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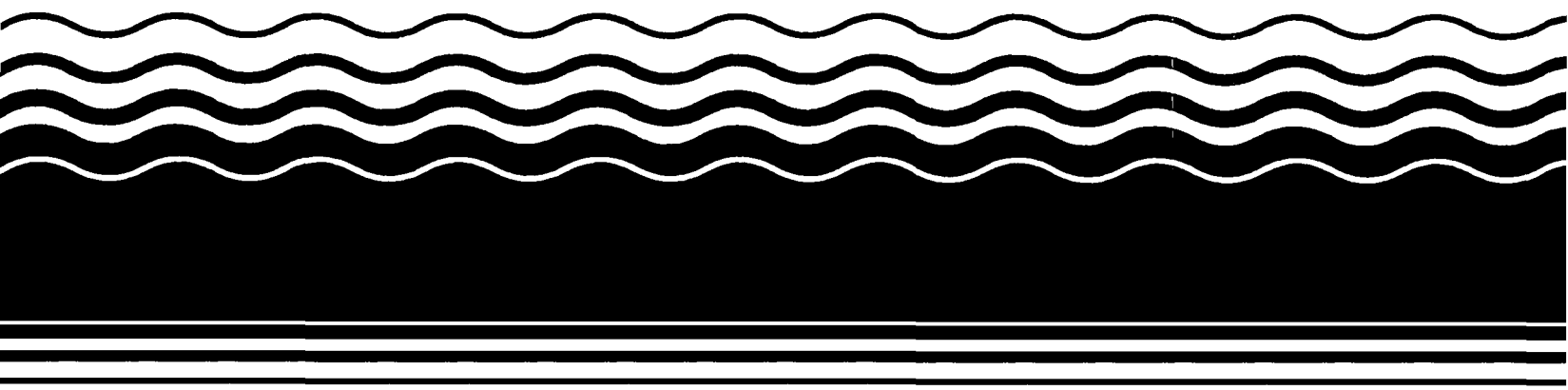
EPA/ROD/R01-96/121
November 1996

EPA Superfund Record of Decision:

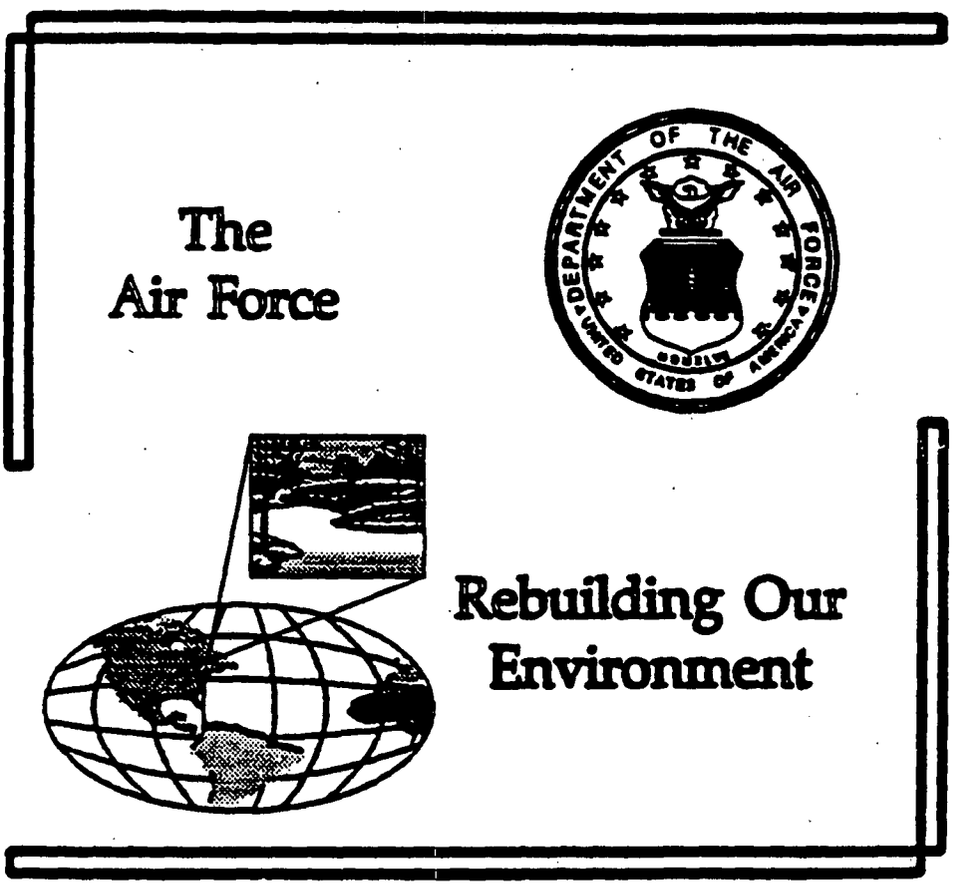
Loring Air Force Base (O.U. 9 & 11), Limestone, ME 9/27/1996



Final

Operable Units (OUs) 9 and 11
Record of Decision

August 1996



Installation Restoration Program
Loring Air Force Base, Maine

FINAL

Loring Air Force Base

Operable Units (OUs) 9 and 11
Record of Decision

August 1996

Prepared for:

Air Force Base Conversion Agency
Loring Air Force Base, Maine
(207) 328-7109

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Portland, Maine 04101

Job No. 8743-30, -50

OPERABLE UNITS 9 AND 11
RECORD OF DECISION
LORING AIR FORCE BASE

TABLE OF CONTENTS

TABLE OF CONTENTS
(continued)

OPERABLE UNITS 9 AND 11
RECORD OF DECISION
LORING AIR FORCE BASE

LIST OF FIGURES

LIST OF TABLES

DECLARATION FOR THE RECORD OF DECISION

SITE NAME AND LOCATION

The former Loring Air Force Base (LAFB) is located in Aroostook County, Maine. This decision document addresses the source areas (i.e., surface and subsurface soils) of the sites in Operable Units (OUs) 9 and 11. Groundwater and surface water associated with the OUs will be addressed under OU 12 and OU 13, respectively. These OUs include the following sites:

OU 9	Auto Hobby Shop (AHS) Snowbarn (SB) Power Plant Drainage Pipe (PPDP) Former Vehicle Motor Pool (FVMP)
OU 11	Fuels Tank Farm (FTF) Vehicle Maintenance Building (VMB) Refueling Maintenance Shop Area (RMSA) Coal Storage Pile/Fly Ash Disposal (CSP/FAD) Base Laundry

STATEMENT OF BASIS AND PURPOSE

This decision document presents the No Further Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Action decision for source areas in the following sites located in OUs 9 and 11 at LAFB:

- OU 9 SB; PPDP; FVMP
- OU 11 FTF; CSP/FAD

This decision document was developed in accordance with CERCLA of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (USEPA, 1990). It is based on the Administrative Record, which was developed in accordance with Section 113(k) of CERCLA and is available

for public review at the Air Force Base Closure Agency Office, 5100 Texas Road, Limestone, Maine.

In 1994, a Bottom Up Program Review was conducted as part of the President's five-point fast track clean-up initiative. Recommendations included performing early actions at sites where risks were well defined. In accordance with CERCLA, Engineering Evaluation/Cost Analysis (EE/CA) reports were developed for the source control removal actions. The purpose of the source control removal actions is to address soil contamination identified at areas within the OUs during Remedial Investigation (RI) activities.

This decision document presents No Further CERCLA Action for sites in OUs 9 and 11 where the contaminants have been removed to acceptable risk levels or are at levels that do not pose a risk, contamination is petroleum-related and is being addressed in accordance with the State of Maine Regulations, or the materials stored or disposed at the sites (i.e., coal, fly ash) are not regulated under CERCLA. The State of Maine Department of Environmental Protection (MEDEP) concurs with the No Further CERCLA Action remedy for soils at the above sites located in OUs 9 and 11.

DESCRIPTION OF THE SELECTED REMEDY

The United States Air Force (USAF) and United States Environmental Protection Agency (USEPA), with concurrence of the MEDEP, have determined that No Further CERCLA Action is necessary for soils at the SB, PPDP, and FVMP in OU 9 and the FTF and CSP/FAD in OU 11. One site located in OU 9, the AHS will remain in the CERCLA process until confirmation samples are collected to verify that soils have been treated to acceptable risk levels. Three sites located in OU 11, the RMSA, VMB, and Base Laundry, will continue under the CERCLA process because remediation of soil contaminated with chlorinated solvents and polychlorinated biphenyls (PCBs) has not been completed at the sites. These four sites (i.e., AHS, RMSA, VMB, and Base Laundry) will be addressed in a future ROD. The groundwater and surface water associated with all of the OUs 9 and 11 sites will be addressed in OUs 12 and OU 13, respectively.

DECLARATION

The USAF and USEPA, with concurrence of the MEDEP, have determined that No Further CERCLA Action is necessary for soils at the SB, PPDP, and FVMP in OU 9 and the FTF and CSP/FAD in OU 11. As this is a decision for No Further CERCLA Action, the statutory requirements of CERCLA Section 121 for remedial actions are not applicable, and no five-year reviews will be undertaken.

Department of the Air Force

By: _____ Date: Sep 10, '96

Alan K. Olsen
Director
Air Force Base Conversion Agency

United States Environmental Protection Agency

By: _____ Date: Sept 27 96

Linda M. Murphy
Director
Office of Site Remediation and Restoration
Region I

1.0 SITE NAME, LOCATION, AND DESCRIPTION

Loring Air Force Base (LAFB) is a National Priorities List (NPL) site. There are currently several areas of concern (AOCs) within LAFB that are under investigation. The AOCs have been organized into Operable Units (OUs) for investigation and remediation purposes.

This ROD addresses the source areas (i.e., surface and subsurface soils) of the sites in OUs 9 and 11 (Figure 1-1). These OUs include the following sites:

OU 9	Auto Hobby Shop (AHS)
	Snowbarn (SB)
	Power Plant Drainage Pipe (PPDP)
	Former Vehicle Motor Pool (FVMP)
OU 11	Fuels Tank Farm (FTF)
	Vehicle Maintenance Building (VMB)
	Refueling Maintenance Shop Area (RMSA)
	Coal Storage Pile/Fly Ash Disposal (CSP/FAD)
	Base Laundry

This Record of Decision (ROD) relates to the No Further Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Action decision for source area soils at the SB, PPDP, and FVMP in OU 9 and the FTF and CSP/FAD in OU 11. Groundwater and surface water associated with the OUs will be addressed under OU 12 and OU 13, respectively.

LAFB, in northeastern Maine, is bordered on the south and east by the Town of Limestone, on the north by the towns of Caswell and Connor, and on the west by the City of Caribou. The base is approximately three miles west of the United States/Canadian border and covers approximately 9,000 acres. Base operations gradually decreased until base closure in September 1994.

Because of its primary mission, LAFB personnel were engaged in various operations, a number of which required the use, handling, storage, or disposal of hazardous materials and substances. In the past, these materials entered the environment through accidental spills, leaks in supply piping, landfilling operations, burning of

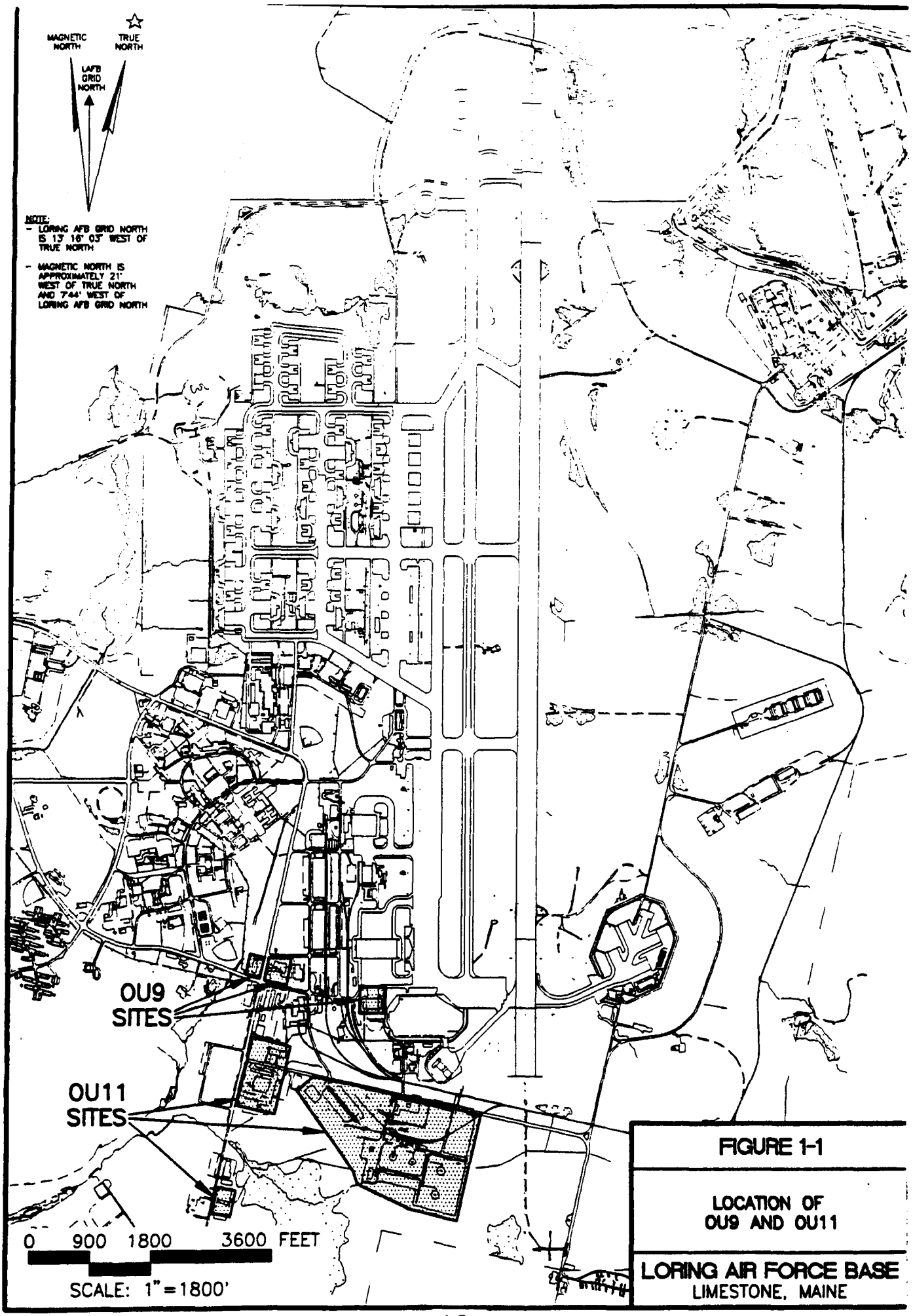

FIGURE 1-1

LOCATION OF OU9 AND OU11

LORING AIR FORCE BASE
LIMESTONE, MAINE

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liquid wastes during fire-training exercises, and the cumulative effects of operations conducted at the base's flightline and industrial areas. As part of the Department of Defense's (DoD's) Installation Restoration Program (IRP), the Air Force initiated activities to identify, evaluate, and remediate former disposal or spill sites containing hazardous substances.

Since initiation of the IRP, the base was placed on the United States Environmental Protection Agency's (USEPA's) NPL of sites and was to be remediated according to the Federal Facility Agreement (FFA), an agreement under Section 120 of CERCLA signed by the United States Air Force (USAF), the USEPA, and the Maine Department of Environmental Protection (MEDEP) on January 30, 1991 as amended.

2.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES

This ROD addresses the source areas (i.e., surface and subsurface soils) of the sites in OUs 9 and 11. These OUs include the following sites:

OU 9	AHS
	SB
	PPDP
	FVMP
OU 11	FTF
	VMB
	RMSA
	CSP/FAD
	Base Laundry

The AHS in OU 9 will remain in the CERCLA process until confirmation samples are collected to verify that the soils have been treated to acceptable risk levels.The RMSA, VMB, and Base Laundry in OU 11 will continue under the CERCLA process because remediation of soil at these sites includes non-petroleum-related contaminants (e.g., chlorinated compounds and polychlorinated biphenyls [PCBs]). These four sites will be addressed in a future ROD.

In accordance with Section 117(a) of CERCLA, the Air Force is publishing this ROD to address public comment on the selected No Further CERCLA Action alternative considered to be the final source control remedy for the SB, PPDP, and FVMP in OU 9 and the FTF and CSP/FAD in OU 11. This section summarizes the uses, site history, response history, and enforcement activities at all the sites in the two OUs.

2.1 LAND USE AND SITE HISTORY

2.1.1 Operable Unit 9

OU 9 is located in the south central portion of LAFB and consists of four sites, including the AHS, the SB, the PPDP, and the FVMP (Figure 2-1). No Further CERCLA Action is being taken for soils at the SB, PPDP, and FVMP.

Auto Hobby Shop. The AHS is a garage that was used by base personnel for personal vehicle maintenance activities. It is located in the central portion of the base at the intersection of Weinman (formerly Rhode Island) and Pennsylvania Roads. Past activities at the garage included routine car maintenance, oil changes, parts cleaning, car painting, and car cleaning. Floor drains within the building are connected to the sanitary sewer system. A 5,000-gallon underground storage tank (UST) that collected waste oils/product was located at the AHS. This UST and its associated piping were removed in September 1992. A 5,000-gallon heating oil UST was also located at the AHS. During removal of this tank in May 1992, the fitting connecting the fill pipe to the tank was found to be cracked. The tank was replaced with a new 2,000-gallon UST (ABB Environmental Services [ABB-ES], 1995).

The OU 9 remedial investigation (RI) identified petroleum-contaminated soils near the former waste oil and heating oil tanks, and in the soil beneath the sewer lines. Chlorinated solvents were also detected in soils at the site; however, maximum concentrations were less than cleanup standards. A corrective action plan (CAP) was prepared under state regulations, proposing bioventing to treat contaminated soils (ABB-ES, 1996b). The bioventing system will be installed in 1996. The AHS will continue under the CERCLA process until confirmation samples verify that soils have been treated to acceptable risk levels.

Snowbarn. The SB was used to house and maintain snow removal equipment used on the base. The building is located at the southwestern edge of the runway near the DC Hangar and adjacent to the Former Tanker Alert Area. Prior to 1992, a paved area south of the SB building was used as an area to wash snow removal equipment. The wash area formerly drained to a ditch located immediately to the southwest. During the SI and the RI, stressed vegetation and stained soils were observed in the grassy area near the ditch. In 1992, the storm drain system at the site was improved and snow-removal equipment began to be cleaned inside the building. Sampling indicated the primary sources of contamination were washwater and surface water runoff from the maintenance and parking lot areas. (ABB-ES, 1995).

The RI identified fuel contamination in soils south and southwest of the paved parking area. A CAP was prepared proposing the excavation and disposal in Landfill 3 (LF-3) of petroleum-contaminated soil at the SB (ABB-ES, 1996b). During the soil removal in 1995, PCBs were detected at one isolated location. PCB-contaminated soil identified at concentrations greater than 50 mg/kg was disposed at an off-base licensed facility (Bechtel Environmental, Inc. [Bechtel], 1996). All remaining soil was

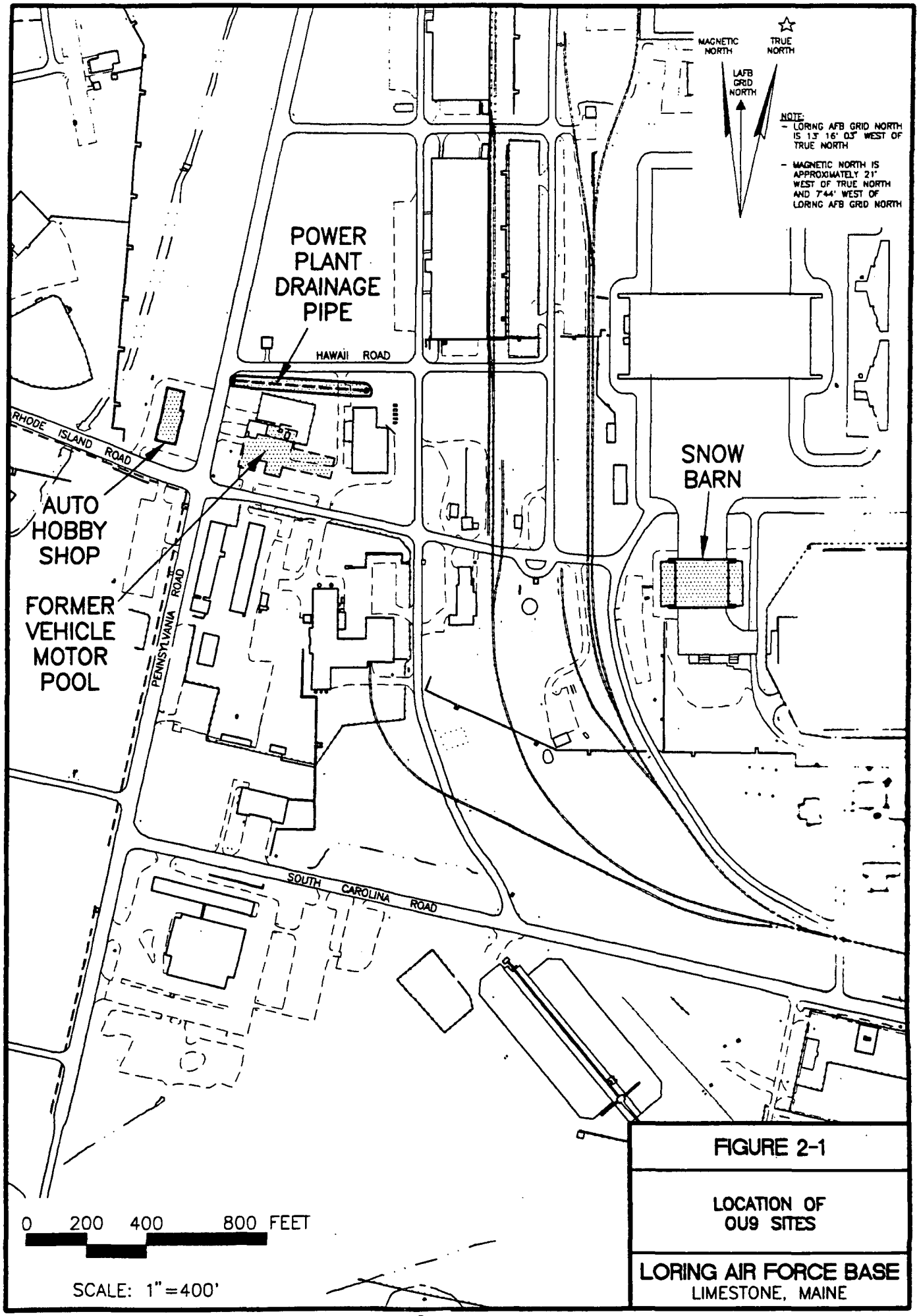

FIGURE 2-1

LOCATION OF OU9 SITES

LORING AIR FORCE BASE
LIMESTONE, MAINE

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disposed in LF-3. Because petroleum and PCB contamination was removed to acceptable risk levels, No Further CERCLA Action is necessary for soils at the SB.

Power Plant Drainage Pipe. The PPDP is located north and east of the AHS and south of Hawaii Road. It is an 18-inch diameter drainage pipe that was connected to an underdrain that drained water from a bermed area around the former location of five 25,000-gallon diesel fuel USTs east of the Power Plant (PP). The pipe was also connected to the floor drain system within the PP. The PPDP passes just north of the FVMP, underneath Pennsylvania Road, and discharges into a surface impoundment known as the Pipeline Drainage Area (PDA), that functions as a crude oil/water separator (URS Consultants, Inc. [URS], 1995). Water from the impoundment flows ultimately to the Flightline Drainage Ditch (FLDD). In 1993, a test pit investigation was undertaken to evaluate potential leaks in the PPDP. The pipe did not appear to be leaking and the bedding soils did not appear to have been affected by releases from the pipe (ABB-ES, 1995).

The OU 9 RI identified soils contaminated with PCBs and petroleum in areas surrounding the pipe and in the PDA. An engineering evaluation/cost analysis (EE/CA) proposed excavation and disposal in LF-3 of shallow soils. Because the deeper soils are contaminated with petroleum only, bioventing was proposed (URS, 1995). The removal action, conducted in 1995, included excavation of petroleum-contaminated and PCB-contaminated soils with disposal in LF-3 and installation of a bioventing system.

Additionally, the drainage pipe was cleaned using a hydrovac system. The pipe cleaning encompassed all sections of the drainline, including the drainlines leading from the Power Plant and the storm drain located in the fenced transformer area adjacent to the west end of the Power Plant. After the cleaning, the sections of the line that were removed from the excavations were replaced (Bechtel, 1996).

The effluent of the PPDP was sampled during a storm event in May 1996 to determine if the pipe was adequately cleaned. The samples were analyzed for site-specific contaminants of concern (TPH, PCBs, and PAHs). Low concentrations of TPH were detected and PCB and PAH results were no-detect. Because PCB contamination was removed and the remaining contamination is petroleum-related and will be addressed using State of Maine Regulations, No Further CERCLA Action is necessary for soils at the PPDP.

Former Vehicle Motor Pool. The FVMP site is located east of Pennsylvania Road just south of the intersection with Hawaii Road. The facility was used for maintenance of snow removal and construction equipment from 1947 to 1963, at which time operations were moved to the VMB. Use of the facility was discontinued in 1963 and the structure was demolished in 1972. Maintenance activities included oil changes, welding, tire changes, and other routine vehicle maintenance. Known waste streams at the facility included waste oils, hydraulic fluid, antifreeze, and Speedi-dry (a granular absorbent material used to clean small fluid spills). Waste fluids were stored in 55-gallon drums and disposed of through the Defense Reutilization Marketing Office (DRMO). In addition, the building was equipped with an oil trap structure and floor drains that reportedly emptied into the PPDP storm sewer (ABB-ES, 1995).

The RI identified a small area of petroleum-contaminated soil north of the FVMP. Because of the nearness of the FVMP to the PPDP, the bioventing system proposed for the PPDP has been expanded to treat the soils at the FVMP. The bioventing system was installed in 1995 (ABB-ES, 1996c). Because contamination is petroleum-related and will be addressed using State of Maine Regulations, No Further CERCLA Action is necessary for soils at the FVMP.

2.1.2 Operable Unit 11

OU 11 consists of five sites; the FTF, the RMSA, the VMB, the CSP/FAD, and the Base Laundry (Figure 2-2). No Further CERCLA Action is being taken for soils at the FTF and the CSP/FAD.

Fuels Tank Farm. The FTF is approximately five acres in size and is located south of the Flightline Area (FLA). The FTF was constructed in the early 1950s for the bulk storage of fuels, including JP-4 jet fuel, No. 2 heating oil, MOGAS, aviation gasoline (AVGAS), and fuel oil. The FTF originally consisted of three large aboveground storage tanks (ASTs); however, increased fuel needs prompted the construction of additional ASTs in the late 1950s. Each tank is surrounded by a separate berm enclosing an area capable of holding the contents of that tank. Fuel from each tank was piped through aboveground piping to the Pumphouse, then distributed through underground piping to the rest of the base. Unquantified fuel spills have occurred at the FTF over the past 40 years. As part of tank maintenance, lead-based paint was occasionally stripped from the tanks; therefore, lead was detected in the surface soil around the tanks (ABB-ES, 1996a).

The OU 11 RI identified soils contaminated with petroleum and lead. An EE/CA was prepared proposing excavation and disposal in LF-3 for the lead-contaminated soil. Bioventing/bioslurping was proposed to treat the petroleum-contaminated soils and to remove fuel product from the groundwater surface (URS, 1995). Lead-contaminated soil was excavated in 1995 and disposed in LF-3. The bioventing/bioslurping system will be installed in 1996. The lead-contaminated soil was removed to acceptable risk levels as shown by confirmation sampling during excavation (Bechtel, 1996).

Because the remaining contamination is petroleum-related and will be addressed using State of Maine Regulations, No Further CERCLA Action is necessary for soils at the FTF.

Vehicle Maintenance Building. The VMB is located on the eastern side of Pennsylvania Road, southeast of the intersection of Pennsylvania and South Carolina Roads. The site is approximately 15 acres in size and consists of two buildings that were used for vehicle parking and maintenance of USAF vehicles. Wastes generated at the facility included waste oil, antifreeze, solvents, Speedi-Dry, and battery electrolyte.

From 1954 until the early 1970s, waste fluids were combined, placed in drums, and stored at the facility. The drums were periodically sent to the DRMO for disposal. After that time, until 1984, waste fluids were stored in a 500-gallon tank at the site, then transferred to the DRMO. The 500-gallon tank was removed in 1984. From 1984 until 1989, waste oil was stored in a UST that had previously been used for the storage of diesel fuel. Two other USTs, which had been used for automobile fuel, were removed in 1990, and the waste oil UST was removed in 1992. From 1989 until 1992, all waste fluids were drummed and disposed of through the DRMO. In 1992, a waste oil burner was installed in the VMB, and waste fluids were incinerated for the remainder of operations at this facility in accordance with State of Maine Waste Oil Management Rules (ABB-ES, 1996a).

The RI identified petroleum- and PCB-contaminated soils at the VMB. Additionally, chlorinated solvents were found in a localized area at the site. An EE/CA was prepared proposing excavation and disposal in LF-3 of drainage sediments and shallow soil and bioventing of deeper soil (URS, 1995). An additional EE/CA has proposed excavation and ex-situ soil vapor extraction (SVE) for soils contaminated with chlorinated solvents (URS, 1996). Because chlorinated solvents were identified

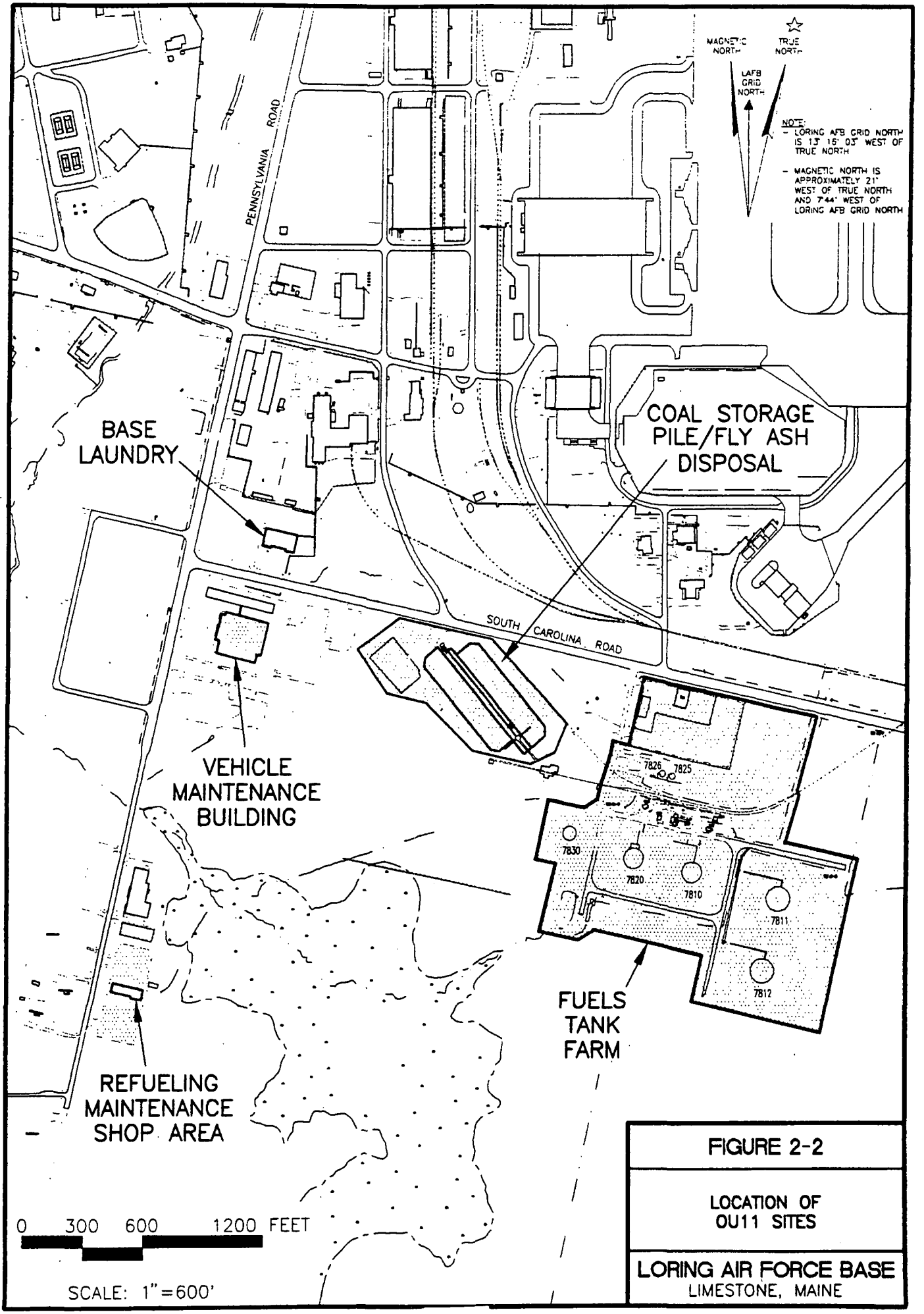


FIGURE 2-2

LOCATION OF OU11 SITES

LORING AIR FORCE BASE
LIMESTONE, MAINE

at the VMB and remediation has not been completed, the site will continue under the CERCLA process.

Refueling Maintenance Shop Area. The RMSA consists of one building and a parking area located on the southwest portion of the base, on the east side of Pennsylvania Avenue. The building has several garage bays for maintenance operations and was used as a maintenance facility for large fuel bowser trucks. Various types of maintenance services were completed on the trucks within the building. Floor drains within each bay collected fluids from maintenance procedures and rinse water from washing procedures. The drains exited into an oil interceptor, then to a dry well. The dry well was replaced with an oil/water separator in the late 1980s. In 1992, the effluent from the oil/water separator was piped to the sanitary sewer and the oil was piped to a UST located north of the separator (ABB-ES, 1996a).

The RI identified PCBs, petroleum, and tetrachloroethene (PCE) as contaminants at the site. An EE/CA was prepared recommending excavation and disposal in LF-3 of contaminated soils (URS, 1995). Excavation of the soils occurred in 1995, and with the exception of one isolated area of petroleum-contaminated soil, which will be excavated in 1996, soils have been removed to acceptable risk levels (Bechtel, 1996). Because chlorinated compounds may be present in the remaining soil at the RMSA, the site will continue under the CERCLA process until confirmation sampling has been performed.

Coal Storage Pile/Fly Ash Disposal. The CSP/FAD is one site with two areas, one which was utilized for the storage of coal, and another for the disposal of the residual fly ash from the base heating plant's coal-fired boiler. The CSP/FAD sites are south of the FLA and west of the FTF, south of South Carolina Road. Coal was stored on the ground from 1953 until 1985, at which time two concrete pads with an integrated storm water runoff collection system were constructed. The coal was not covered, and storm water running off the pile was collected by the drainage system which empties into a settling pond west of the concrete pads. The pond discharges to the wastewater system (ABB-ES, 1996a). The FAD area is southwest of the coal piles and was used from 1953 until the mid-1980s. A cover was constructed over the FAD in 1994 and additional closure activities are being conducted under the State of Maine Solid Waste Regulations.

No Further CERCLA Action is required for soils at either site. Coal storage and fly ash are not regulated under CERCLA. Additionally, the FAD has a cover system to provide protection to human health and the environment (ABB-ES, 1996c).

Base Laundry. The Base Laundry is located northeast of the intersection of South Carolina Road and Pennsylvania Road. The site is approximately five acres in size and consists of one building. Prior to 1970, the building was used as a bakery. It became operational as a laundry in 1971. As part of laundry operations, dry cleaning was performed in the building. Steam from the dry cleaning machine passed through a vacuum tank and was discharged outside through a pipe located at the northeast corner of the building. From 1971 to 1988, PCE was delivered to the laundry in drums. The used PCE was drummed and disposed through the DRMO. From 1988 to 1993, PCE was delivered to the loading dock by a tank truck and pumped into an AST located inside the north end of the building. A second AST was used to contain the used PCE.

The RI identified chlorinated solvents, primarily PCE, in soils near the Base Laundry. An EE/CA was prepared proposing in-situ SVE for the localized area of soil contamination at the northeast corner of the building (URS, 1996). The system is scheduled for installation in 1996 (ABB-ES, 1996c). Because chlorinated solvents were identified at the Base Laundry and remediation has not been completed, the site will continue under the CERCLA process.

2.2 RESPONSE AND ENFORCEMENT ACTIVITIES

The response and enforcement activities at the OU 9 and 11 sites are summarized as follows:

- In 1984, a Preliminary Assessment (PA) was completed detailing historical hazardous material usage and waste disposal practices at LAFB (CH_2M Hill, 1984);
- The RI process commenced in 1988 and continued into 1995; ABB-ES, 1995; ABB-ES, 1996a);
- LAFB was added to the NPL in February 1990;

- The USAF entered into a FFA in 1991 with the USEPA and MEDEP regarding the cleanup of environmental contamination at LAFB (FFA, 1991). The FFA was revised in December 1993 to address base closure related issues, such as real estate property transfer and a revised schedule. The FFA was modified in January 1995 to allow the Remedial Project Managers to make minor modifications to the FFA, such as schedule adjustments or removal of petroleum-contaminated sites from the agreement;

- An EE/CA was completed for OUs 5, 8, 9, 10, and 11 to determine removal actions for the various sites based on information presented in the RI reports (URS, 1995);

- An EE/CA was completed for OU 11 to determine removal actions for the VMB and Base Laundry (URS, 1996);

- A Proposed Plan (ABB-ES, 1996c) for OUs 9 and 11 was submitted for public review; and

- A public comment period was conducted from June 5, to July 5, 1996, with a public meeting and hearing on June 11, 1996 to address public concern on the No Further CERCLA Action decision presented in the Proposed Plan.

Other key milestones at LAFB which relate to OU 9 and OU 11 are as follows:

- Removal actions in 1995 at the SB, PPDP, FTF, VMB, and RMSA consisted of excavation and disposal of shallow soils. In addition, bioventing systems were installed at the PPDP/FVMP and VMB.

- Removal actions will continue in 1996 with additional soil removal at the RMSA, installation of a bioventing system at the AHS, and installation of the bioventing/bioslurping system at the FTF. Excavation and installation of an ex-situ SVE system will be initiated at the VMB and an in-situ SVE system will be installed at the Base Laundry. Confirmation sampling, including sampling for VOCs, will be conducted at the AHS and RMSA.

Table 2-1 summarizes the status of cleanup at each site within the two OUs and identifies the sites where No Further CERCLA Action is necessary for source control. Because chlorinated solvents were identified and Further CERCLA Action is necessary at the AHS in OU 9 and the RMSA, VMB, and Base Laundry in OU 11, these four sites will not be considered further in this ROD. The sites will be addressed in a future ROD.

TABLE 2-1
SITE STATUS FOR OUs 9 AND 11

RECORD OF DECISION
LORING AIR FORCE BASE

OPERABLE UNIT	SITE	TYPE OF CONTAMINATION	CLEAN UP STATUS	ACTION TO BE TAKEN
OU 9	Auto Hobby Shop (AHS)	Chlorinated solvents and fuel contamination	Bioventing system to be installed in 1996. VOC confirmation sampling to be completed.	Work will continue under CERCLA.
	Snowbarn (SB)	PCB and fuel contamination	Excavation/disposal completed in 1995. Soil with PCBs > 50 mg/kg was disposed in an off-base licensed facility. All other soil was disposed in LF-3.	Petroleum and PCB removal completed to acceptable risk levels based on confirmation sampling results; therefore, no further action required for soils.
	Power Plant Drainage Pipe (PPDP)	PCB and fuel contamination	Excavation/disposal in LF-3 completed in 1995.	PCB removal completed to acceptable risk levels based on confirmation sampling results; therefore, no further action required for soils.
			Bioventing system installed in 1995.	Petroleum contamination; cleanup under state requirements.
	PPDP/Former Vehicle Motor Pool (FVMP)	Fuel contamination	Bioventing system installed in 1995 in conjunction with PPDP system.	Petroleum contamination; cleanup under state requirements.
OU 11	Fuels Tank Farm (FTF)	Lead contamination	Excavation/disposal in LF-3 completed in 1995.	Lead removal completed to acceptable risk levels based on confirmation sampling results; therefore, no further action required for soils.
		Fuel contamination	Bioventing/Biosiurping system to be installed in 1996.	Petroleum contamination; cleanup under state requirements.
	Vehicle Maintenance Building (VMB)	Chlorinated solvent, PCB, and fuel contamination	Excavation/disposal in LF-3 completed in 1995. Bioventing system installed in 1995. Excavation/ex-situ SVE system to be completed in 1996.	Work will continue under CERCLA.
	Refueling Maintenance Shop Area (RMSA)	Chlorinated solvents, PCB, and fuel contamination	Excavation/disposal in LF-3 initiated in 1995; will be completed in 1996. VOC confirmation sampling to be completed.	Work will continue under CERCLA.
	Coal Storage Pile (CSP)	NA	Coal storage not regulated under CERCLA.	No further CERCLA action required for soils.

continued

TABLE 2-1
SITE STATUS FOR OUs 9 AND 11

RECORD OF DECISION
LORING AIR FORCE BASE

OPERABLE UNIT	SITE	TYPE OF CONTAMINATION	CLEAN UP STATUS	ACTION TO BE TAKEN
	Fly Ash Disposal (FAD)	NA	Cover system constructed in 1994. Additional closure activities being conducted.	No further CERCLA action required for soils.
	Base Laundry	Chlorinated solvent contamination	SVE system to be completed in 1996.	Work will continue under CERCLA.

Notes:

NA = Not applicable
Shading indicates No Further CERCLA Action is necessary.

3.0 COMMUNITY PARTICIPATION

Throughout LAFB's history, the community has been active and involved to a high level in base activities. The USAF, USEPA, and MEDEP have kept the community and other interested parties apprised of LAFB activities through informational meetings, fact sheets, press releases, public meetings, site tours and open houses, and Restoration Advisory Board (RAB) meetings. Membership of the RAB is composed of Air Force, USEPA, MEDEP and local officials, and community representatives.

The LAFB Community Relation Plan (CRP) was released in August 1991 and revised in May 1995. The CRP outlined a program to address community concerns and keep citizens informed and involved during remedial activities. The CRP can be found in the Administrative Record.

On June 24, 1992, the Air Force made the Administrative Record available for public review. The Administrative Record is currently available for public review at the Air Force Base Conversion Agency Office, 5100 Texas Road, Limestone, Maine.

The Air Force published a notice and brief analysis of the Proposed Plan with No Further CERCLA Action in the Bangor Daily News on May 28, 1996, and in the Aroostook Republican, the Fort Fairfield Review, and the Star Herald on May 29, 1996.

The Air Force held a 30-day public comment period from June 5 to July 5, 1996, to accept public input on the information presented in the RI/Baseline Risk Assessment, the Proposed Plan, and other documents previously released to the public. On June 11, 1996, LAFB personnel and regulatory representatives held a public meeting and hearing to discuss the Proposed Plan and to accept any oral comments. A transcript of this meeting is included in Appendix A, and a responsiveness summary is included as Appendix B. The Air Force received no verbal or written comments on the OUs 9 and 11 Proposed Plan at the public hearing or during the 30 day public comment period.

4.0 SCOPE AND ROLE OF RESPONSE ACTIONS

The USAF and USEPA have determined that No Further CERCLA Action is required for soils at SB, PPDP, and FVMP in OU 9 and the FTF and CSP/FAD in OU 11.

Removal actions completed in 1995 at these sites included excavation and disposal of contaminated soils at the SB, PPDP, and FTF, and installation of the bioventing system at the PPDP/FVMP.

Removal actions will continue in 1996 with the bioventing/bioslurping system at the FTF to address petroleum-contaminated soil and fuel product.

A cover system was constructed over the FAD in 1994 and additional closure activities are currently being conducted at the FAD under the State of Maine Solid Waste Regulations.

Because the CERCLA contaminants have been removed to acceptable risk levels or are at levels that do not pose a risk, remaining contamination will be addressed using State of Maine Regulations, or the materials stored or disposed at the sites (i.e., coal, fly ash) are not regulated under CERCLA, No Further CERCLA Action is required for soils at the SB, PPDP, and FVMP in OU 9 and the FTF and CSP/FAD in OU 11.

USEPA has the authority to revisit the No Further CERCLA Action decision even if LAFB is removed from the NPL. This could occur if future conditions indicate that an unacceptable risk to human health or the environment would result from exposure to contaminants at any of the sites or there is a change in land use. The Air Force is prepared to initiate proper institutional controls, when appropriate, to restrict the future land uses of the sites and assure the proper notification of future owners.

5.0 SUMMARY OF SITE CHARACTERISTICS

Site investigations were conducted from 1985 through 1995 to characterize the nature and distribution of contaminants at OUs 9 and 11. Detailed descriptions of the data are presented in the Final RI Reports for each Operable Unit (ABB-ES, 1995 and ABB-ES, 1996a, respectively). The significant findings of these contamination assessments are summarized in the following subsections.

5.1 OPERABLE UNIT 9

Three sites in OU 9 are being considered for No Further CERCLA Action including the SB, PPDP, and FVMP. A complete discussion of site characteristics can be found in the OU 9 Final RI Report (ABB-ES, 1995).

5.1.1 Snowbarn

Areas of concern at the SB are the heavy equipment parking/storage lot and the areas that received runoff from the vehicle washing area. Contamination identified at the SB during RI activities has been addressed by excavation and disposal of shallow soil contamination as proposed in the SB CAP (ABB-ES, 1996b).

Surface Soils. Volatile organic compounds (VOCs) were detected at six locations at low and estimated low concentrations and consisted of carbon tetrachloride (0.014 milligrams per kilogram [mg/kg]) and toluene (0.003J mg/kg). The VOCs were generally located in the drainage swale southwest of the building and in an area south of the paved wash area. Semivolatile organic compounds (SVOCs) (consisting of several polynuclear aromatic hydrocarbons [PAHs]) were detected at all but two locations. The highest concentrations of SVOCs were identified in the drainage ditch southwest of the paved wash area, indicating point source surface releases at the north end of the drainage ditch. Total petroleum hydrocarbon (TPH) was detected in the grassy area south of the paved wash area at concentrations up to 2,000 mg/kg. Inorganics and pesticides were detected at very low concentrations, most below background, and therefore are not believed to be the result of site-related activities.

Subsurface Soils. One subsurface soil analytical sampling location at the SB showed low concentrations of VOCs. VOCs in subsurface soils were generally found in

localized areas at the SB and were most likely due to non-point source releases from the paved area. SVOCs were also detected at low and estimated low concentrations, and consisted mostly of PAHs, indicating a fuel- or oil-related source. Moderate concentrations of SVOCs, decreasing with increasing depth, were identified in the drainage ditch. Concentrations of TPH as high as 1,500 mg/kg were identified at the site. Inorganics and pesticides were detected at very low concentrations, most below background, and therefore are not believed to be the result of site-related activities.

During soil removal in 1995, PCBs were detected at the SB. Concentrations identified during surface sampling exceeded the preliminary remediation goal (PRG) of 0.19 mg/kg. In addition, several of the samples contained concentrations that exceeded the Toxic Substances Control Act (TSCA) regulatory level of 50 mg/kg.

Groundwater and Surface Water. Overburden groundwater is not present beneath the SB site. Low and estimated low concentrations of VOCs and inorganics were detected in bedrock groundwater during sampling. Site related SVOCs and TPH were not detected. This information suggests there has been no impact to groundwater from soil contamination at the site (ABB-ES, 1995).

There is no surface water associated with the SB.

The impacts of source area soils on groundwater and surface water were considered during establishment of PRGs. The PRGs selected are protective of groundwater, and human health and the environment. Groundwater associated with the SB will be addressed in OU 12.

5.1.2 Power Plant Drainage Pipe

Areas of concern identified at the PPDP include the PDA and the media associated with the pipeline and former UST berm. Contamination identified at the PPDP during RI activities has been addressed by excavation of shallow soil contamination and bioventing deeper petroleum-contaminated soil as proposed in the PPDP EE/CA (URS, 1995).

Surface Soils. Toluene, identified along the course of the PPDP during test boring and test pitting, was the only VOC detected in surface soils at the PPDP. The maximum concentration was 0.028 mg/kg. The surface soils at the PDA showed contamination by SVOCs, primarily PAHs. The concentrations of PAHs likely

represented releases from waste oil/fuel from the PPDP. Lower PAH concentrations may have represented releases from non-point sources from the paved area, general vehicle activity, and airport activity in the power plant area. TPH concentrations as high as 43,000 mg/kg were identified near the PDA. Inorganics and pesticides were detected at very low concentrations, most below background, and therefore are not believed to be the result of site-related activities. Aroclor-1260 was detected at 2.9J mg/kg in the PDA, and above background in two other samples. Aroclor-1260 may have resulted from the reported circuit breaker explosion at the power plant.

Subsurface Soils. Off-site analysis detected low concentrations of ethylbenzene, methylene chloride, toluene, and xylenes in isolated samples. Based on the location of these detections, the petroleum-related VOCs may have reflected contamination resulting from practices at the FVMP, rather than being PPDP-associated contamination. SVOCs, PAHs, di-n-butylphthalate, and bis(2-chloroisopropyl)ether were detected sporadically and low estimated concentrations. This contamination may also have been indicative of waste materials from the FVMP. TPH was detected in eight of the subsurface soil samples at a maximum concentration of 4,200 mg/kg. Pesticides were detected above background in nine samples. The highest concentration was dieldrin at an estimated concentration of 0.11J mg/kg. Aroclor-1260 was detected at three sampling locations north of the FVMP, along the course of the PPDP. Inorganic concentrations were generally within background ranges.

Groundwater and Surface Water. Overburden groundwater downgradient of the PPDP did not contain SVOCs, pesticides, PCBs, or inorganics during the most recent round of sampling. VOCs not detected in PPDP soils were identified in downgradient overburden groundwater. Bedrock groundwater analytical data indicated good correlation with other analytical data from the site for VOCs, SVOCs, and inorganics. SVOCs detected in bedrock groundwater are likely related to releases from the PPDP. Concentrations of inorganics above background were identified in both upgradient and downgradient wells and are therefore not considered site related. Aroclor-1221 was detected in one upgradient location and may be related to the use of PCB-containing oil or transformers at the power plant. Groundwater appears to have been affected by releases from the PPDP.

Surface water samples were taken from the PDA and from a utility area near the power plant. Samples collected at the PDA contained VOCs and PAHs. Low levels of VOCs, SVOCs, and pesticides were estimated in two surface water samples

collected near the PP utility area. Surface water in the outfall of the PPDP and in catch basins near the PP appears to have been affected by site activities (ABB-ES, 1995).

The impacts of source area soils on groundwater and surface water were considered during establishment of PRGs. The PRGs selected are protective of groundwater, and human health and the environment. Groundwater and surface water associated with the PPDP will be addressed in OU 12 and OU 13, respectively.

5.1.3 Former Vehicle Motor Pool

Contamination identified at the FVMP during RI activities has been addressed by bioventing the petroleum-contaminated soil as proposed in the FVMP EE/CA (URS, 1995).

Surface Soils. No VOCs were detected in surface soil samples at the FVMP. Several PAHs were detected in eight of the nine samples collected. In most cases, the concentrations were less than 1 mg/kg. The concentrations of PAHs may have represented releases from airport activities, non-point sources from the paved areas, and general vehicle activity at the FVMP. Samples taken from the area near the sheds and from the floor drains contained fluoranthene concentrations as high as 46 mg/kg. Total PAH concentrations in this area were greater than 200 mg/kg. These concentrations may have represented a localized area of contamination as a result of isolated spills at the FVMP. The pesticide dichlorodiphenyltrichloroethane (DDT) was detected at low concentrations at the FVMP, but was most likely the result of general basewide pesticide applications. Concentrations of TPH as high as 4,600 mg/kg indicated possible localized areas of weathered fuel. Inorganic concentrations in surface soils were generally within background ranges.

Subsurface Soils. Low concentrations of the VOCs 2-butanone, toluene, xylenes, and trichloroethene (TCE) were detected in isolated samples at depths greater than 10 feet below ground surface (bgs). The SVOCs di-n-octylphthalate, fluoranthene, and pyrene were detected in only one sample at estimated concentrations. The highest concentration of pesticides detected above background was methoxychlor estimated at 0.0024J mg/kg. TPH was generally not detected in the subsurface soil samples and inorganics were generally within background ranges.

Groundwater and Surface Water. Groundwater is present in both the overburden and the bedrock beneath the FVMP. Results of sampling conducted in 1993 indicate the presence of VOCs, SVOCs, pesticides, and inorganics; although inorganic concentrations may have represented suspended rather than dissolved concentrations of contaminants. Both VOC and SVOC TIC hydrocarbons were detected in groundwater. The compounds identified could be representative of fuels such as JP-4, or light fuel oils such as diesel. This information suggests soil contamination has had an effect on groundwater at the FVMP (ABB-ES, 1995).

There is no surface water associated with the FVMP.

The impacts of source area soils on groundwater and surface water were considered during establishment of PRGs. The PRGs selected are protective of groundwater, and human health and the environment. Groundwater associated with the FVMP will be addressed in OU 12.

5.2 OPERABLE UNIT 11

Two sites in OU 11 are being considered for No Further CERCLA Action, the FTF and the CSP/FAD. A complete discussion of site characteristics can be found in the OU 11 Final RI Report (ABB-ES, 1996a).

5.2.1 Fuels Tank Farm

Five areas of concern were identified at the FTF including the Pumphouse Area, the areas within the tank berms, the areas adjacent to the tank berms, the area adjacent to the off-spec fuel tanks, and an area north of Tank 7830. Contamination identified at the FTF during RI activities is being addressed by excavation and disposal for lead-contaminated soils and bioventing/bioslurping of petroleum-contaminated soil and fuel product as proposed in the FTF EE/CA (URS, 1995).

Surface Soils. Field gas chromatography (GC) screening identified fuel hydrocarbons (FHCs), at concentrations up to 18,000 mg/kg, and benzene, toluene, ethylbenzene, and xylenes (BTEX) in the Pumphouse Area, outside the berm at Tank 7830, and at other locations throughout the FTF. Low concentrations of PCE (0.0018 mg/kg to 0.0032 mg/kg) were detected in two of three samples at areas within the tank berms. Petroleum-related SVOCs were identified within bermed areas and in

drainage ways adjacent to the berms. Low concentrations of PCBs at the FTF were confined mainly to surface soils in the outfall from berms surrounding Tanks 7825 and 7826 during 1995 sampling. Concentrations of TPH up to 1,400 mg/kg were detected at several locations at the site. Estimated concentrations of lead ranging from 45.3J mg/kg to 3,880J mg/kg within the bermed areas and from 22.9J mg/kg to 383J mg/kg in drainage ways adjacent to the bermed areas were detected in surface soils. The lead is thought to have originated from fuel tank painting and maintenance activities.

Subsurface Soils. The 1988 soil gas survey identified FHCs in the bermed areas at the FTF. On-site field screening showed concentrations of FHCs to 190 mg/kg. Off-site analysis in 1995 confirmed the presence of low concentrations of petroleum-related VOCs and SVOCs within the bermed areas at the FTF. TPH was identified in subsurface soils near the pumphouse during off-site analysis. Contamination may be associated with pipelines leading from the tanks to the pumphouse. No PCBs were detected in subsurface soil samples and all levels of inorganics were below background.

Groundwater and Surface Water. Groundwater is present in both the overburden and bedrock beneath the FTF. Petroleum-related VOCs and SVOCs were detected in overburden and bedrock groundwater during several sampling events. In addition, free product has been measured on the groundwater table at the FTF. Lead was detected above the Maximum Contaminant Level (MCL) in several wells at the FTF, but may have been a result of suspended solids and therefore not representative of groundwater impacts from surface soil. This information suggests that groundwater has been affected by fuel-related activities at the site.

VOCs, SVOCs, or inorganics were not detected above quantification limits or background concentrations in samples collected from downstream surface water at the FTF. Contamination at the site is not believed to have affected surface water (ABB-ES, 1996a).

The impacts of source area soils on groundwater and surface water were considered during establishment of PRGs. The PRGs selected are protective of groundwater, and human health and the environment. Groundwater and surface water associated with the FTF will be addressed in OU 12 and OU 13, respectively.

5.2.2 Coal Storage Pile/Fly Ash Disposal

A cover system was installed over the FAD in 1994 and additional closure activities are currently being conducted under the State of Maine Solid Waste Regulations.

Surface Soils. Prior to construction of the cover system, VOCs and SVOCs were detected in three soil samples collected from the FAD area but only at low estimated concentrations. The only VOC detected was toluene at a maximum estimated concentration of 0.002 mg/kg. SVOCs detected included primarily PAHs, but all concentrations were below background values. TPH ranged from 33 mg/kg to 200 mg/kg.

Subsurface Soils. No subsurface soil samples were collected as part of the RI.

Groundwater and Surface Water. Groundwater is present in both the overburden and bedrock beneath the CSP/FAD. Only bedrock groundwater monitoring wells have been installed at the site. VOCs, SVOCs, or pesticides were only sporadically detected in samples collected from bedrock wells at the site. Inorganics were detected above background concentrations but below MCLs in the same samples. This information indicates that bedrock groundwater has not been affected by activities conducted at the site.

A surface water sample from the outfall drainage ditch did not identify VOCs or SVOCs. A surface water sample collected from an active seep emanating from the FAD prior to completion of the erosion cap did not contain any SVOCs or pesticides. Inorganics in both samples were detected at low concentrations slightly above background. Sampling information suggests that surface water at the CSP/FAD has not been affected by site activities (ABB-ES, 1996a).

The impacts of source area soils on groundwater and surface water were considered during establishment of PRGs. The PRGs selected are protective of groundwater, and human health and the environment. Groundwater and surface water associated with the CSP/FAD will be addressed in OU 12 and OU 13, respectively.

6.0 SUMMARY OF SITE RISKS

A baseline risk assessment (RA) was conducted for all sites but the CSP/FAD to estimate the probability and magnitude of potential adverse human health and environmental effects from exposure to contaminants associated with surface and subsurface soils at the sites. Each baseline RA was conducted using a phased approach, as described in the LAFB Risk Assessment Methodology (RAM) (HAZWRAP, 1994).

Residual risk calculations were performed at the SB and PPDP to identify remaining risks following excavation of contaminated soils and subsequent confirmation sampling that showed levels of PCBs above PRGs. Residual risk calculations were completed using the same methodology as for the baseline RAs and results are summarized in the following subsections, as appropriate.

6.1 HUMAN HEALTH RISK ASSESSMENT

The human health RAs followed a four step process:

- contaminant identification, which identified those hazardous substances that, given the specifics of the site, were of significant concern;
- exposure assessment, which identified actual or potential exposure pathways, characterized the potentially exposed populations, and determined the extent of possible exposure;
- toxicity assessment, which considered the types and magnitude of adverse health effects associated with exposure to hazardous substances; and
- risk characterization, which integrated the three earlier steps to summarize the potential and actual risks posed by hazardous substances at the site, including carcinogenic and noncarcinogenic risks.

The contaminants of concern (COCs) identified in the first step of the RA process constitute a representative subset of the compounds detected at each site during RI

activities. The COCs were selected to represent potential site-related hazards based on toxicity, concentration, frequency of detection, and mobility and persistence in the environment.

Potential human health effects associated with exposure to the COCs at each site were estimated quantitatively through the development of hypothetical exposure pathways. These pathways were developed to reflect the present uses, potential future uses, and location of each site. For each pathway, an average (i.e., mean) and a reasonable maximum exposure (RME) risk was calculated corresponding to exposure to the average and maximum concentration detected.

Excess lifetime cancer risks were determined for each exposure pathway by multiplying the exposure level by the chemical-specific cancer slope factor. Cancer slope factors have been developed by USEPA from epidemiological or animal studies to reflect a conservative "upper bound" of the risk posed by potentially carcinogenic compounds. That is, the true risk is unlikely to be greater than the predicted risk. The resulting risk estimates are expressed in scientific notation as a probability (e.g., $1x10^{-6}$ for 1/1,000,000) and indicate (using this example) that an individual has a one-in-a-million chance of developing cancer as a result of site-related exposure over 70 years to the particular compound at the stated concentration. Current USEPA practice considers carcinogenic risks to be additive when assessing exposure to a mixture of hazardous substances.

The Hazard Quotient (HQ) was also calculated for each pathway as USEPA's measure of the potential for noncarcinogenic health effects. The HQ is calculated by dividing the exposure level by the reference dose (RfD) or other suitable benchmark for noncarcinogenic health effects. RfDs have been developed by USEPA to protect sensitive individuals over the course of a lifetime, and reflect a daily exposure level that is likely to be without an appreciable risk of an adverse health effect. RfDs are derived from epidemiological or animal studies and incorporate uncertainty factors to help ensure that adverse health effects will not occur. The HQ is often expressed as a single value (e.g., 0.3) indicating the ratio of the stated exposure to the RfD value (in this example, the exposure is approximately one-third of an acceptable exposure level for the given compound). HQs are summed, resulting in a Hazard Index (HI) for each pathway. If the HI is greater than 1, the predicted intake could potentially cause adverse health effects. This determination is necessarily imprecise because the derivation of dose-response values (i.e., RfDs) involves the use of multiple safety and uncertainty factors. In addition,

the HQs for individual compounds should be summed only if their target organs or mechanisms of action are identical. Therefore, the potential for adverse effects from a mixture having an HI in excess of 1 must be assessed on a case-by-case basis.

Carcinogenic risks are compared to the USEPA target carcinogenic risk range of one in ten thousand to one in a million ($1x10^{-4}$ to $1x10^{-6}$)and the MEDEP cancer risk guidance value of $1x10^{-5}$. Noncarcinogenic risks are compared to the USEPA target noncarcinogenic hazard index (HI) of 1 (USEPA, 1990).

USEPA has a CERCLA mandate to manage risk resulting from actual or potential exposure to hazardous substances. Carcinogenic risk within the USEPA's target cancer risk range is considered acceptable. Noncarcinogenic risks with HIs below 1 are also considered acceptable. USEPA's decision as to whether action is warranted when the cancer risk range is not exceeded is based upon site-specific conditions.

6.2 Ecological Risk Assessment

An ecological RA was performed at each site for terrestrial animals and plant life (phytotoxicity). An ecological RA was not conducted for the FTF or the CSP/FAD. Risks for ecological receptors were evaluated for exposures to contaminated surface soil, ingestion of contaminated food items, inhalation of contaminants from surface soil, dermal contact with surface soil, and root uptake (plants only). Exposure pathways were not identified for subsurface soil because terrestrial organisms are not expected to come in contact with soil deeper than two feet below grade, and few prey items exist in subsurface soils.

Concentrations of chemicals in surface soil were compared to chemical-specific, receptor-specific ecological toxicity benchmark values to derive HQs. The HQs for each pathway were summed to yield a total HI for each receptor based on exposure to mean (average case) and maximum concentrations (worst case).

The results of the human health RAs are discussed below, followed by a discussion of the ecological RA for each site.

6.3 SUMMARY OF RISKS AT OPERABLE UNIT 9

RAs were conducted for the SB, PPDP, and FVMP. Table 6-1 summarizes the results of the OU 9 human health RAs and Table 6-2 summarizes the results of the OU 9 ecological RAs. Detailed discussions on the human health and ecological RAs are presented in the OU 9 Final RI Report (ABB-ES, 1995).

6.3.1 Snowbarn

The risk characterization evaluated potential risks to a child trespasser, groundskeeper, commercial/industrial worker, and construction worker associated with exposures to surface and subsurface soils. PAHs, Aroclor-1260, and several inorganics were identified as the predominant COCs at the SB.

Human Health Risk Assessment. Carcinogenic risks associated with exposure to surface and subsurface soil were within the USEPA carcinogenic risk range ($1x10^{-4}$ to $1x10^{-6}$). The only exposure scenarios evaluated for surface soil and subsurface soil which exceed the MEDEP cancer risk guidance value ($1x10^{-5}$) were the commercial/ industrial worker, groundskeeper, and construction worker for the RME. The cancer risk was attributable to carcinogenic PAHs through the incidental ingestion route of exposure. Non-cancer risks were within acceptable guidance levels. Subsurface soil noncarcinogenic risk to the construction worker (RME) was equal to an HI of 1 and attributed to the inhalation of barium (see Table 6-1). Although inorganics are primary risk drivers, the concentrations detected at the SB are generally below background, and therefore not believed to be site-related.

TPH was detected at a maximum concentration of 2,000 mg/kg in surface and subsurface soil. Because TPH concentrations were not quantitatively evaluated, they contribute to the uncertainty of the risk assessment (i.e., risks are potentially underestimated).

Ecological Risk Assessment. The ecological RA included an evaluation of potential risks to terrestrial plants, invertebrates, and wildlife from exposure to surface soils.

The maximum HIs exceeded one for both plants and invertebrates. However, the average were below one. Zinc was the primary risk driver. Adverse effects to plants or the soil invertebrate community, associated with exposure to zinc, are possible but the probability of impact is low. Although inorganics are primary risk drivers, the

TABLE 6-1
OU 9 QUANTITATIVE HUMAN HEALTH RISK SUMMARY

OUs 9 AND 11 RECORD OF DECISION
LORING AIR FORCE BASE

SITE NAME		TOTAL CANCER RISK		NON-CARCINOGENIC RISK	
		AVERAGE	RME[1]	AVERAGE	RME
SB					
	Surface Soil (0-2 feet)				
	Trespasser	1E-06	5E-06	0.0002	0.009
	Groundskeeper	1E-06	6E-05	0.01	0.02
	Commercial/Industrial Worker	6E-06	2E-05	0.01	0.02
	Subsurface Soil (0-10 feet)				
	Construction Worker	2E-06	2E-05	0.3	1
PPDP					
	Surface Soil (0-2 feet)				
	Trespasser	1E-06	3E-06	0.004	0.01
	Groundskeeper	3E-07	1E-06	0.001	0.005
	Commercial/Industrial Worker	1E-06	4E-06	0.001	0.002
	Subsurface Soil (0-2 feet)				
	Construction Worker	6E-07	3E-06	0.08	0.3
FVMP					
	Surface Soil (0-2 feet)				
	Trespasser	1E-06	1E-05	0.004	0.01
	Groundskeeper	2E-06	1E-05	0.03	0.1
	Commercial/Industrial Worker	8E-06	5E-05	0.01	0.02
	Subsurface Soil (0-2 feet)				
	Construction Worker	2E-05	5E-05	11	46

Notes:

[1]RME = Reasonable Maximum Exposure

TABLE 6-2
OU 9 ECOLOGICAL RISK SUMMARY FOR SURFACE SOILS

OUs 9 AND 11 RECORD OF DECISION
LORING AIR FORCE BASE

SITE NAME	ECOLOGICAL RECEPTOR	HAZARD INDEX	
		LETHAL EFFECTS	SUB-LETHAL EFFECTS
SB	TERRESTRIAL WILDLIFE		
	Meadow Vole	0.24	0.34
	American Robin	0.21	1.5
	Red Fox	0.37	0.013
	American Kestrel	0.37	0.026
		EFFECTS EVALUATED	
	INVERTEBRATES	Earthworm LC50 [1]	
	VASCULAR PLANTS	Phytotoxicity	
SITE NAME	ECOLOGICAL RECEPTOR	HAZARD INDEX	
		LETHAL EFFECTS	SUB-LETHAL EFFECTS
PPDP	TERRESTRIAL WILDLIFE		
	Short-tailed Shrew	4.8	3.4
	American Woodcock	6.7	0.098
	Garter Snake	0.55	0.29
	Barred Owl	0.42	0.00072
	Meadow Vole	0.25	0.29
	American Robin	1.6	0.63
	Red Fox [2]	0.63	0.0057
	American Kestrel	1.5	0.011
		EFFECTS EVALUATED	
	INVERTEBRATES	Earthworm LC50 [1]	
	VASCULAR PLANTS	Phytotoxicity	
SITE NAME	ECOLOGICAL RECEPTOR	HAZARD INDEX	
		LETHAL EFFECTS	SUB-LETHAL EFFECTS
FVMP	TERRESTRIAL WILDLIFE		
	Meadow Vole	0.46	0.65
	American Robin	2.8	2.5
	Red Fox	0.74	0.0054
	American Kestrel	1.8	0.017
		EFFECTS EVALUATED	
	INVERTEBRATES	Earthworm LC50 [1]	
	VASCULAR PLANTS	Phytotoxicity	

Notes:

[1] LC50 = Lethal Concentration 50%
[2] The most conservative values are presented for the red fox.

concentrations detected at the SB are generally below background, and therefore not believed to be site-related.

Except for the American robin, lethal or sub-lethal HIs estimated for terrestrial wildlife receptors did not exceed one. Sub-lethal HIs for the American robin slightly exceeded one; however, estimated exposure doses for individual COCs were not in excess of protective reference toxicity values (RTVs). These findings suggest that it is unlikely that terrestrial receptors are at significant risk to adverse effects in the terrestrial habitat associated with the SB (see Table 6-2).

Conclusion. Removal actions were completed at the SB in 1995 and included excavation and disposal of petroleum- and PCB-contaminated soils. The PCB-contaminated soil (>50 mg/kg) was disposed in a licensed off-base facility. The remaining petroleum-contaminated soil was disposed in LF-3. Confirmation samples were taken during the removal action. Ten of the samples showed exceedances of PRGs. Reexcavation and resampling occurred at eight of the locations and contamination levels were identified below PRGs after reexcavation. Residual RAs were performed on the two remaining areas and revealed the residual risk was below acceptable levels (Bechtel, 1996). Because the PCB and petroleum contamination at the SB has been removed to below acceptable risk levels, No Further CERCLA Action is required for soils at the site.

6.3.2 Power Plant Drainage Pipe

The risk characterization evaluated potential risks to a child trespasser, groundskeeper, commercial/industrial worker, and construction worker associated with exposures to surface and subsurface soils. COCs identified for surface and subsurface soil at the PPDP consist primarily of PAHs, PCBs, pesticides, and inorganics.

Human Health Risk Assessment. Carcinogenic and noncarcinogenic risks were assessed to be within or below the USEPA carcinogenic risk range ($1x10^{-4}$ to $1x10^{-6}$) and below the MEDEP cancer risk guidance value ($1x10^{-5}$). Cumulative risks associated with the trespasser exposure to surface soil and subsurface soil in the pipeline drainage area were within the USEPA carcinogenic risk range and were less than the MEDEP cancer risk guidance value. Cumulative HI scores were well below 1 (see Table 6-1).

TPH was detected at a maximum concentration of 43,000 mg/kg in surface soil at the drainage area and in the waste trench at a maximum concentration of 23,000 mg/kg. TPH concentrations were not evaluated quantitatively, thus, potentially underestimating risk.

Lead was detected above the MEDEP criteria (125 mg/kg) in the PP area surface (129 mg/kg) and subsurface soil (158 mg/kg). Lead was also detected above the MEDEP criteria (125 mg/kg) in the PDA surface soil (780 mg/kg). However, the calculated blood lead levels for young children using the Integrated Exposure Uptake Biokinetic (IEUBK) model are well below the criteria value (10 micrograms per deciliter [μg/dL]).

Ecological Risk Assessment. The ecological RA included an evaluation of potential risks to terrestrial plants, invertebrates, and wildlife from exposure to surface soils.

Maximum concentrations of chromium, copper, and lead detected in PDA surface soils and the maximum concentration of zinc detected in PP area surface soils, exceeded available plant RTVs. Average concentrations of chromium, copper, and zinc exceed the established benchmark values for earthworms at the PDA, and the average concentration of zinc exceeded the earthworm RTV at the PP area, although concentrations of inorganics are generally below background values. Maximum surface soil concentrations were only 2 to 6 times greater than the established RTVs. These findings suggest the likelihood that earthworm (and other soil invertebrate) populations would be adversely affected is low.

At the PDA, lethal and sub-lethal HIs exceeded one for the short-tailed shrew. Lethal HIs exceeded one for the American woodcock. Risk findings for the other representative wildlife receptors were less than 1. The magnitude of these risk estimates suggests that wildlife populations are unlikely to be adversely impacted as a result of exposure to PDA surface soils. It is important to note that manganese, a predominant risk contributor, was detected at a maximum concentration in PDA surface soils only slightly higher than maximum background concentration for LAFB.

At the PP area, only the estimated lethal HIs for the American robin and American kestrel exceeded one. Zinc was the predominant risk contributor with barium (robin only), mercury (kestrel only) and selenium also contributing to the projected risks. No sub-lethal HIs exceeded one. The magnitude of the HIs estimated for robin and

kestrel suggest that avifauna are unlikely to be at significant risk due to exposures at the PP area (see Table 6-2).

A number of uncertainties were identified that may result in potential risks being underestimated at the PPDP. These uncertainties include potential exposures associated with the certain COCs which could not be evaluated due a lack of toxicological data (e.g., TPH), and potential adverse effects associated with the combined exposures by wide-ranging organisms that may also utilize other contaminated areas located in the vicinity of the PPDP.

Conclusion. Removal actions were completed at the PPDP in 1995 and included excavation and disposal of petroleum- and PCB-contaminated shallow soils. Confirmation samples were taken during excavation of the shallow soils. Five of the samples showed exceedances of PRGs. Additional excavation and resampling occurred at four of the locations and contamination levels were identified below PRGs after reexcavation. A residual RA was performed on the remaining area and revealed the residual risk was below acceptable levels (Bechtel, 1996). A bioventing system was also installed in 1995 to address petroleum contamination in subsurface soils. Because the PCB contamination at the PPDP was removed to below acceptable risk levels and the remaining contamination is petroleum-related, No Further CERCLA Action is required for soils at the site.

6.3.3 Former Vehicle Motor Pool

The risk characterization evaluated potential risks to a child trespasser, groundskeeper, commercial/industrial worker, and construction worker associated with exposures to surface and subsurface soils. The COCs identified at the FVMP include PAHs, PCBs, and inorganics.

Human Health Risk Assessment. Carcinogenic risks associated with exposure to surface soil were within the USEPA carcinogenic risk range ($1x10^{-4}$ to $1x10^{-6}$). The commercial/industrial worker maximum exposure exceeds the MEDEP cancer risk guidance value ($1x10^{-5}$). These risks are due primarily to incidental ingestion exposures to arsenic and carcinogenic PAHs in surface soil. Noncarcinogenic risks were within acceptable levels. Subsurface soil average and maximum cancer risks to the construction worker were assessed to be above the MEDEP cancer risk guidance value but within the USEPA risk range. The calculated carcinogenic risks are due primarily to incidental ingestion of carcinogenic PAHs, arsenic, and PCBs, and

inhalation of arsenic and cadmium particulates. Noncarcinogenic risks for the construction worker were also greater than an HI score of one, due primarily to manganese through the inhalation exposure route. As discussed in the OU 9 Final RI Report (ABB-ES, 1995), health risks associated with the inhalation of manganese at the FVMP are probably not site-related and are overestimated (see Table 6-1). Other inorganics at the site were generally identified below background and are not believed to be site-related contaminants.

Lead (345 mg/kg) was detected at concentrations above the MEDEP criterion (125 mg/kg) in surface and subsurface soil, although the calculated blood lead levels for young children using the IEUBK model are well below the criterion value (10 μg/dL).

TPH was detected at a maximum concentration of 4,600 mg/kg in surface and subsurface soil. Because TPH concentrations were not quantitatively evaluated, they contribute to the uncertainty in the RA, potentially underestimating risk.

Ecological Risk Assessment. The ecological RA included an evaluation of potential risks to terrestrial plants, invertebrates, and wildlife from exposure to surface soils.

The maximum detected concentrations of lead, manganese, and zinc exceeded the plant RTVs. However, average concentrations of these inorganics were below screening toxicological benchmark values, and maximum soil concentrations only slightly exceeded the RTVs. The established invertebrate RTVs for manganese and zinc were also exceeded by the maximum detected concentrations of these COCs at the FVMP site. Maximum concentrations of lead, and zinc were collected at a single location and adverse effects to plants or the soil invertebrate community that occur at the rest of the terrestrial habitat associated with the site are not anticipated.

The lethal HIs for the American robin and American kestrel exceeded one, and the sub-lethal HI for the robin exceeded one. Manganese was the primary risk contributor to the robin under both lethal and sub-lethal effects scenarios. Although no individual lethal HQ for the kestrel exceeded one, lethal HQs for several PAH compounds, manganese, and zinc were all within an order of magnitude of one. The magnitude of the HIs estimated for robin and kestrel suggest that avifauna are unlikely to be at significant risk to adverse effects at the FVMP. It is important to note that manganese, a predominant risk contributor, was detected at a maximum concentration in FVMP surface soils at only approximately twice the maximum

background concentration for LAFB (see Table 6-2). Other inorganics at the site were generally identified below background and are not believed to be site-related contaminants.

Conclusion. A bioventing system was installed at the FVMP in conjunction with the system at the PPDP in 1995 to address the petroleum-contaminated soil. Because the contamination at the FVMP is petroleum-related, No Further CERCLA Action is required for soils at the site.

6.4 SUMMARY OF RISKS AT OPERABLE UNIT 11

A human health RA was conducted for the FTF. An ecological RA was not performed because the site is small, fenced, and gravel covered, and does not provide a suitable ecological habitat. The RA was qualitative and used only the results of the PCB contamination identified at the site. Because lead was identified in surface soil at the FTF in excess of the USEPA Interim Soil Lead Guidance value (400 mg/kg), excavation of the soils was completed using the guidance value as the PRG. The remaining contamination at the FTF is petroleum-related and therefore regulated under MEDEP. State regulations do not require an RA to be performed on petroleum-related contamination.

An RA was not performed at the CSP/FAD because the RI did not identify levels of contamination at the site significant enough to pose a risk to public health or the environment. Additionally, coal storage and fly ash are not regulated under CERCLA. Table 6-3 summarizes the results of the FTF human health RA. Detailed discussion on the human health RA is presented in the OU 11 Final RI Report (ABB-ES, 1996a).

6.4.1 Fuels Tank Farm

A human health RA was conducted at the FTF to determine if PCBs detected in surface soils posed a potential risk to human receptors. The data used for the RA was collected in 1995 for Level B immunoassay PCB field screening analysis; therefore, the data is considered Level B data. The human health RA was conducted using the most conservative scenarios described in the RAM (HAZWRAP, 1994).

TABLE 6-3
OU 11 QUANTITATIVE HUMAN HEALTH RISK SUMMARY

OUs 9 AND 11 RECORD OF DECISION
LORING AIR FORCE BASE

SITE NAME		TOTAL CANCER RISK		NON-CARCINOGENIC RISK	
		AVERAGE	RME[1]	AVERAGE	RME
FTF[2]					
	Surface Soil (0-2 feet)				
	Commercial/Industrial Worker	-	1E-05	-	0.2[illegible]
	Subsurface Soil (0-10 feet)				
	Construction Worker	-	2E-06	-	0.6

Notes:

[1]RME = Reasonable Maximum Exposure
[2] = Evaluated for PCBs only
- = Not Evaluated

Human Health Risk Assessment. Exposure to PCBs could occur through incidental ingestion of contaminated soil, dermal contact with contaminated soil, and inhalation of contaminated particulates. The total cancer risk for the most conservative scenario (commercial/industrial worker) is $1x10^{-5}$. The total HQ for the most conservative noncarcinogenic scenario (construction worker) is 0.7. The maximum estimated risks do not exceed the USEPA and MEDEP regulatory criteria; therefore, no significant risk to human receptors is predicted (see Table 6-3).

Ecological Risk Assessment. An ecological risk assessment was not performed because the site is small, fenced, and gravel covered, and does not provide a suitable ecological habitat.

Conclusion. Removal actions were completed at the FTF in 1995 and included excavation and disposal in LF-3 of lead-contaminated soils. Confirmation samples were taken during the removal action. Four of the samples showed exceedances of PRGs. Additional excavation and resampling showed no contaminant levels above PRGs (Bechtel, 1996). A bioventing/bioslurping system will be installed at the FTF in 1996 to address the remaining petroleum-contaminated soil and fuel product. Because the lead- contaminated soil at the FTF was removed to below acceptable risk levels and the remaining contamination is petroleum-related, No Further CERCLA Action is required for soils at the site.

7.0 DESCRIPTION OF THE NO ACTION ALTERNATIVE

Based on the results of the RIs, removal actions, and residual RAs, No Further CERCLA Action is necessary for source control at the SB, PPDP, and FVMP in OU 9 and the FTF and CSP/FAD in OU 11.

Although there are no remedial actions associated with this No Further CERCLA Action decision, removal actions currently being conducted at the sites to address petroleum-contaminated soil and fuel product will be completed. The cost associated with these actions is approximately $1,800,000. Because only petroleum contamination remains at the sites, no five-year site reviews will be conducted following completion of the removal actions. There are no additional costs associated with the No Further CERCLA Action decision.

Although No Further CERCLA Action is necessary for source control at many of the OU 9 and 11 sites referenced above, further CERCLA actions may be required to address other media (i.e., groundwater and surface water). The groundwater and surface water associated with all of the OU 9 and 11 sites will be addressed in OU 12 and OU 13, respectively.

USEPA has the authority to revisit the No Further CERCLA Action decision even if LAFB is removed from the NPL. This could occur if future conditions indicate that an unacceptable risk to human health or the environment would result from exposure to contaminants at the sites or there is a change in land use. The Air Force is prepared to initiate proper institutional controls, when appropriate, to restrict the future land uses of the sites and assure the proper notification of future owners.

8.0 DOCUMENTATION OF NO SIGNIFICANT CHANGES

The Air Force prepared a Proposed Plan outlining the proposed alternative of No Further CERCLA Action at OUs 9 and 11 (i.e., SB, PPDP, FVMP, FTF, and CSP/FAD) (ABB-ES, 1996c). The Proposed Plan described the Air Force's decision to pursue No Further CERCLA Action for source control at these sites.

No significant changes have been made to the preferred alternative described in the Proposed Plan.

9.0 STATE ROLE

The MEDEP, as a party to the FFA, has reviewed the proposed alternative. The MEDEP has also reviewed the RIs, RAs, EE/CA, and CAPs to determine if the selected remedy is in compliance with pertinent state environmental laws and regulations.

The MEDEP concurs with the No Further CERCLA Action for source control at the SB, PPDP, and FVMP in OU 9 and the FTF and CSP/FAD in OU 11. A copy of the Letter of Concurrence is presented in Appendix C of this ROD.

ABB-ES	ABB Environmental Services, Inc.
AHS	Auto Hobby Shop
AOC	area of concern
AST	aboveground storage tank
AVGAS	aviation gasoline
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAP	Corrective Action Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	contaminant of concern
CRP	community relation plan
CSP	Coal Storage Pile
DDT	dichlorodiphenyltrichloroethane
DoD	Department of Defense
DRMO	Defense Reutilization Marketing Office
EE/CA	Engineering Evaluation/Cost Analysis
FAD	Fly Ash Disposal
FFA	Federal Facilities Agreement
FHC	fuel hydrocarbons
FLA	Flightline Area
FLDD	Flightline Drainage Ditch
FTF	Fuels Tank Farm
FVMP	Former Vehicle Motor Pool
GC	gas chromatography
HAZWRAP	Hazardous Waste Remedial Actions Program
HI	Hazard Index
HQ	hazard quotient
IEUBK	Integrated Exposure Uptake Biokinetic
IR	infrared

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

IRP	Installation Restoration Program
LAFB	Loring Air Force Base
LC50	Lethal Concentration 50%
LF-3	Landfill 3
MOGAS	motor gasoline
MEDEP	Maine Department of Environmental Protection
mg/kg	milligrams per kilogram
NCP	National Contingency Plan
NPL	National Priority List
OU	Operable Unit
PA	preliminary assessment
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PDA	pipeline drainage area
PP	power plant
PPDP	Power Plant Drainage Pipe
PRG	preliminary remediation goal
RA	risk assessment
RAB	Restoration Advisory Board
RAM	risk assessment methodology
RfD	reference dose
RI	remedial investigation
RME	reasonable maximum exposure
RMSA	Refueling Maintenance Shop Area
ROD	Record of Decision
RTV	Reference Toxicity Value
SARA	Superfund Amendments and Reauthorization Act
SB	Snowbarn
SVE	soil vapor extraction
SVOC	semivolatile organic compound

TCE	trichloroethene
TPH	total petroleum hydrocarbon
TSCA	Toxic Substances Control Act
µg/dL	micrograms per deciliter
URS	URS Consultants, Inc.
USAF	U.S. Air Force
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VMB	Vehicle Maintenance Building
VOC	volatile organic compound

ABB Environmental Services, Inc. (ABB-ES), 1995. *Remedial Investigation Report South Flightline Operable Unit 9 (OU 9);* Final: Installation Restoration Program; Loring Air Force Base; prepared for HAZWRAP; Portland, Maine; January, 1995.

ABB Environmental Services, Inc. (ABB-ES), 1996a. *Remedial Investigation Report Operable Unit 11 (OU 11);* Final; Installation Restoration Program; Loring Air Force Base; prepared for HAZWRAP; Portland, Maine; January, 1996.

ABB Environmental Services, Inc. (ABB-ES), 1996b. *Operable Units 5 and 9 Corrective Action Plan;* Final; Installation Restoration Program; Loring Air Force Base; prepared for HAZWRAP; Portland, Maine; April, 1996.

ABB Environmental Services, Inc. (ABB-ES), 1996c. *Operable Units 9 and 11 Proposed Plan;* Final; Installation Restoration Program; Loring Air Force Base; prepared for HAZWRAP; Portland, Maine; June, 1996.

Bechtel Environmental, Inc. (Bechtel), 1996. *Removal Actions at Operable Units 5, 8, 9, 10, and 11 Removal Actions Report;* Final; prepared for the Department of the Air Force; Oak Ridge, Tennessee; February, 1996.

CH_2M Hill, 1984. *IRP Records Search*; Loring Air Force Base; Limestone, Maine; January 1984.

Federal Facility Agreement (FFA), 1991. Under CERCLA Section 120, The Matter of Loring Air Force Base by U.S. Environmental Protection Agency Region I, State of Maine, and the U.S. Department of the Air Force; January, 1991.

Hazardous Waste Remedial Actions Program (HAZWRAP), 1994. *Loring Air Force Base Risk Assessment Methodology, Final;* Environmental Restoration and Waste Management Programs; Oak Ridge, Tennessee; August, 1994.

URS Consultants, Inc. (URS), 1995. *Engineering Evaluation/Cost Analysis for Operable Units 5, 8, 9, 10, and 11;* Final; Environmental Restoration Program; prepared for Department of the Air Force; Denver, Colorado; March 1995.

URS Consultants, Inc. (URS), 1996. *Engineering Evaluation/Cost Analysis for Operable Unit 11;* Final; Environmental Restoration Program; prepared for Department of the Air Force; Denver, Colorado; March 1996.

U.S. Environmental Protection Agency (USEPA), 1990. *National Oil and Hazardous Substances Contingency Plan;* 40 CFR Part 300; Washington, DC; March, 1990.

TRANSCRIPT OF PUBLIC MEETING

STATE OF MAINE AROOSTOOK, ss.

OPERABLE UNITS 4, 9 & 11

PUBLIC HEARING

JUNE 11, 1996

CARIBOU CITY COUNCIL CHAMBER

CARIBOU, MAINE

7:26 P.M.

BENNETT LEGAL TRANSCRIPT SERVICES
P. O. Box 947
Caribou, ME 04736-0947
(207)498-2729

TABLE OF CONTENTS

EXHIBITS

NONE

June 11, 1996

PETER FORBES: Good evening. Welcome to the public hearing to receive comments on the proposed plans for Operable Units 4 and 9 and 11 at Loring Air Force Base. Today's date is June 11th, 1996. My name is Peter Forbes, the Remedial Project Manager for the Installation Restoration Program at Loring. Seated with me are Michael Nalipinski, Remedial Project Manager for the U.S. Environmental Protection Agency, and Naji Akladiss, Remedial Project Manager for the Maine Department of Environmental Protection, and they will assist me in receiving your comments.

This hearing is being held in accordance with the provisions of the Comprehensive Environmental Response Compensation and Liability Act or CERCLA as amended in 1986, also known as Superfund. The act requires federal facilities on the National Priorities List to present clean up proposals to the local community for comment and consideration before the final clean up decisions are made. The

purpose of this hearing is to receive comments on the Proposed Plans for Operable Units 4 and 9 and 11.

Mr. Philip Bennett from Aroostook Legal Reporters will serve as the court reporter tonight, preparing a verbatim record of the proceedings. The verbatim record will become a part of the final clean up plan. The court reporter will be able to make a complete record only if he is able to hear and understand what you say. With that in mind, please follow these ground rules. Speak only after I recognize you and please address your remarks to me. State your name and the organization you represent and present your statement. Do not begin speaking until you have reached the microphone and speak slowly and clearly into the microphone. If you have prepared your statement beforehand, you may read it aloud or you may paraphrase it and place it on the table.

Are there individuals wishing to make a comment or statement at this time?

Ladies and gentlemen, it is 7:30 p.m., June 11, 1996 and I declare the public hearing to receive comments on the Proposed Plans for

Operable Units 4 and 9 and 11 at Loring Air Force Base closed. Thank you all for coming.

****

C E R T I F I C A T I O N

I HEREBY CERTIFY THAT the foregoing is a true and correct transcript of my stenographic notes taken at the Operable Units 4 & 9, 11 Public Hearing held on June 11, 1996.

Philip R. Bennett, Jr.,
Court Reporter

STATE OF MAINE AROOSTOOK, ss.

RESPONSIVENESS SUMMARY

The Air Force held a 30-day comment period from June 5, 1996 to July 5, 1996, to provide an opportunity for the public to comment on the Proposed Plan and other documents developed for Operable Units (OUs) 9 and 11 at Loring Air Force Base, Maine. The Proposed Plan is the document that identifies the No Further CERCLA Action decision for source area soils at three sites in OU 9 and two sites in OU 11.

The Air Force made a recommendation of No Further CERCLA Action for source area soils at the Snowbarn (SB), Power Plant Drainage Pipe (PPDP), and Former Vehicle Motor Pool (FVMP) in OU 9, and the Fuels Tank Farm (FTF) and Coal Storage Pile/Fly Ash Disposal (CSP/FAD) in OU 11. This recommendation was presented in the OU 9 and 11 Proposed Plan. The Proposed Plan was issued on May 29, 1996, before the start of the comment period. All documents on which the decision was based were placed in the Administrative Record for review. The Administrative Record is a collection of the documents considered by the Air Force when selecting No Further CERCLA Action for source area soils at the sites in OUs 9 and 11.

The Air Force received no verbal or written comments on the OUs 9 and 11 Proposed Plan at a public hearing held on June 11, 1996, or during the 30 day public comment period.

The Air Force will select the No Further CERCLA Action decision for source area soils at the SB, PPDP, and FVMP in OU 9 and the FTF and CSP/FAD in OU 11.

The Auto Hobby Shop (AHS), Refueling Maintenance Shop Area (RMSA), Vehicle Maintenance Building (VMB), and Base Laundry source areas will be addressed in a future ROD. The groundwater and surface water associated with all of the OUs 9 and 11 sites will be addressed in OUs 12 and 13, respectively.

LETTER OF CONCURRENCE

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

ANGUS S. KING, JR.
GOVERNOR

EDWARD O. SULLIVAN
COMMISSIONER

August 14, 1996

Mr. Alan K. Olsen
AFBCA/DR
1700 N. Moore Street, Suite 2300
Arlington, VA. 22209-2802

RE: Loring Air Force Base Superfund Site, Limestone, Maine

Dear Mr. Olsen:

The Maine Department of Environmental Protection (MEDEP) has completed its review of the Draft Final Operable Units (OUs) 9 and 11 Record of Decision (ROD) dated July 1996 and prepared for the Air Force Base Conversion Agency by the Hazardous Waste Remedial Actions Program.

Based on the information in the Draft Final ROD, MEDEP concurs with the Air Force recommendations summarized below:

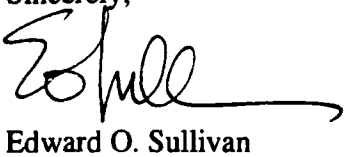
> Based on the results of the Remedial Investigation Reports, Removal Actions, and Residual Risk Assessments, no further action is necessary under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) for source control at the following OU 9 sites: Snow Barn, Power Plant Drainage Pipe, and Former Vehicle Motor Pool, and the following OU11 sites: Fuel Tank Farm and Coal Storage Pile/Fly Ash Disposal.
>
> Removal action will be conducted at these sites to address fuel contaminated soil and free fuel product. These actions will be conducted in accordance with Maine law and regulations.
>
> Further action under CERCLA and State law may be required to address other media. Groundwater and surface water associated with all of the sites in OU9 and OU 11 will be addressed in the RODs for OU 12 and OU 13.
>
> Future land use at the sites will be restricted to commercial industrial activities and future exposures will be limited to workers and trespassers.

The State's concurrence with the remedy described above should not be construed as concurrence with any conclusion of law or finding of fact which may be set forth in the ROD for OU 9 and OU 11. The State reserves any and all right to challenge any such finding of fact or

conclusion of law in any other context. This concurrence is based on the State's understanding that MEDEP will continue to participate in the Federal Facilities Agreement and the review and approval of operation, design and monitoring plans. MEDEP's concurrence is conditional pending our review and approval of permanent institutional controls.

The MEDEP looks forward to working with the Department of the Air Force and the US Environmental Protection Agency to resolve the environmental problems posed by these sites. If you need additional information, do not hesitate to contact either Mark Hyland or myself.

Sincerely,



Edward O. Sullivan

pc: Mark Hyland, MEDEP
Naji Akladiss, DEP
Michael Nalipinski, EPA
Hank Lowman, AFBCA
David Hopkins, AFBCA