis. The number and placement of the soil borings at each of the two sites is discussed in Sections 3.2, 3.3, and 3.4.

The purpose of the field GC is to: (1) gather Level B data for use in determining extent of contamination; (2) determine if additional borings at a particular site are necessary for site characterization; (3) assist the selection of boring locations; and (4) aid in selection of soil samples for laboratory analysis. Based on field GC results, hydrogeologic conditions and the degree of site-specific contamination, borings may be added to the exploration program as optional activities under this SI WP. A limited number of optional borings will be drilled and subsurface samples collected if the limits of contamination at either site do not appear to have been completely evaluated by the initial borings. However, if the contamination appears to be much more extensive or complex than currently expected, further optional borings will not be completed, and the remainder of the investigation will be deferred to an RI/FS. The SAP specifies protocols for locating optional borings. Jordan's Field Team Leader (FTL) who will be on-site during drilling activities, will recommend implementation of optional activities to the Project Manager and will proceed only upon concurrence from the Project Manager and HAZWRAP Project Manager. The FTL will be familiar with the NGB IRP philosophy and rationale for extending the boring program. Jordan will also document the criteria used for decision.

3.1.4 Groundwater

Piezometers. Three 2-inch PVC piezometers will be installed at the Base north of each site. Following piezometer construction, the static water level will be allowed to equilibrate for a minimum of 24 hours before water level measurements are recorded. Each piezometer will be surveyed upon completion. All piezometers will be completed in the first water-bearing zone encountered, which is expected to be in the shallow bedrock aquifer. Piezometer construction, and development are detailed in Section 2.0 of the SAP.

Monitoring Wells. Groundwater monitoring wells screened across the water table will be installed at each site by a drilling subcontractor. The groundwater monitoring wells will be completed in the first water-bearing zone encountered during drilling, which is expected to be in the shallow bedrock aquifer. Additionally, one groundwater monitoring well will be installed in the northern portion of Base property to provide baseline groundwater data. During the drilling of the baseline monitoring well boring continuous split-spoon samples will be collected. Up to four will be sent to the field GC for field screening. Up to three soil samples will be submitted for laboratory analysis. The baseline monitoring well will also serve as a baseline piezometer for use in determining Base-wide groundwater flow direction. The number and locations of wells proposed for each site are discussed in Sections 3.2, 3.3, and 3.4 and 3.5. All monitoring well locations presented in this SI WP and in the SAP are considered tentative. Actual locations will be determined based on groundwater flow data obtained from piezometers, and on results from field screening of soils to assure that placement is not within a contaminated area. Monitoring well construction is detailed in Section 2.0 of the SAP. NYSDEC monitoring well installation and construction guidelines have been considered. The disposition of drill cuttings is described in Section 2.6 herein.

Aquifer Characterization and Receptor Analysis. In-situ permeability tests (slug tests) will be performed on all monitoring wells installed during the SI to provide information on the water-bearing characteristics of the bedrock. Section 2.0 of the SAP outlines aquifer testing methodology to be used in conducting

slug tests. Information obtained from this testing will be used to assess potential groundwater migration pathways for use in the PRE.

Water level data obtained from all available measuring points at the Base will be used in development of a comprehensive groundwater table map or, as the case may be, a map of perched water zones. The map will be used to evaluate Base-wide hydraulic gradients. Combined with the information obtained from slug tests, an average rate of groundwater flow across each site will be estimated. This will contribute to the understanding of potential migration pathways and potential receptors, as described in Section 1.4.1.1, PRE.

3.1.5 Air

Air sampling will not be performed as part of the SI field activities. However, air quality will be monitored in work areas for health and safety considerations as presented in Section 4.0 of the SAP.

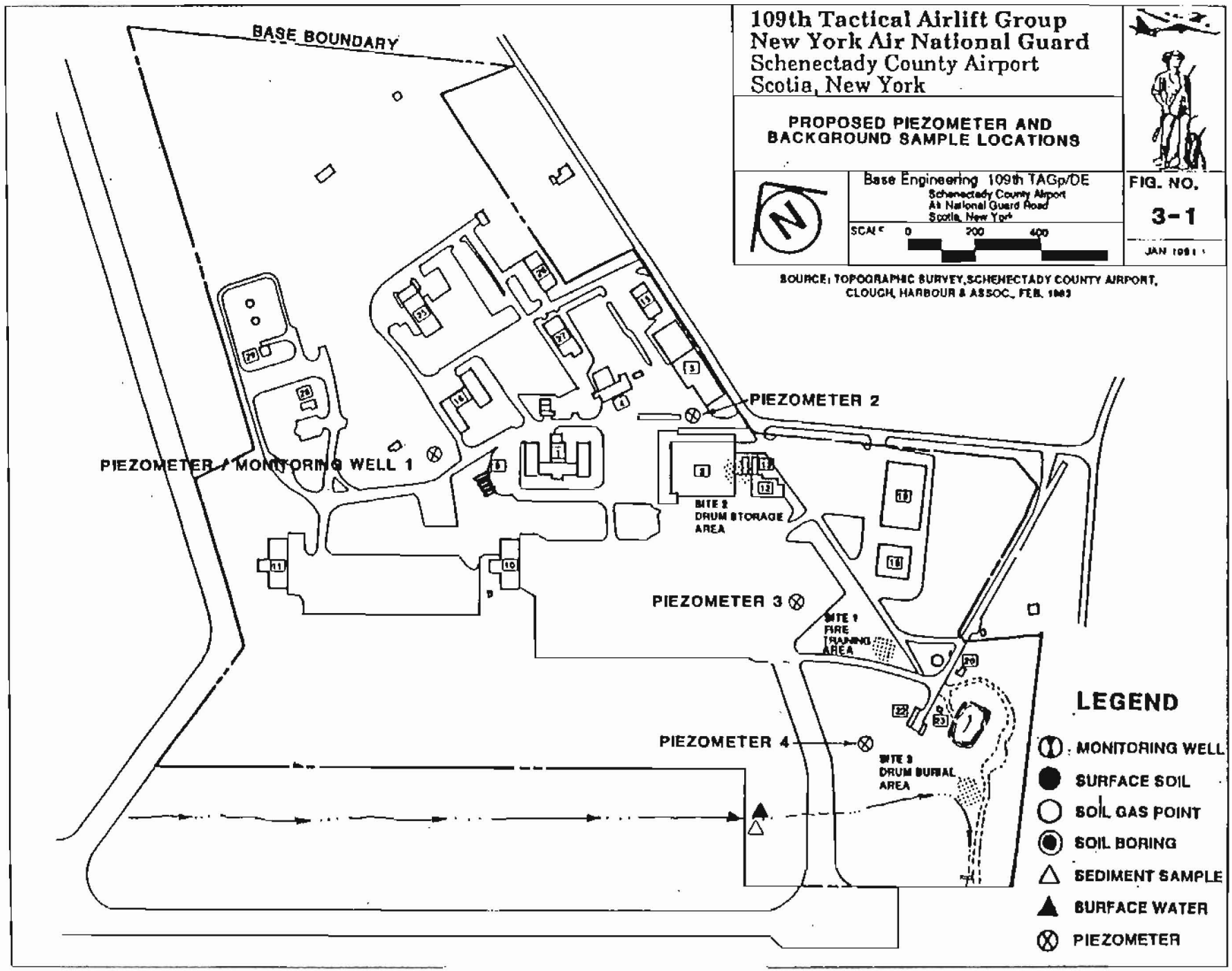
3.1.6 Background Conditions

Certain field activities to be conducted during the SI are included to document background conditions of soils and groundwater at areas unaffected by the sites. A soil boring will be conducted in an area to the north of all three sites to characterize background soil conditions. Continuous split-spoon sampling will be conducted and up to four subsurface soil samples will be screened with the field GC. Up to three subsurface soil samples will be selected for laboratory analysis based on field GC data. A groundwater monitoring well will be constructed in this soil boring. This groundwater monitoring well will provide Level C data and will serve as a point for groundwater level measurement. Three baseline piezometers will be installed to obtain water level measurements. Additionally, one background sediment sample and one background surface water sample will be collected from the drainage ditch, which passes through the Base property. These samples will be collected near where the ditch enters the Base property. Proposed locations of the baseline groundwater monitoring well, piezometers and background sample locations are shown on Figure 3-1. One background soil sample and one background groundwater sample will be field screened with the GC. Background samples will be submitted to the laboratory for analysis of TPH, VOCs, SVOCs, and TAL inorganics. Analyses will use Level C QA/QC protocol.

3.2 SITE 1 - FIRE TRAINING AREA

3.2.1 Site Description

The Fire Training Area is located approximately 300 feet west of Building 18 (see Figure 1-2). An average of 11 training exercises was held at this location each year from about 1951 to 1960. The Fire Training Area consisted of an unlined circular area with an earthen berm. The Fire Training Area was abandoned in 1960 because of its small size and its proximity to the Base and private residences. An estimated 100 to 200 gallons of aviation gasoline or JP-4 jet fuel were used for each fire training exercise. In addition to aviation gasoline and JP-4 jet fuel, flammable liquids from the Base shops, such as waste oil, PD-680 solvent, and paint thinners, were also burned at the Fire Training Area. The fuel was not floated on water prior to burning. During the early years of base operation, between 9,000 and 18,000 gallon of flammable liquids were burned. Assuming 70 percent of the fuel burned, between 2,700 and 5,400 gallons may have remained to soak into the soils at this site. These estimates exclude subsequent biodegration or evaporation that may have occurred. No visible signs of contamination are evident at the site.


109th Tactical Airlift Group
New York Air National Guard
Schenectady County Airport
Scotia, New York
PROPOSED PIEZOMETER AND BACKGROUND SAMPLE LOCATIONS
Base Engineering 109th TAGp/DE
Schenectady County Airport
Air National Guard Road
Scotia, New York
SCALE 0 200 400
FIG. NO. 3-1
JAN 1991
SOURCE: TOPOGRAPHIC SURVEY, SCHENECTADY COUNTY AIRPORT, CLOUGH, HARBOUR & ASSOC., FEB. 1983
BASE BOUNDARY
PIEZOMETER 2
PIEZOMETER 1 / MONITORING WELL 1
SITE 2 DRUM STORAGE AREA
PIEZOMETER 3
SITE 1 FIRE TRAINING AREA
PIEZOMETER 4
SITE 3 DRUM BURIAL AREA
LEGEND
MONITORING WELL
SURFACE SOIL
SOIL GAS POINT
SOIL BORING
SEDIMENT SAMPLE
SURFACE WATER
PIEZOMETER

3.2.2 Investigation Assumptions and Rationale

The investigation proposed for Site 1, Fire Training Area, is based on information obtained from the PA, the Kickoff meeting, and the site visit conducted by Jordan on November 27, 1990. As stated in the site description above (Section 3.2.1), the potential exists for residual contamination of soils at the Fire Training Area. Additionally, the boundaries of the site are difficult to discern. A soil gas survey is proposed to screen the general area of the Fire Training Area to assist in location of site boundaries and to assess the nature and extent of contamination, if any. Surface and subsurface soil will be sampled and analyzed to provide additional information regarding the nature and extent of any residual contamination. Combined with information regarding physical and chemical characteristics of the soil, piezometer data will be used to determine a suitable location for a downgradient monitoring well. Groundwater sampling and analysis will determine whether or not the site is adversely affecting groundwater quality.

3.2.3 Task Description

The exploration and sampling program at Site 1 will consist of the following activities (Figure 3-2):

Screening

- Soil gas survey of up to 50 soil gas points to identify areas of contamination and determine locations for soil borings and aid in placement of monitoring wells;
- Field screening, using an OVA, of all continuous split-spoon samples from up to 8 borings;
- Field GC screening of up to 32 soil samples;
- Field GC screening of 3 surface soil samples; and
- Field GC screening of a groundwater sample.

Confirmation

- Installation and sampling of eight soil borings to evaluate the lateral and vertical distribution of potential contaminants in the subsurface, if any;
- Laboratory analysis of a minimum of 24 subsurface soil samples, where selection is based on field GC data, OVA readings, and field observations;
- Installation and development of one groundwater monitoring well downgradient of the site to evaluate potential groundwater contamination; and
- Groundwater sampling and subsequent laboratory analysis of groundwater samples.

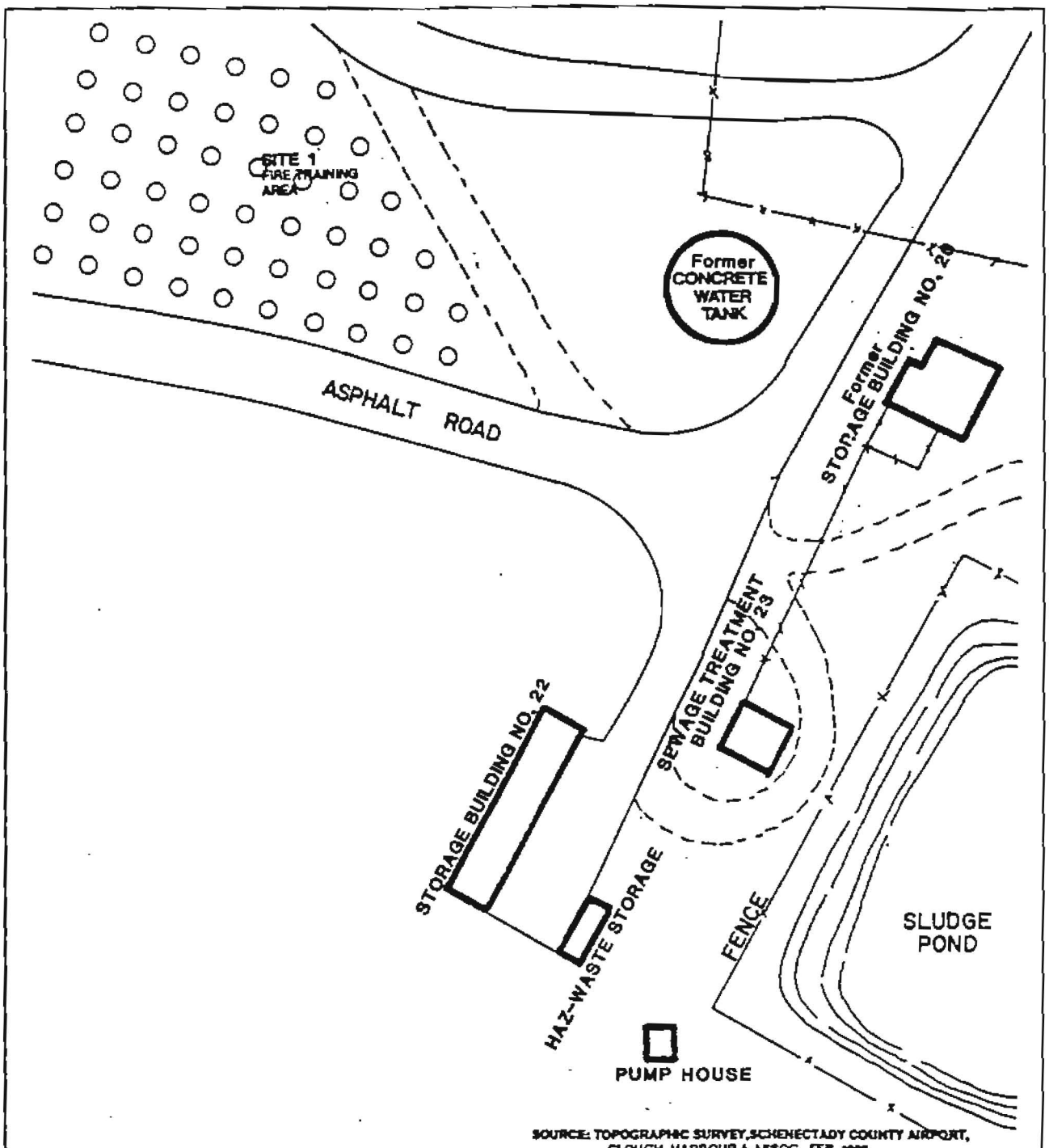
The precise location of the Fire Training Area is not apparent from present site surface conditions, nor was it determined in the PA. Therefore, a soil gas survey consisting of up to 50 sample points will be performed to screen the area shown in Figure 3-3 for VOCs. If found, the concentration and distribution of VOCs in the soil will indicate the boundaries of the Fire Training Area. Soil gas data will be used to determine the appropriate placement of soil borings.

Up to three surface soil samples may be collected at Site 1. Figure 3-4 shows the proposed surface soil sample locations. Actual locations will be selected based on soil gas data, OVA and GC data, and field observations. Surface soil samples will be screened for VOC content with the field GC. Laboratory analysis of surface soil samples will be performed to measure concentrations of TPH, VOCs, SVOCs, and TAL Inorganics. Tables 3-1 and 3-2 summarize the sampling and analytical program, respectively, for the site. Eight soil borings will be drilled as part of confirmation activities at Site 1. Proposed locations of these soil borings are shown in Figure 3-3. Boring locations will be finalized based on results from the soil gas survey and actual site conditions such as access, utilities, and structure locations. Each soil boring will be extended to auger refusal or bedrock. Soil samples will be obtained continuously in two-foot sections until reaching a depth of 10 feet. At this depth, split-spoon samples will be collected at five foot intervals. An OVA will be used to screen soil from each split-spoon for headspace VOC content. Up to 32 subsurface samples will be screened for VOCs with the field GC. At least 24 subsurface soil samples will be submitted to the laboratory for analysis. These confirmation samples will be selected based on VOC content as indicated by field GC data, OVA readings, and field observations to confirm the presence or absence of contamination. Up to three samples per boring will be submitted for Level C laboratory analysis, including one surface sample and one at the water table or bedrock interface, whichever is encountered first. An optional sample may be sent to the lab based on field GC screening or other field observations. Laboratory analysis will include TPH, VOCs, SVOCs, and TAL Inorganics. Tables 3-1 and 3-2 summarize the sampling and analytical program respectively for Site 1.

One permanent monitoring well will be installed and sampled downgradient of Site 1 as part of the confirmation activities. The proposed location of this monitoring well is shown in Figure 3-4. Actual location will be based on piezometer data, soil gas data, and actual site conditions such as access, utilities, and interfering structures. The monitoring well will be screened across the water table. One groundwater sample will be screened with the field GC for purposes of making an expedient decision regarding the need for and placement of optional monitoring wells. Laboratory analyses will include VOCs, TPH, SVOCs, and TAL Inorganics. Tables 3-1 and 3-2 summarize the sampling and analytical program at the site. Groundwater flow data obtained from piezometers will assist in selection of the location of the downgradient monitoring well. Monitoring well development will be in accordance to procedures described in Section 2.0 of the SAP. The monitoring well will be sampled for confirmation no earlier than two weeks after development.

3.2.4 Decision Point

Results from analytical data generated during field activities at Site 1 will be used to make decisions regarding the next step within the NGB IRP process. If no contamination is apparent, a no further action recommendation will be presented in a DD. If either soil or groundwater contamination is indicated, optional soil borings and/or optional downgradient monitoring wells may be installed for further evaluation, as discussed below in Section 3.2.5, Follow-Up Optional Tasks. The number and locations of any optional activities will be determined based upon information gained during screening and confirmation activities. Analytical data obtained from these optional activities will aid in further characterization of potential contamination at the site. If contamination is confirmed, a PRE will be



SOURCE: TOPOGRAPHIC SURVEY, SCHENECTADY COUNTY AIRPORT, CLOUGH, HARBOUR & ASSOC., FEB. 1983

LEGEND

- MONITORING WELL
- SURFACE SOIL
- SOIL GAS POINT
- SOIL BORING
- SEDIMENT SAMPLE
- SURFACE WATER

109th Tactical Airlift Group
New York Air National Guard
Schenectady County Airport
Scotia, New York

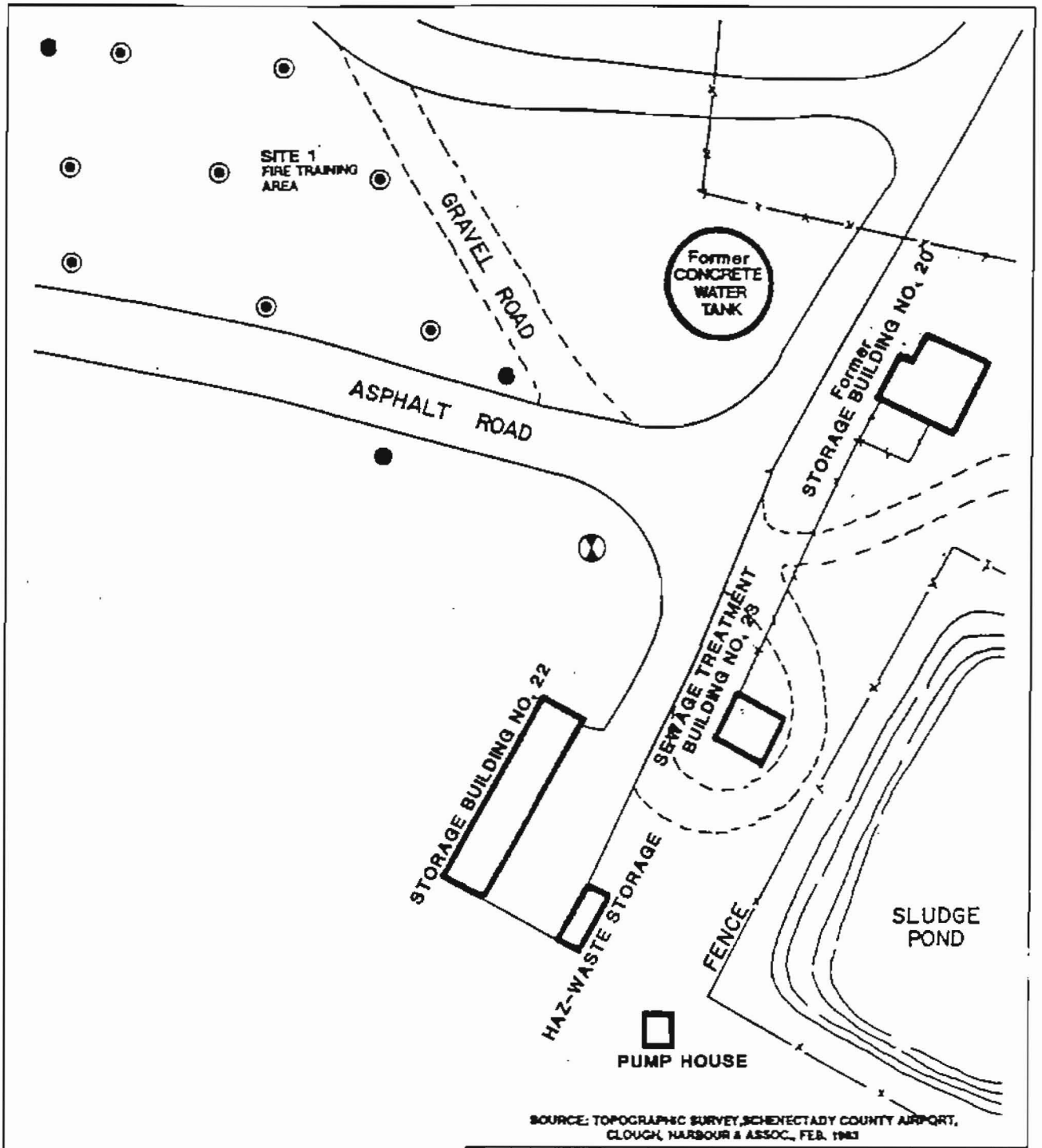
SITE 1 - FIRE TRAINING AREA
PROPOSED SAMPLING LOCATIONS FOR SOIL GAS SURVEY

Base Engineering 109th TAGp/DE
Schenectady County Airport
Air National Guard Road
Scotia, New York

SCALE 0 25 50 75

FIG. NO. 3-3

JAN 1991



SOURCE: TOPOGRAPHIC SURVEY, SCHENECTADY COUNTY AIRPORT, CLOUGH, HARBOUR & ASSOC., FEB. 1983

LEGEND

- MONITORING WELL
- SURFACE SOIL
- SOIL GAS POINT
- SOIL BORING
- SEDIMENT SAMPLE
- SURFACE WATER

109th Tactical Airlift Group
New York Air National Guard
Schenectady County Airport
Scotia, New York

SITE 1 - FIRE TRAINING AREA
PROPOSED SAMPLE LOCATIONS

Base Engineering 109th TAGp/DE
Schenectady County Airport
Air National Guard Road
Scotia, New York

SCALE 0 25 50 75

FIG. NO. 3-4

JAN 1991

performed. Results from the investigation of Site 1 will be presented in the SI Report along with recommendations as to the disposition of Site 1.

3.2.5 Follow-Up Optional Tasks

Any one or all of the optional tasks discussed in the following paragraphs and summarized in Table 2-1 may be initiated when a need is demonstrated for additional information in support of the PRE and/or the decision-making process. Similarly, optional tasks would be warranted if certain areas in or around the site require confirmation or disaffirmation of suspected contamination based on previous screening activities. If screening and/or confirmation activities indicate contamination is much more extensive or complex than originally expected, further characterization may be deferred to an RI/FS. Prior to initiation or deferral of optional tasks, the Jordan Project Manager will contact the HAZWRAP Project Manager for concurrence on the decision.

As many as two additional soil borings may be conducted at areas within or around the site. Up to three subsurface soil samples will be obtained from each optional boring. One additional surface soil sample may be collected in an area of concern, such as a stained area or at the periphery of the suspected limit of surficial contamination. These samples will be submitted for laboratory analysis of TPH, VOCs, SVOCs, and TAL Inorganics.

3.3 SITE 2 - DRUM STORAGE AREA

3.3.1 Site Description

The area between Buildings No. 12 and 13 was identified as a storage area where drums of both new and waste PS-661 and PD-680 solvent were stored in the 1950s and 1960s. Drums of waste oil were also stored in this area. Small spills resulting from day-to-day operations were reported to have occurred in this area. The area was originally bare soil, but most of the site was paved with asphalt in 1958. A portion of the site is covered with crushed stone.

3.3.2 Investigation Assumptions and Rationale

The proposed SI for Site 2, Drum Storage Area, is based on the understanding that small quantities of stored material spilled and that no spills have occurred in this area since about 1960. With regard to groundwater monitoring, the investigation is based on the absence of groundwater upgradient of the site. Groundwater flow is assumed to be toward the Mohawk River.

3.3.3 Task Description

The exploration and sampling program at Site 2 will consist of the following activities (Figure 3-5):

Screening

- Field screening, using an OVA, of all continuous split-spoon samples from four borings conducted to bedrock;
- Field GC screening of up to 16 subsurface soil samples;

- Field GC screening of one groundwater monitoring well sample; and
- Field GC screening of surface soil samples;

Confirmation

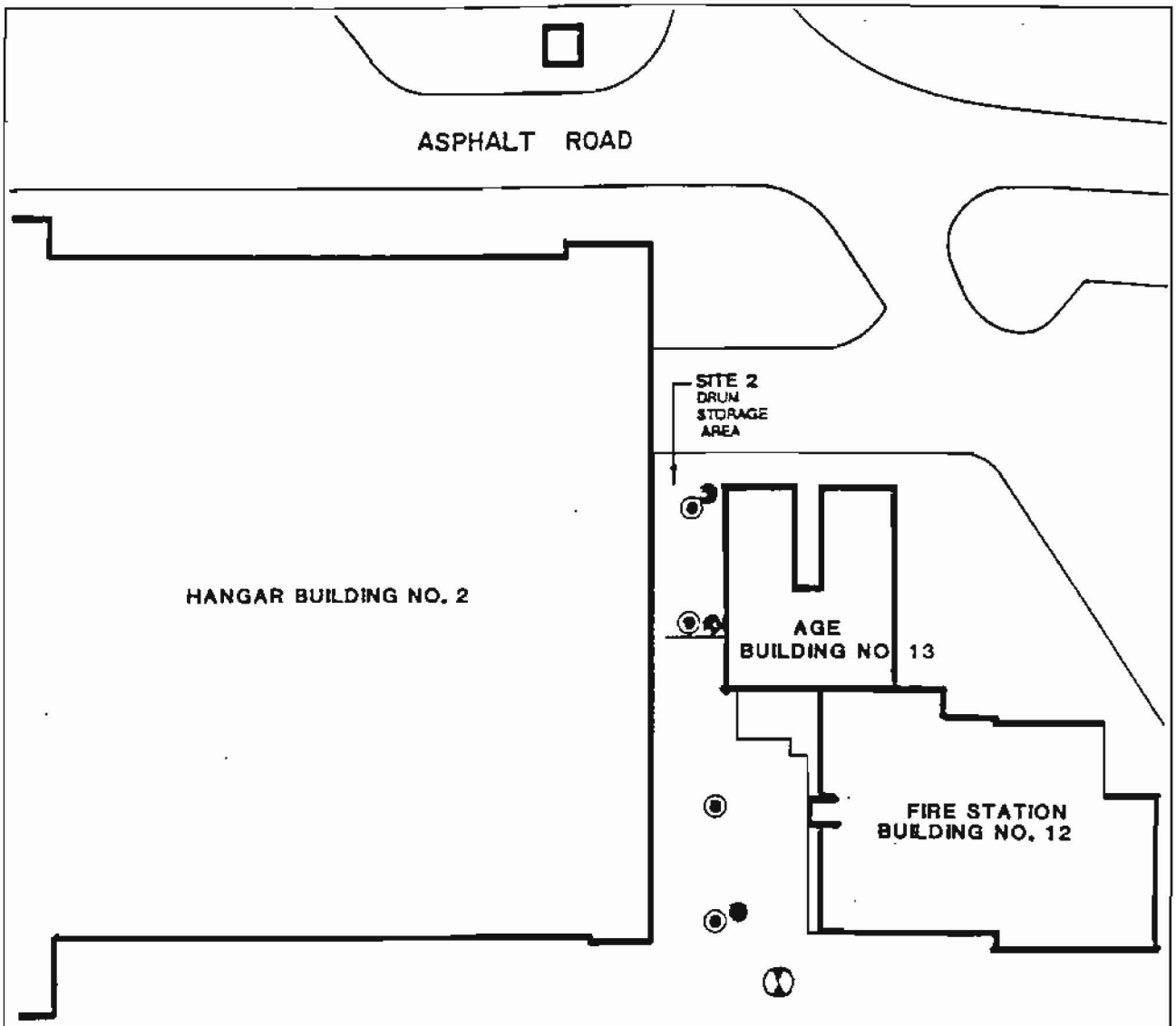
- Laboratory analysis of a up to 12 subsurface soil samples with up to three soil samples per boring, including one surface sample and one at the water table or bedrock interface, whichever is encountered first;
- Collection and laboratory analysis of up to 3 surface soil samples;
- Installation and development of one monitoring well downgradient of site; and
- Groundwater sampling and laboratory analysis of one groundwater sample.Up to three surface soil samples may be collected at Site 2. Figure 3-6 shows proposed surface soil sample locations. These locations may be adjusted to address specific areas of concern. Surface soil samples will be screened for VOC content with the field GC. Laboratory analysis of each sample is to include TPH, VOCs, SVOCs, and TAL Inorganics. Tables 3-1 and 3-2 summarize the sampling and analytical programs, respectively, for this site.

Confirmation activities at Site 2 will include four soil borings. Proposed locations of the borings are shown in Figure 3-6. It is anticipated that one of the four borings will be located in the area covered by crushed stone. The other three borings will be located in paved areas outside the area covered by stone. Actual boring locations will be based on obtaining clearances and access to the site.

Each soil boring will be extended to auger refusal or bedrock. Soil samples will be obtained continuously in 2-foot sections until reaching a depth of 10 feet. Thereafter split-spoon sampling will be conducted every five feet. An OVA will be used to screen soil from each split-spoon for headspace VOC content. Up to 16 subsurface soil samples will be screened for VOCs with the field GC. Up to 12 subsurface soil samples will be submitted to the laboratory for analysis. These laboratory samples will be selected based on VOC content as indicated by field GC data, OVA readings, and field observations to confirm the presence or absence of contamination. The soil sample from the bedrock/soil interface and surface sample will always be included in confirmation samples to document conditions at the surface and bedrock interface. Laboratory analysis will include TPH, VOCs, SVOCs, and TAL Inorganics. Tables 3-1 and 3-2 summarize the sampling and analytical programs, respectively, for Site 2. One monitoring well will be installed and sampled downgradient of the site as part of the confirmation activities. The proposed location of this monitoring well is shown in Figure 3-6. Actual location will be based on piezometer data, clearance for drilling operations, and site access. The monitoring well will be screened across the surface of the first water-bearing zone. One groundwater sample will be screened with the field GC for evaluating the need to include optional activities at Site 2. Laboratory analysis will include VOAs, TPH, SVOCs, and TAL Inorganics. Tables 3-1 and 3-2 summarize the sampling and analytical programs, respectively, for Site 2.

3.3.4 Decision Point

Analytical data generated during field activities will be used to make decisions regarding the next step within the NGB IRP process. If contamination is not apparent, a "no further action" recommendation



SOURCE: TOPOGRAPHIC SURVEY, SCHENECTADY COUNTY AIRPORT, CLOUGH, HARBOUR & ASSOC., FEB. 1983

LEGEND

- MONITORING WELL
- SURFACE SOIL
- SOIL GAS POINT
- SOIL BORING
- SEDIMENT SAMPLE
- SURFACE WATER

109th Tactical Airlift Group
New York Air National Guard
Schenectady County Airport
Scotia, New York

SITE 2 - DRUM STORAGE AREA
PROPOSED SAMPLING LOCATIONS

Base Engineering 109th TAGp/DE
Schenectady County Airport
Air National Guard Road
Scotia, New York

SCALE 0 25 50 75

FIG. NO.
3-6

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will be presented in a DD. If either soil or groundwater contamination is indicated, additional soil borings and/or optional downgradient monitoring wells may be installed for further evaluation. The nature of any optional activities will be determined from information gained during screening and confirmation activities. Analytical data obtained from these optional activities will aid in further evaluation of the potential extent of contamination. If contamination is confirmed, a PRE will be performed. Results will be presented in the SI Report along with recommendations as to the disposition of Site 2. Jordan believes that because of the small amount of solvents that may have spilled; the fact that essentially the entire site has been covered for over 30 years, thereby reducing infiltration and exposure; and the limited areal extent of the site, optional activities will not be required, and that the site will require no further action.

3.3.5 Follow-Up Optional Tasks

There are no optional tasks planned for Site 2, except a second round of groundwater sampling. If contamination does exist, optional activities that may be included in this investigation include additional borings, installation of additional monitoring wells, groundwater sampling, subsurface soil sampling, surface soil sampling, and analyses. Any one, or all, of the above optional activities will be initiated when a need is demonstrated for additional information in support of the PRE and/or the decision-making process. Optional activities will be initiated only at the express written approval of the HAZWRAP Project Manager.

3.4 SITE 3 - DRUM BURIAL AREA

3.4.1 Site Description

Site 3 was added to the SI program following the discovery of buried drums during Base construction activities, as described in Section 1.3.2, Initial Evaluation. The site location is shown in Figure 1-2. The drums contained oily liquid, and analysis showed the presence of toluene. The material also failed the EP Toxicity extraction test for lead and selenium. Interviews with Base personnel involved with operations during the 1950s and 1960s indicated that a wide variety of materials may have been disposed of in this area and that the drums discovered may represent only the edge of the old burial area. Buried materials may include drums and/or containers of oil, fuel, solvents, and paint; vehicles; possibly asbestos; and construction debris. Magnetron tubes may have been discarded in this area. The magnetron tubes are a source of low-level radiation from isotopes such as cesium-137, cobalt-60, krypton-85, nickel-63, and rhenium-186. The extent of buried material is not known.

3.4.2 Investigation Assumptions and Rationale

The proposed SI program for Site 3, Drum Burial Area, is based on information obtained from the Administrative Record and interviews provided by Base personnel. The lateral and vertical extent of the burial area is unknown. Little information is available regarding materials buried at the site. Potential contaminants include solvents, fuel- and oil-related compounds, metals, and low-level radioactive isotopes. The laboratory program (summarized in Table 3-2) has been developed to address the potential contaminants listed herein.

The surface soil, sediment, and surface water sampling activities have been developed on the assumption that no significant contamination exists from low-level radioactive isotopes. If it is determined from

screening activities that radioactive contamination does exist radiation is measured above the threshold value of and 2mR/hr, operations at Site 3 will cease (see Section 3.4.3).

The groundwater investigative activities have been developed on the assumption that no significant groundwater contamination exists upgradient of the burial site and that groundwater flow is generally toward the Mohawk River.

3.4.3 Task Description

The exploration and sampling program for the SI at Site 3, Drum Burial Area, consists of the following (Figure 3-7):

Screening

- magnetometer survey and GPR to delineate the limits of buried material;
- field screening, using an OVA, of three surface soil and three sediment samples;
- field GC screening of 1 surface water sample;
- field GC screening of one groundwater monitoring well sample; and
- field screening for low levels of radioactive material.

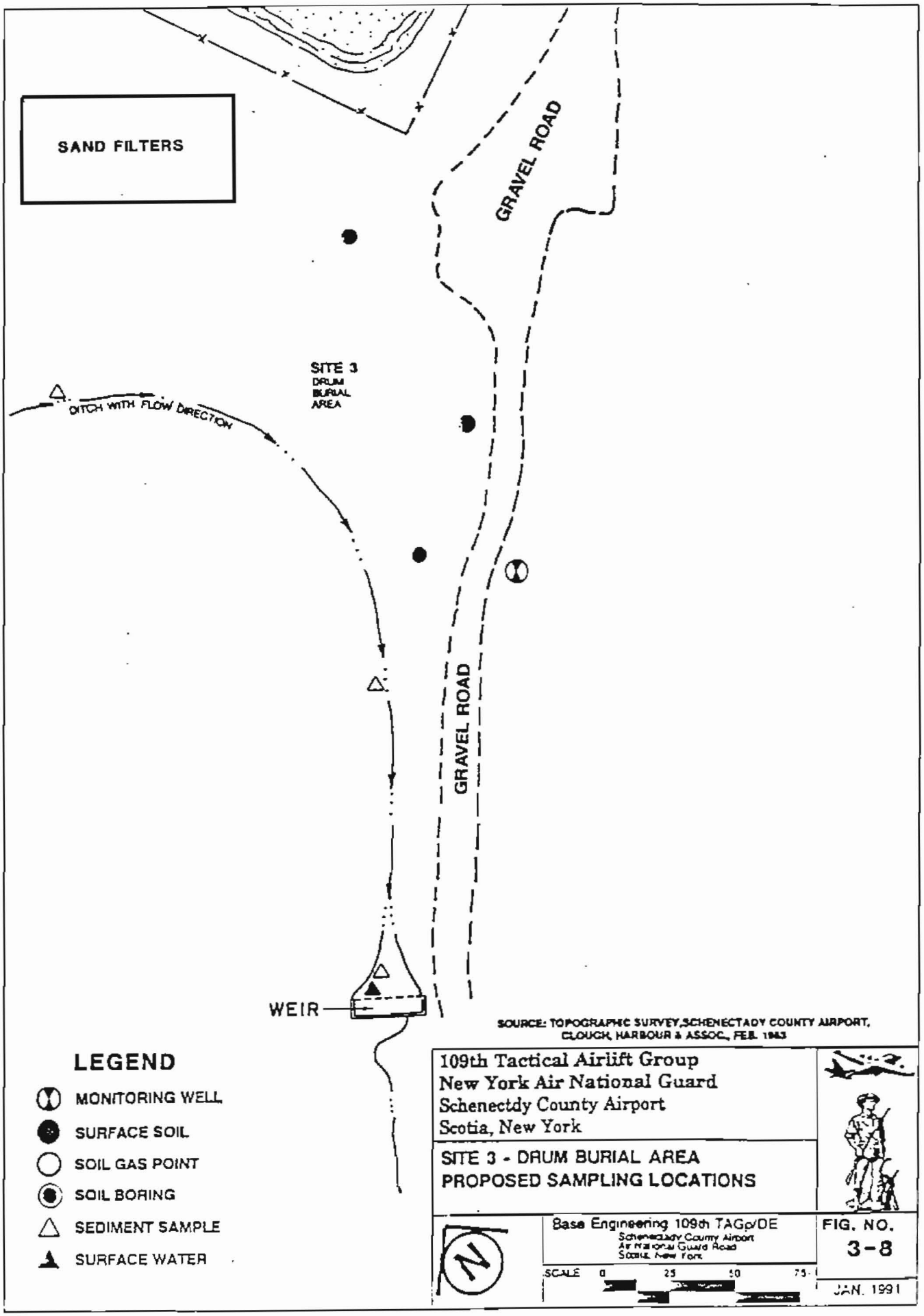
Confirmation

- collection and laboratory analysis of surface soil, sediment, and surface water samples;
- installation and development of one monitoring well downgradient of the site; and
- groundwater sampling and subsequent laboratory analysis of groundwater samples.

Three surface soil samples, three sediment samples, and one surface water will be collected at Site 3. Figure 3-8 shows proposed sample locations. These locations are tentative and may be changed to address areas of concern such as stained soil. All six samples will be screened for VOC content with the field GC and for radioactivity with a Geiger Muller detector. If no radioactivity is detected, laboratory analysis of each sample is to include VOCs, SVOCs, TPH, and TAL Inorganics. In the event that radioactivity is detected above the threshold value of 2 mR/hr during field operations at Site 3, all sampling activities will cease at this site. In this event, solicitation of bids for subcontractor services and the drafting of a detailed sampling plan, as outlined below, would be conducted after the need for such a program is established.

Sampling Program for Confirmed Presence of Low-Level Radioactive Material

Jordan would prepare a sampling plan to address the health and safety concerns of working with gamma and beta radiation. Standards and procedures that comply with promulgated Federal regulation of


SAND FILTERS
GRAVEL ROAD
SITE 3
DRUM
BURIAL
AREA
DITCH WITH FLOW DIRECTION
GRAVEL ROAD
WEIR
SOURCE: TOPOGRAPHIC SURVEY, SCHENECTADY COUNTY AIRPORT, CLOUGH, HARBOUR & ASSOC., FEB. 1983
LEGEND
MONITORING WELL
SURFACE SOIL
SOIL GAS POINT
SOIL BORING
SEDIMENT SAMPLE
SURFACE WATER
109th Tactical Airlift Group
New York Air National Guard
Schenectdy County Airport
Scotia, New York
SITE 3 - DRUM BURIAL AREA
PROPOSED SAMPLING LOCATIONS
Base Engineering 109th TAGp/DE
Schenectady County Airport
Air National Guard Road
Scotia, New York
SCALE 0 25 50 75
FIG. NO.
3-8
JAN. 1991

10 CFR 20 would be required. Regulations governing exposure of field personnel, site management, record keeping, and public notification would be addressed. Detailed plans of decontamination procedures and personnel monitoring would be drafted. Jordan would maintain the option of solicitation of bids and contracting a subcontractor to complete sampling efforts at this site.

Sample Containers and Sample Shipping

Samples will be transported to the contracted laboratory according to Federal protocols specified in 49 CFR 170-189. Selection of sample containers, and procedures for sample labeling, packaging, and shipment will be developed in an optional sampling plan. Samples would be shipped by a NRC-licensed subcontractor.

Laboratory Services

Special analytical services will be required for all samples from Site 3. In addition to characterization of radioactivity, the contracted laboratory will perform all other chemical analyses for samples as outlined in Table 3-2. Jordan would solicit bids from laboratories qualified for CLP method analyses of radioactive samples. At the present time, no laboratories which meet HAZWRAP requirements and are available for use by Jordan under this program accept radioactive samples or potentially radioactive samples.

Soil borings are not being advanced in Site 3 because of the possibility of puncturing a drum, uncertainty about the contents in the burial area, and health and safety concerns.

One monitoring well will be installed and sampled downgradient of the site as part of the confirmation activities. The proposed location of this monitoring well is shown in Figure 3-8. Actual location will be based on piezometer data, clearance for drilling operations, and site access. The monitoring well will be screened across the surface of the first water-bearing zone. One groundwater sample will be screened with the field GC for evaluating the need to include optional activities at Site 3. Laboratory analysis will include VOCs, TPH, SVOCs, and TAL Inorganics. Tables 3-1 and 3-2 summarize the sampling and analytical programs, respectively, for Site 3.

3.4.4 Decision Point

Field results and analytical data generated during the SI will be used to direct Site 3 toward the next step within the IRP process. If no contamination is apparent, a no further action recommendation will be presented in a DD. If either soil or groundwater contamination is indicated, additional soil borings and/or optional downgradient monitoring wells may be installed for further evaluation. If at any time during the investigation radioactivity is detected above threshold values, all sampling activities will cease. The number and locations of any optional activities will be determined based upon information gained during screening and confirmation activities. Analytical data obtained from these optional activities will aid in further evaluation of the potential extent of contamination. If contamination is confirmed, a PRE will be performed. Results from the PRE and field investigation will be presented in the SI Report along with recommendations as to the disposition of Site 3.

3.4.5 Follow-Up Optional Tasks

Optional tasks that may be included in this investigation include installation of two additional monitoring

wells and collection of three additional surface soil samples. Any one or all of the above optional activities will be initiated when a need is demonstrated for additional information in support of the PRE and/or the decision-making process.

5.3.3 Local Elected Officials

Mayor Karen B. Johnson City Hall 105 Jay Street Schenectady, NY 12305 (518) 382-5000	Robert McEvoy County Manager 620 State Street Schenectady, NY 12305 (518) 382-5000
John F. Ryan, Jr. Town Supervisor 18 Glenridge Road Glenville, NY 12302 (518) 384-3525	Nelson L. Austin Town Clerk 18 Glenridge Road Glenville, NY 12302 (518) 384-3525

5.3.4 City Council Members

Thomas Isabella Thomas Hannaway David Nowak James Conroy Frank Duci Albert Jurczynski Augustus Bessinger	c/o City Clerk's Office City Hall Room 107 Jay Street Schenectady, NY 12305 (518)382-5089

5.3.5 Town Council Members

Charles W. Gilgore Fredric K. Lindsay Sarah K. Harrison Charles A. MacFarlane Robert A. Moore, Town Attorney	Town Clerk's Office 18 Glenridge Road Glenville, NY 12302 (518) 384-3525

5.3.6 Federal Regulatory Agencies

John Gorman
USEPA, Region 2
26 Federal Plaza
New York, NY 10278
(212) 264-7613

5.3.7 State Regulatory Agencies

Daniel Lightsey
Region 4 Headquarters
NYSDEC
2176 Guilderland Avenue
Schenectady, NY 12305
(518)382-0680

Stanley J. Kilmer
New York State Department of Health
Bureau of Environmental Exposure Investigation
2 University Place, Room 205
Albany, NY 12205
(518) 458-6306

5.3.8 Local Environmental Organizations

Capitol Region Audubon Society P.O. Box 487 Latham, NY 12110 ATTN: David Gibson (518) 377-1452	Sierra Club N.E. Office 360 Broadway Saratoga Springs, NY ATTN: Christian Ballantyne (518)587-9166	ECOS Aquaduct Road Schenectady, NY (518) 370-4125

5.3.9 Local Television Stations

WTEN 341 Northern Boulevard Albany, NY 12204 (518) 436-4822	WNYT P.O. Box 4035 Albany, NY 12204 (518) 436-4791	WRGB 1400 Balltown Road Schenectady, NY 12309

5.3.10 Local Radio Stations

WGY 1410 Balltown Road Schenectady, NY 12309 (518) 381-4800	WQBK Smutz Road Glenmont, NY 12077 (518) 462-5555	WROW 341 Northern Boulevard Albany, NY 12204 (518) 436-4841
WPTR/WFLY 4243 Albany Street Albany, NY 12212 (518) 456-1144	WVKZ Center City, State Street Schenectady, NY 12305 (518) 370-5386	WKAJ/WQQY West Avenue Saratoga Springs, NY 12866 (518) 584-1610584-

5.3.11 Local Publications

The Daily Gazette 2345 Maxon Road Schenectady, NY 12308 (518) 374-4141	The Times Record 501 Broadway Troy, NY 12181 (518) 272-2000	Albany Times Union Box 15000, News Plaza Albany, NY 12212 (518) 447-6691	The Legislative Gazette c/o Prof. Glenn C. Doty P.O. Box 7023 Albany, NY 12225 (518) 473-9732
Saratogian 20 Lake Avenue Saratoga Springs, NY 12866 (518) 584-4242	The Recorder 1 Venner Road Amsterdam, NY 12010 (518)843-1100	Niskayuna Journal P.O. Box 9229 Schenectady, NY 12309 (518) 399-2831	Mohawk Valley Democrat c/o Sally Taylor 2 East Main Street Fonda, NY 12068 (518) 853-4210