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**NO FURTHER ACTION DECISION UNDER
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**STUDY AREA 43R
HISTORIC GAS STATION SITES
FORT DEVENS, MASSACHUSETTS**

CONTRACT DAAA15-91-D-0008

**U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND**

JANUARY 1995

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HISTORIC GAS STATION SITES
FORT DEVENS, MASSACHUSETTS**

Prepared for:

U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-0008

Prepared by:

ABB Environmental Services, Inc.
Portland, Maine
Project No. 7053-12

JANUARY 1995

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FORT DEVENS, MASSACHUSETTS**

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

REFERENCES

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EXECUTIVE SUMMARY

Investigations of Study Area 43R (Historic Gas Station Site) at Fort Devens, Massachusetts have resulted in the decision that no further hazardous waste studies or remediation are required at this site. Study Area 43R was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on December 21, 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, an Enhanced Preliminary Assessment, and a Site Investigation, have been conducted which address Study Area 43R.

Field investigation of Study Area 43R was initiated in 1992 in conjunction with the other 12 Groups 2, 7, and Historic Gas Stations Study Areas at Fort Devens. The Study Area 43R site investigation consisted of a geophysical survey program, TerraProbe points to collect subsurface soil and soil gas samples, field analysis of these soil and soil gas samples, and one soil boring to collect soil samples for laboratory analysis.

The geophysical surveys determined that one abandoned underground storage tank was present at the site. This tank was removed by ATEC Environmental Consultants on June 26, 1992. ATEC performed field screening for volatile organic compounds and total petroleum hydrocarbons on 10 soil samples collected from the walls of the excavation and two samples from the bottom of the excavation. ABB Environmental Services, Inc. collected one composite sample from the bottom of the excavation for off-site laboratory analysis. Based on the results of the field screening, the soils were deemed uncontaminated and the excavation was backfilled. However, based on the results of the composite sample collected and analyzed by ABB Environmental Services, Inc., an additional investigation was conducted to confirm the nature and distribution of fuel contamination detected in the bottom of the excavation.

A total of two soil samples were collected from two TerraProbe points, and one soil gas sample was collected from each of 10 TerraProbe points. The soil samples were

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EXECUTIVE SUMMARY

analyzed in the field for benzene, toluene, ethylbenzene, and xylenes and total petroleum hydrocarbon compounds while the soil gas samples were analyzed for benzene, toluene, ethylbenzene, and xylenes, only. Benzene, toluene, ethylbenzene, xylenes, and total petroleum hydrocarbon compounds were not detected in the soil or soil gas samples, indicating that residual fuel contamination was not present outside of the former underground storage tank excavation.

One soil boring was drilled through the middle of the backfilled excavation. Two soil samples were collected from two depth intervals in the boring and analyzed for volatile organic compounds, total petroleum hydrocarbon compounds, and lead. No volatile organic compounds or total petroleum hydrocarbon compounds were detected in the subsurface soil samples. Lead concentrations were below the established Fort Devens background concentration.

On the basis of findings at Study Area 43R and the Preliminary Risk Evaluation, there is no evidence or reason to conclude that petroleum contamination due to the former underground storage tank has caused significant environmental contamination or poses a threat to human health. The decision has been made to remove Study Area 43R from further consideration in the Installation Restoration Program.

1.0 INTRODUCTION

This decision document has been prepared to support a no further action decision at Study Area 43R - Historic Gas Station Site (SA 43R) at Fort Devens, Massachusetts. The report was prepared as part of the U.S. Department of Defense (DoD) Base Realignment and Closure (BRAC) program to assess the nature and extent of contamination associated with site operations at Fort Devens.

In conjunction with the Army's Installation Restoration Program (IRP), Fort Devens and the U.S. Army Environmental Center (USAEC; formerly the U.S. Army Toxic and Hazardous Materials Agency) initiated a Master Environmental Plan (MEP) in 1988. The MEP consists of assessments of the environmental status of SAs, specifies necessary investigations, and provides recommendations for response actions with the objective of identifying priorities for environmental restoration at Fort Devens. The Historic Gas Station Sites were identified in the MEP as potential areas of contamination. On December 21, 1989, Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act.

An Enhanced Preliminary Assessment (PA) was also performed at Fort Devens to address areas not normally included in the CERCLA process, but requiring review prior to closure. A final version of the PA report was completed in April 1992. In 1992, DoD, through USAEC, also initiated a Site Investigation (SI) for SA 43A through S along with the other 12 SAs in SA Groups 2 and 7 at Fort Devens. The SI was conducted by ABB Environmental Services, Inc. (ABB-ES).

Under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens has been selected for cessation of operations and closure. An important aspect of BRAC actions is to determine environmental restoration requirements before property transfer can be considered. Studies at SA 43R were conducted to support this overall mission.

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2.0 BACKGROUND AND PHYSICAL SETTING

2.1 DESCRIPTION AND LAND USE

Fort Devens is located approximately 35 miles northwest of Boston, Massachusetts, and within Middlesex and Worcester counties. The installation consists of approximately 9,280 acres and includes portions of the towns of Ayer, Harvard, Lancaster and Shirley. Cities in the vicinity include Fitchburg, Leominster and Lowell. Land surfaces range from about 200 feet above mean sea level (MSL) along the Nashua River in the northern portion of the installation to 450 feet above MSL in the southern portion of the installation.

Fort Devens was established in 1917 as Camp Devens, a temporary training camp for soldiers from the New England area. In 1931, the camp became a permanent installation and was redesignated as Fort Devens. Throughout its history, Fort Devens has served as a training and induction center for military personnel and a unit mobilization and demobilization site. All or portions of this function occurred during World Wars I and II, the Korean and Vietnam conflicts, and operations Desert Shield and Desert Storm.

The primary mission of Fort Devens is to command, train, and provide logistical support for non-divisional troop units. The installation also supports that portion of the U.S. Army Intelligence School located at Fort Devens, for the Army Readiness Region, for Reserve Components, and for Army Reserve and National Guard in the New England area.

Fort Devens currently consists of three major land use areas: Main Post, South Post, and North Post (Figure 2-1).

The majority of the facilities on Fort Devens are located in the Main Post area, north of Massachusetts Highway 2. The Nashua River intersects the Main Post along its western edge. The Main Post provides all of the on-post housing, including over 1,700 family units and 9,800 bachelor units (barracks and unaccompanied officer's quarters). Other facilities on the Main Post include community support activities (such as a shoppette, cafeteria, post exchange, commissary, bowling alley, golf course, and hospital), administrative buildings, classrooms and training facilities, maintenance facilities, and

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SECTION 2

ammunition storage facilities. The Historic Gas Station Sites, including SA 43R, are located on the Main Post.

The South Post is located south of Massachusetts Highway 2 and contains individual training areas designated for troop training, range activities, and a drop zone. The Nashua River bounds the South Post on the northeast side.

The North Post is directly north of the Main Post. The principal activities on the North Post are the Douglas E. Moore Army Airfield, and the installation Waste Water Treatment Plant.

2.2 REGIONAL GEOLOGY

Fort Devens is near the western boundary of the Seaboard Lowland Section of the New England-Maritime Physiographic province (Jahns, 1953). It is adjacent to the Worcester County Plateau of the Central Uplands province and part of the installation lies within the province (Koteff, 1966). The land surface is almost completely covered with unconsolidated glacial outwash deposits, resulting in few bedrock outcrops. The surficial deposits are underlain by a highly complex assemblage of intensely folded and faulted metasedimentary rocks with occasional igneous intrusions. The geomorphology of the region is dominated by glacial features such as outwash plains, kames, kame terraces, drumlins, and eskers.

2.3 REGIONAL HYDROGEOLOGY

Groundwater at Fort Devens occurs largely in the permeable glacial-deltaic outwash deposits of sand, gravel, and boulders. Well yields within these sediments are dependent upon the hydraulic characteristics of the aquifer and can range from 2 to over 300 gallons per minute (gpm). Small amounts of groundwater can be obtained from fractured bedrock with yields ranging from 2 to 10 gpm. Minor amounts of groundwater may be found in thin, permeable glacial lenses elsewhere on the installation. The primary hydrogeologic feature at Fort Devens is the Nashua River, which flows through the installation in a south to north direction, with an average discharge rate of 55 cubic feet per second. In addition to the Nashua River, the terrain is dissected by numerous brooks with attendant wetlands. There are also several kettle ponds and one kettle lake located within the installation.

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2.4 STUDY AREA DESCRIPTION AND HISTORY

SA 43R, one of the 19 Historic Gas Station Sites, is included in the Group 2 SAs located on the Main Post. The structure of the historic gas station at SA 43R consisted of a pump island and a small gasoline pumphouse. Based on available documentation, the gas station at SA 43R was a Type A station with one 5,000 gallon underground storage tank (UST) located between the gasoline pumphouse and the pump island. The station was used during World War II as a vehicle motor pool to support military operations. The motor pool operations were discontinued during the late 1940s or early 1950s. No records were available of the decommissioning of the gas station or the removal of the associated UST. This historic gas station was located on the northern side of Sherman Avenue across from the existing Building 696 and approximately 600 feet northeast of SA 43Q (Figure 2-2). Presently, the area surrounding SA 43R is a grassy area bordered on the south-southwest by a parking lot and Sherman Avenue (see Figure 2-2).

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3.0 RELATED INVESTIGATIONS

3.1 MASTER ENVIRONMENTAL PLAN

SA 43, the Historic Gas Station Sites, was identified as a possible source for release of contaminants into the environment. The 19 gas stations were identified from a circa 1941 map (Barbour, 1941). The MEP recommended that the remaining USTs be located, and residual contamination in soil be removed (Biang, et al., 1992).

3.2 ENHANCED PRELIMINARY ASSESSMENT

The PA included a review of the study and recommendations presented in the MEP and considered other areas that might require evaluation due to the closure of Fort Devens. No additional findings or recommendations for SA 43R were provided in the PA.

3.3 SITE INVESTIGATION REPORT

The SI was initiated in June 1992 and included the following 13 Group 2 and 7 SAs originally identified in the MEP.

- SA 13 Landfill No. 9
- SA 43 Historic Gas Stations (19 Sites)
- SA 45 Lake George Street Vehicle Wash Area
- SA 49 Building 3602 Leaking Underground Storage Tank (LUST) Site
- SA 56 Building 2417 LUST Site
- SA 57 Building 3713 Fuel Oil Spill
- SA 58 Buildings 2648 and 2650 Fuel Oil Spills
- SA 12 Landfill No. 8
- SA 14 Landfill No. 10
- SA 27 Waste Explosive Detonation Range (Hotel)
- SA 28 Waste Explosive Detonation Range (Training Area 14)
- SA 41 Unauthorized Dumping Area (Site A)
- SA 42 Popping Furnace

SECTION 3

The SI was conducted by ABB-ES under contract with the USAEC. The Final Site Investigation Report was issued May 1993. The purpose of the SI was to verify the presence or absence of environmental contamination and to determine whether further investigation or remediation was warranted.

The field investigation program consisted of surficial geophysical surveys, TerraProbe points to collect subsurface soil and soil gas samples, field analysis of these soil and soil gas samples, and one soil boring to collect soil samples for laboratory analysis.

The surficial geophysical program consisted of a metal detector, magnetometer, and ground penetrating radar (GPR) survey. This program was designed to determine if any abandoned USTs were present at this site. The metal detector and magnetometer surveys covered an area approximately 250 feet long and 150 feet wide, while the GPR survey was used to investigate magnetic anomalies detected in the other two surveys (see Figure 2-2). The geophysical surveys determined that one abandoned UST was present at the site.

A total of two soil samples were collected from two TerraProbe points, and one soil gas sample was collected from each of the 10 TerraProbe points. The soil samples were analyzed in the field for benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbon compounds (TPHC), while the soil gas samples were analyzed for BTEX, only.

One soil boring (43R-92-01X) was drilled through the former UST excavation, and two subsurface soil samples were collected for laboratory analysis. The samples were analyzed for volatile organic compounds (VOCs), TPHC, and lead.

4.0 CONTAMINATION ASSESSMENT

The geophysical surveys determined that one abandoned UST was present at the site. The UST was added to the installation's tank removal program, and on June 26, 1992 ATEC Environmental Consultants (ATEC) removed a 5,000 gallon UST. The tank was observed to be in good condition, with no holes, perforations, or severe corrosion (ATEC, 1992). At the time of the removal, tank contents consisted of 275 gallons of fuel and sludge (ATEC, 1992). There was no visibly contaminated soil observed in the excavation, and groundwater was not encountered.

During the SI field program, one soil boring was drilled through the UST excavation after the tank had been removed. Soil below the UST excavation consisted of poorly graded sand and gravel grading to a sandy silt. Groundwater was encountered at 12 feet below ground surface (bgs). Bedrock was not encountered in the soil boring.

4.1 SOILS AND SOIL GAS

Subsurface soils were sampled and analyzed both on site and at an off-site laboratory during the tank removal program at SA 43R. These results are summarized in the following paragraphs.

ATEC performed field screening on eight soil samples (SS-1 through SS-8) collected from the walls of the excavation at 5 feet to 6 feet bgs, and two soil samples (SS-9 and SS-10) from the bottom of the excavation (Figure 4-1). VOC concentrations (measured by photoionization detector in soil headspace) ranged from 0.1 to 17.0 parts per million (ppm), and TPHC levels, measured using a Non-Dispersive Infrared (NDIR) Analyzer ranged from 9.9 to 90.3 ppm (ATEC, 1992; Table 4-1). One composite soil sample was collected from the bottom of the excavation by ABB-ES and submitted for laboratory analysis at ABB-ES' Wakefield, Massachusetts laboratory. The results of this analysis indicated a TPHC concentration of 168 ppm (Table 4-1). Based on the results of ATEC's sampling and screening, the soils in the excavation were deemed to be uncontaminated and the excavation was backfilled (ATEC, 1992). However, based on the results of the sample collected and analyzed by ABB-ES, an additional investigation was conducted to confirm the nature and distribution of fuel-related contamination detected in the bottom of the abandoned UST excavation.

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SECTION 4

After the excavation was backfilled 10 TerraProbe points were advanced at SA 43R (Figure 2-2). Only two soil samples were collected due to the dense soil, and subsurface obstructions. No BTEX or TPHC were detected in these soil samples (Figure 4-2). Groundwater was not encountered in the first two TerraProbe points so 10 soil gas samples were collected from the 5 foot depth interval from 10 TerraProbe points. This interval was chosen due to the dense soil and subsurface obstruction encountered below this depth. BTEX was not detected in any of the soil gas samples collected (Table 4-2; Figure 4-3).

Soil boring 43R-92-01X was drilled through the middle of the backfilled UST excavation in an attempt to reach the water table directly below the excavation. Groundwater was encountered at 12 feet bgs, and soil samples were collected for laboratory analysis from depths 11 feet to 13 feet and 15 feet to 17 feet bgs. No VOCs or TPHC were detected in either sample and lead was present below the established Fort Devens background concentration (Table 4-3; Figure 4-4).

4.2 GROUNDWATER

Although groundwater was encountered at 12 feet bgs beneath the former tank location, groundwater was not sampled because VOCs and TPHC were not detected in the laboratory analyses of soil samples collected from this boring.

5.0 PRELIMINARY HUMAN HEALTH RISK EVALUATION

A 5,000-gallon UST at SA 43R was discovered by ABB-ES and removed by ATEC during the SI field investigation. The groundwater table was encountered at 12 feet bgs. Prior to backfilling, ATEC collected 10 soil samples from the excavation walls which were screened in the field for TPHC by the NDIR method, and analyzed for TPHC in the laboratory. TPHC levels ranged from 10 ppm to a maximum value of 90 ppm on the NDIR, and from less than 10 ppm to 63 ppm in the laboratory. The TPHC level in a confirmatory soil sample collected by ABB-ES for TPHC analysis by USEPA Method 418.1 was 168 ppm. The excavation was backfilled by ATEC and ABB-ES conducted follow-up SI activity.

Field analysis of two TerraProbe soil samples in the unsaturated zone revealed no measurable concentrations of BTEX or TPHC to a depth of 15 feet bgs. Ten TerraProbe soil gas samples were collected, and no measurable concentrations of BTEX were encountered. A confirmatory boring by ABB-ES supports ABB-ES' field analysis results. Soil samples at 11 feet and 15 feet in the boring through the former UST location (43R-92-01X) showed no residual TPHC contamination. Lead was detected at concentrations below site-specific background (ABB-ES, 1993). Comparing the TPHC results to the calculated risk-based commercial/industrial concentration value of 1,700 ppm for gasoline, and against the Massachusetts Contingency Plan's conservative concentration of 500 ppm, indicates that there should be no significant risk to public health from soil contamination at SA 43R.

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6.0 PRELIMINARY ECOLOGICAL RISK EVALUATION

A preliminary ecological risk evaluation was not prepared for SA 43R because contaminants associated with a UST would be confined to subsurface soil, and would not impact any ecological receptors.

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7.0 CONCLUSIONS

ATEC's findings during removal of a UST at SA 43R and ABB-ES' field investigation and human health PRE indicate that little residual petroleum contamination exists in soils and that it poses no significant risk to public health. Since the investigation has focused on the subsurface, no ecological PRE was conducted. Therefore, no further action is recommended at this historic gas station.

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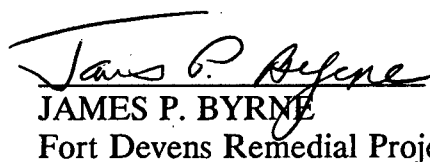
8.0 DECISION

On the basis of findings at SA 43R, there is no evidence or reason to conclude that petroleum contamination from the former UST has caused significant environmental contamination or poses a threat to human health or the environment. The decision has been made to remove SA 43R from further consideration in the IRP process. In accordance with CERCLA 120 (h) (3), all remedial actions necessary have taken place, and the USEPA and MADEP signatures constitute concurrence in accordance with the same.


JAMES C. CHAMBERS
BRAC Environmental Coordinator

18 JAN 95
Date

U.S. ENVIRONMENTAL PROTECTION AGENCY

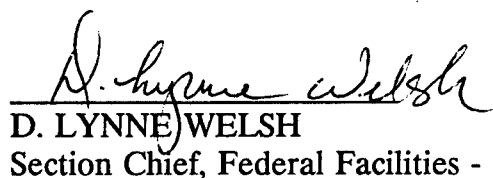

JAMES P. BYRNE
Fort Devens Remedial Project Manager

1/18/95
Date

Concur

Non-concur (Please provide reasons for non-concurrence in writing)

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION


D. LYNNE WELSH
Section Chief, Federal Facilities - CERO

1/18/95
Date

Concur

Non-concur (Please provide reasons for non-concurrence in writing)

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

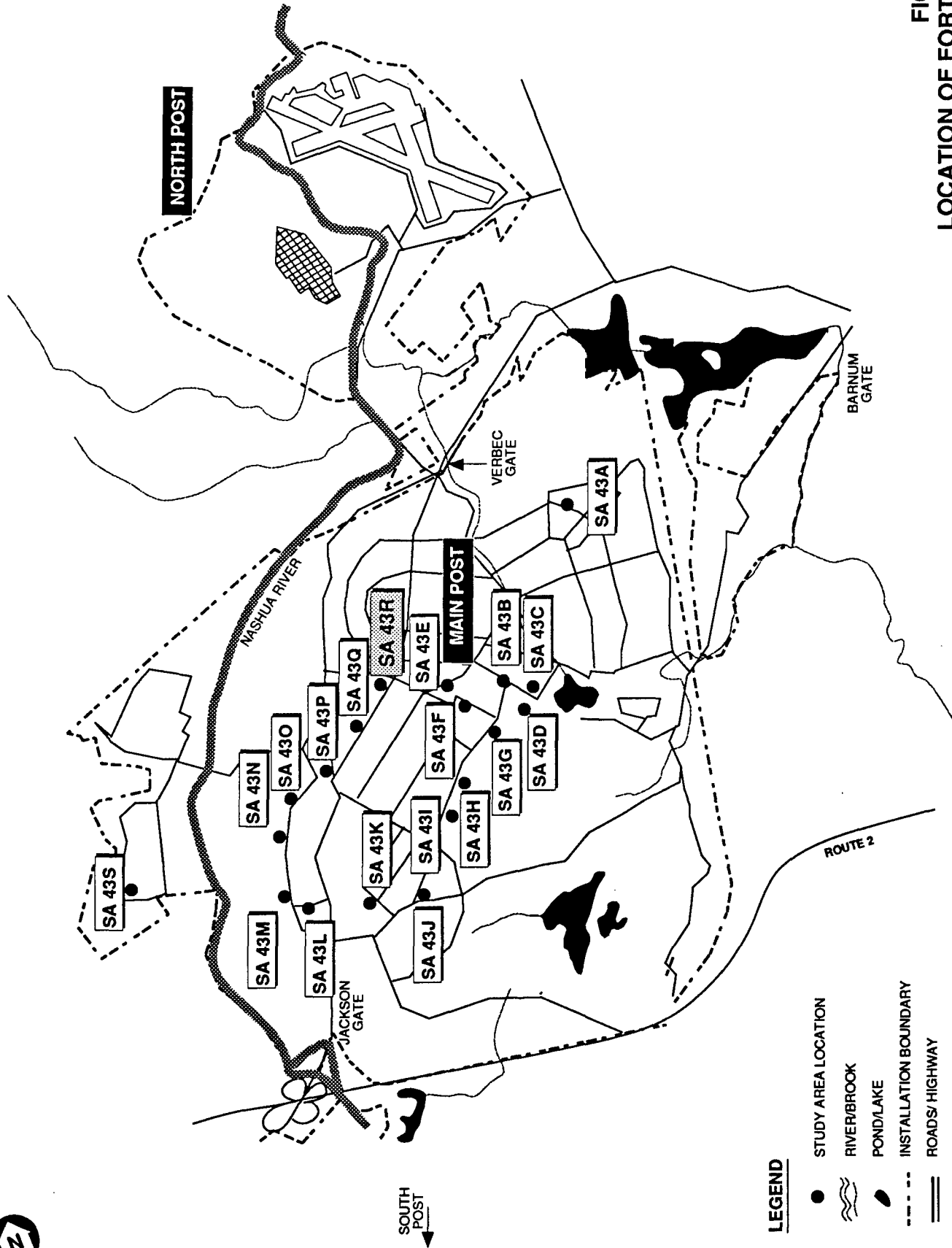
ABB-ES	ABB Environmental Services, Inc.
ATEC	ATEC Environmental Consultants
bgs	below ground surface
BRAC	Base Realignment and Closure
BTEX	benzene, toluene, ethylbenzene, and xylenes
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DoD	U.S. Department of Defense
gpm	gallons per minute
GPR	ground penetrating radar
IRP	Installation Restoration Program
LUST	leaking underground storage tank
MEP	Master Environmental Plan
mg/L	milligrams per liter
MSL	mean sea level
NDIR	Non-Dispersive Infrared
PA	Enhanced Preliminary Assessment
ppm	part per million
PRE	Preliminary Risk Evaluation
SA	Study Area
SI	site investigation
TPHC	total petroleum hydrocarbon compounds
USAEC	U.S. Army Environmental Center
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound

ABB Environmental Services, Inc.

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LEGEND

- STUDY AREA LOCATION
- ~ RIVER/BROOK
- ◐ POND/LAKE
- - - - - INSTALLATION BOUNDARY
- == ROADS/ HIGHWAY



FIGURE 2-1
LOCATION OF FORT DEVENS
SA 43R DECISION DOCUMENT
FORT DEVENS, MA



AREA OF SURFICIAL
GEOPHYSICAL
SURVEYS

PAVED PARKING LOT

TP-10

TP-09

TP-08

TP-06

TP-07

TP-05

TP-02

TP-04

43R-92-01X

P-186

FORMER LOCATION OF
GASOLINE PUMPHOUSE

TP-03

TP-01

LOCATION OF
ABANDONED UST

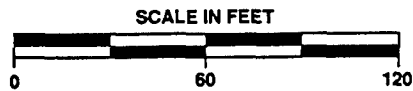
SHERMAN AVENUE

696

695

LEGEND

- TERRAPROBE LOCATION
- ⊕ SOIL BORING LOCATION



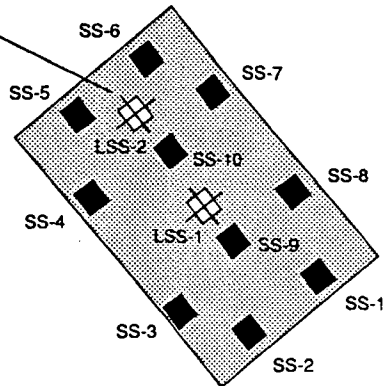
**FIGURE 2-2
GEOPHYSICAL PROGRAM, SOIL BORING
AND TERRAPROBE LOCATIONS
SA 43R DECISION DOCUMENT
FORT DEVENS, MA**

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P-186
FORMER LOCATION OF
GASOLINE PUMPHOUSE

LOCATION OF
ABANDONED UST



PAVED PARKING LOT

LEGEND

-  ATEC FIELD SCREENING LOCATIONS
-  ATEC LABORATORY SAMPLE LOCATION

SCALE IN FEET

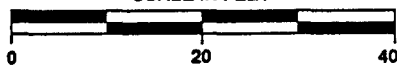
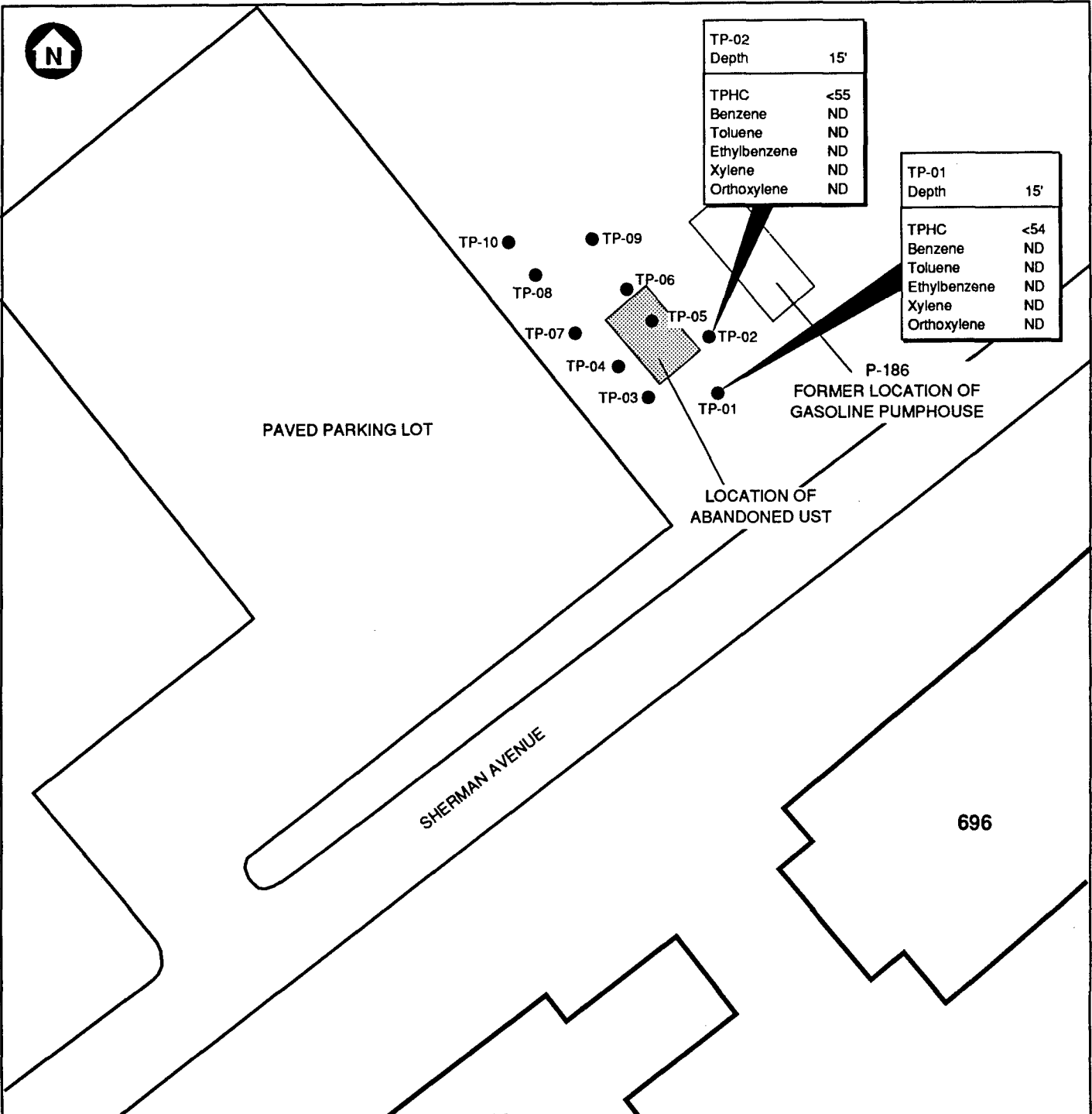


FIGURE 4-1
ATEC FIELD SCREENING LOCATIONS
SA 43R DECISION DOCUMENT
FORT DEVENS, MA



TP-02	Depth	15'
TPHC		<55
Benzene		ND
Toluene		ND
Ethylbenzene		ND
Xylene		ND
Orthoxylene		ND

TP-01	Depth	15'
TPHC		<54
Benzene		ND
Toluene		ND
Ethylbenzene		ND
Xylene		ND
Orthoxylene		ND



LEGEND

- TERRAPROBE LOCATION
- TPHC TOTAL PETROLEUM HYDROCARBON COMPOUNDS
- ND NON DETECT

NOTES

TPHC CONCENTRATIONS IN ppm
 BTEX CONCENTRATIONS IN ppb

SCALE IN FEET



FIGURE 4-2
FIELD SCREENING RESULTS
SOIL; DEPTH AT 15 FT
SA 43R DECISION DOCUMENT
FORT DEVENS, MA

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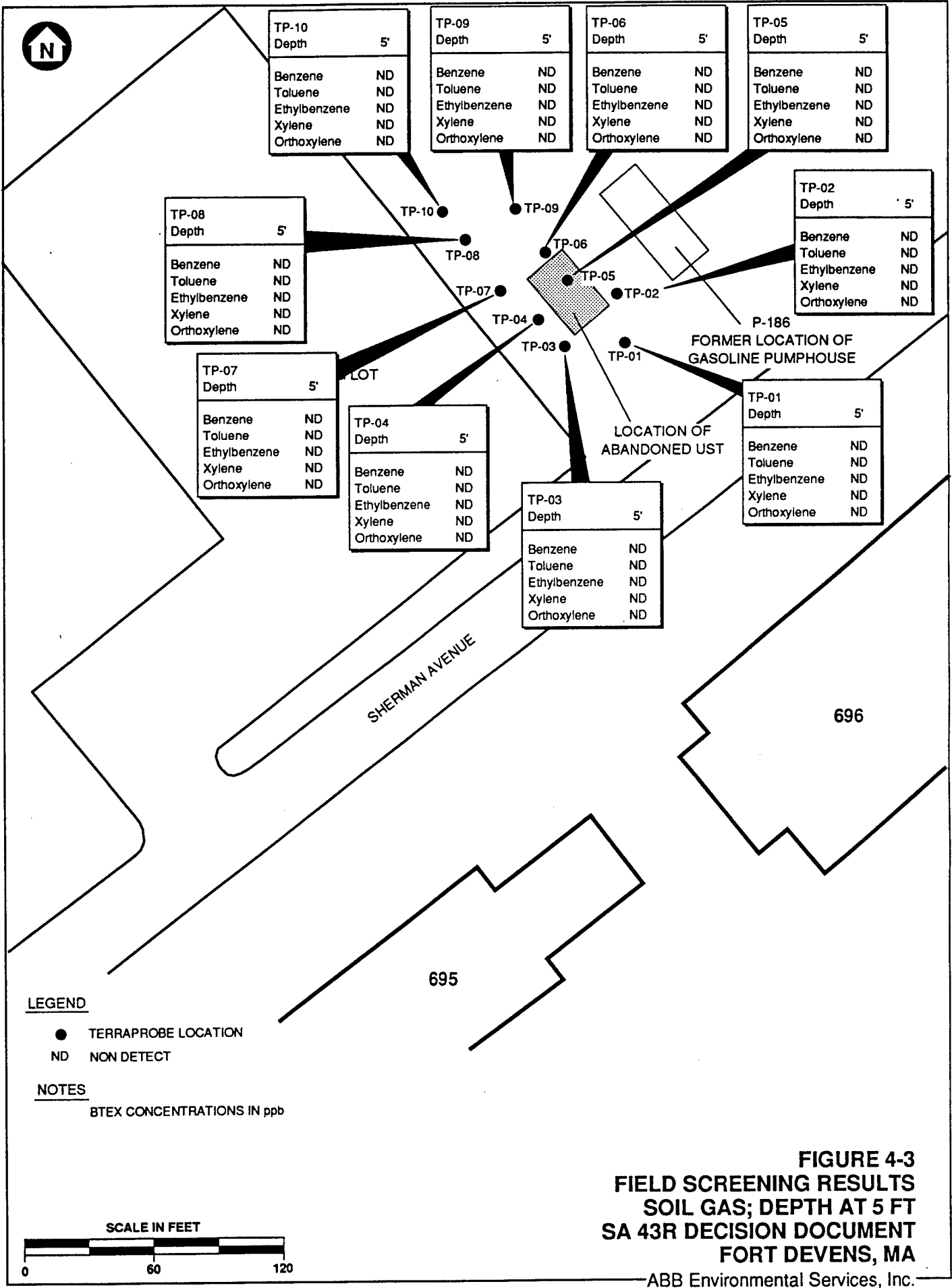
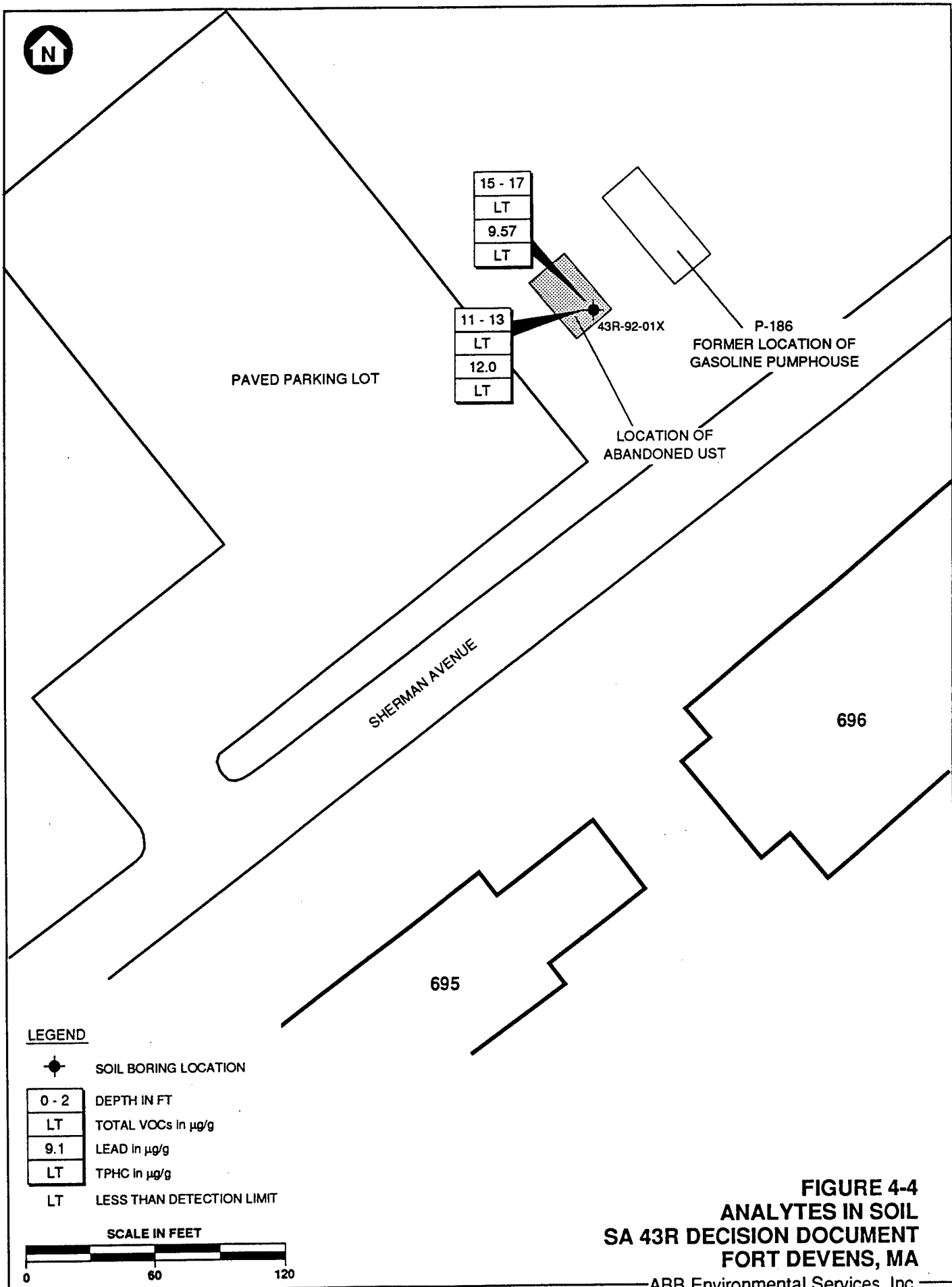
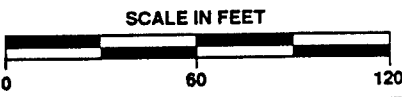


FIGURE 4-3
FIELD SCREENING RESULTS
SOIL GAS; DEPTH AT 5 FT
SA 43R DECISION DOCUMENT
FORT DEVENS, MA



LEGEND

- ◆ SOIL BORING LOCATION
- 0 - 2 DEPTH IN FT
- LT TOTAL VOCs in $\mu\text{g/g}$
- 9.1 LEAD in $\mu\text{g/g}$
- LT TPHC in $\mu\text{g/g}$
- LT LESS THAN DETECTION LIMIT



**FIGURE 4-4
ANALYTES IN SOIL
SA 43R DECISION DOCUMENT
FORT DEVENS, MA**

ABB Environmental Services, Inc.

**TABLE 4-1
ATEC/ABB-ES FIELD SCREENING RESULTS
SA 43R - HISTORIC GAS STATIONS**

**DECISION DOCUMENT
FORT DEVENS**

SAMPLE NO.	FIELD SCREENING		LABORATORY
	PID (ppm)	NDIR (ppm)	TPHC (ppm)
SS-1	0.1	18	N/A
SS-2	1.5	53	N/A
SS-3	0.2	28.3	N/A
SS-4	1.1	22.1	N/A
SS-5	17	41.7	N/A
SS-6	1	9.9	N/A
SS-7	1.8	13.9	N/A
SS-8	0.5	31.3	N/A
SS-9	5.2	90.3	N/A
SS-10	0.8	51.3	N/A
LSS-1	N/A	N/A	< 10
LSS-2	N/A	N/A	63
XRE-92-01X	N/A	N/A	168

NOTES:

SS = ATEC FIELD SCREEN SOIL SAMPLE

LSS = ATEC LABORATORY SOIL SAMPLE

XRE-92-01X = ABB-ES COMPOSITE LABORATORY SOIL SAMPLE

N/A = NOT APPLICABLE

PID = Photoionization Detector

NDIR = Non-Dispersive Infrared

TPHC = Total Petroleum Hydrocarbon Compounds

PPM = Part Per Million

TABLE 4-2
FIELD SCREENING RESULTS
SA 43R - HISTORIC GAS STATIONS

DECISION DOCUMENT
FORT DEVENS

SAMPLE ID	SA#	MEDIUM	SITE ID	DEPTH (feet)	TPHC ppm	TOTAL BTEX ppb	BEN* ppb	TOL* ppb	E-BEN* ppb	M/P XYL** ppb	O-XYL* ppb	COMMENTS
43TSR01X1501XF	43R	SOIL	TP-01	15	<54	ND	ND	ND	ND	ND	ND	***TPHCs Detected
43TSR02X1501XF	43R	SOIL	TP-02	15	<55	ND	ND	ND	ND	ND	ND	***TPHCs Detected
43TGR01XX501XF	43R	SG	TP-01	5	NA	ND	ND	ND	ND	ND	ND	
43TGR02XX501XF	43R	SG	TP-02	5	NA	ND	ND	ND	ND	ND	ND	
43TGR03XX501XF	43R	SG	TP-03	5	NA	ND	ND	ND	ND	ND	ND	
43TGR04XX501XF	43R	SG	TP-04	5	NA	ND	ND	ND	ND	ND	ND	
43TGR05XX501XF	43R	SG	TP-05	5	NA	ND	ND	ND	ND	ND	ND	
43TGR06XX501XF	43R	SG	TP-06	5	NA	ND	ND	ND	ND	ND	ND	
43TGR07XX501XF	43R	SG	TP-07	5	NA	ND	ND	ND	ND	ND	ND	
43TGR08XX501XF	43R	SG	TP-08	5	NA	ND	ND	ND	ND	ND	ND	
43TGR09XX501XF	43R	SG	TP-09	5	NA	ND	ND	ND	ND	ND	ND	
43TGR10XX501XF	43R	SG	TP-10	5	NA	ND	ND	ND	ND	ND	ND	

NOTES:

- * = ND denotes a non detect or concentrations below 10 ppb
- ** = ND denotes a non detect or concentrations below 5 ppb
- *** = Detection of Noncalibrated Petroleum Hydrocarbon Peaks
- # = Study area
- TPHC = Total Petroleum Hydrocarbon Compounds
- SG = Soil gas
- BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes
- NA = Not applicable
- BEN = Benzene
- PPM = Part Per Million
- TOL = Toluene
- PPB = Part Per Billion
- E-BEN = Ethylbenzene
- TP = TerraProbe
- M/P XYL = M/P Xylene
- ND = Not Detected Above Detection Limits

O-XYL = O Xylene

TABLE 4-3
 INORGANIC AND ORGANIC COMPOUNDS IN SOIL
 SA 43R - HISTORIC GAS STATIONS

DECISION DOCUMENT
 FORT DEVENS

ANALYTE	BACK - GROUND	BORING	
		DEPTH	43R-92-01X
INORGANICS (ug/g)			15
LEAD	48.4	12.0	9.57
OTHER (ug/g)			
TOTAL ORGANIC CARBON		NA	854.0
TOTAL PETROLEUM HYDROCARBONS		< 27.9	< 27.9

NOTES:
 TABLE LISTS DETECTED ANALYTES ONLY -
 SEE PROJECT ANALYTE LIST FOR SUMMARY
 < = LESS THAN DETECTION LIMIT SHOWN
 NA = NOT ANALYZED