

51645

**Record of Decision  
For A  
Source Area Remedial Action  
At  
Landfill 5**

**Pease Air Force Base, NH**

**September 1993**

**Prepared for:**

**Headquarters Air Force Base Disposal Agency (HQ AFBDA)  
The Pentagon, Washington, DC 20330**

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**LANDFILL 5  
RECORD OF DECISION**

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## DECLARATION

### SITE NAME AND LOCATION

Pease Air Force Base (PAFB), Landfill 5, New Hampshire

### STATEMENT OF BASIS AND PURPOSE

This decision document presents a selected source control remedial action designed to provide containment of landfill wastes at Landfill 5, Pease AFB, NH. This decision document was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act as amended by the Superfund Amendments and Reauthorization Act of 1986, and, to the extent practicable, the National Contingency Plan. Through this document the Air Force plans to remedy the threat to human health, welfare or the environment posed by contaminated soil, debris, and sediment associated with Landfill 5. Contaminated groundwater, surface water, and additional sediment associated with Landfill 5 will be addressed in the Zone 1 FS. This decision is based on the Administrative Record for the site. The Administrative Record for the site is located at the Information Repository in Building 43 at Pease International Tradeport (formerly Pease AFB, New Hampshire). The Administrative Record Index as applies to Landfill 5 may be found in Appendix D.

The State of New Hampshire Department of Environmental Services (NHDES) and the U.S. Environmental Protection Agency (USEPA) concur with the selected remedy.

### ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from Landfill 5, if not addressed by implementing the response action selected in this Record of Decision (ROD), may present an imminent and substantial endangerment to public health, welfare, or the environment.

### DESCRIPTION OF THE SELECTED REMEDY

This action addresses the principal threat posed by Landfill 5 by preventing endangerment of public health, welfare, or the environment by implementation of this ROD which calls for consolidation and containment of landfill wastes.

The selected remedy includes excavation and consolidation, above the groundwater table, of saturated Landfill 5 debris and construction of a cap over Landfill 5. It is also proposed that all soil and debris from Landfills 2 and 4 would be excavated and transported to Landfill 5 for consolidation and used as subgrade fill material prior to capping of Landfill 5. A final decision under CERCLA for Landfills 2 and 4 will be required prior to implementation of the proposed consolidation plan. The selected remedy also includes

extraction of groundwater to facilitate excavation of saturated landfill debris, treatment of the groundwater in an on-site mobile treatment system and discharge of treated groundwater to the base wastewater treatment facility. - -

The selected remedy is expected to prevent the potential for direct contact between contaminated landfill soils/debris and human and ecological receptors, and to minimize contaminant leaching to sediments and surface waters of Flagstone Brook and Railway Ditch and to groundwater.

The treatment processes used to treat groundwater extracted during construction dewatering will ultimately be selected by the remedial contractor providing the mobile treatment system. Technologies considered in the Feasibility Study include carbon adsorption, ion exchange and multi-media filtration.

The preferred discharge method for the treated water is to the base wastewater treatment facility. Coordination with the City of Portsmouth as the current operator, would be required prior to discharge. Treated water will meet the pretreatment criteria established by the City of Portsmouth. Ultimate discharge will be to the Great Bay via a National Pollutant Discharge Elimination System (NPDES) permit.

As part of Landfill 5 closure the Air Force will submit a monitoring program for approval by the NHDES and the USEPA. The purpose of the monitoring program is to verify the effectiveness of the containment system.

## **STATUTORY DETERMINATIONS**

The selected source control remedy is protective of human health and the environment, complies with federal and state requirements, that are legally applicable or relevant and appropriate to the remedial action, is cost effective and uses permanent solutions. Treatment is not the principal element of the source control alternative because treatment of landfill debris is not practical or cost-effective given the size and heterogeneity of the landfill contents. The selected source control remedy may however involve treatment of groundwater extracted during construction dewatering, which should remove much of the contaminants currently present in groundwater. Because this remedy will result in hazardous substances remaining on site, a review will be conducted by the USAF, the USEPA, and the NHDES within five years after landfill closure to ensure that the remedy is providing adequate protection of human health and the environment. This review will be conducted at least every five years as long as hazardous substances remain on site above health-based cleanup levels.

The foregoing represents the selection of a remedial action by the United States Air Force and the U.S. Environmental Protection Agency, Region I, with concurrence of the New Hampshire Department of Environmental Services.



Concur and recommended for immediate implementation:

By: \_\_\_\_\_ Date: \_\_\_\_\_  
Alan P. Babbitt

Title: Deputy for Hazardous Materials  
and Waste  
Deputy Assistant Secretary  
Of The Air Force  
(Environment, Safety and  
Occupational Health)

By: \_\_\_\_\_ Date: \_\_\_\_\_  
Paul G. Keough

Title: Acting Regional Administrator, USEPA

Concur and recommended for immediate implementation:

By: James F. Boatright Date: 9/24/93

JAMES F. BOATRIGHT  
Deputy Assistant Secretary of the Air Force  
(Installations)

By: Paul G. Keough Date: 9-27-93  
Paul G. Keough

Title: Acting Regional Administrator, USEPA

## I. SITE NAME, LOCATION, AND DESCRIPTION

Pease AFB is a National Priorities List site consisting of numerous areas of contamination. This ROD addresses source area contamination at Landfill-5 (LF-5). LF-5 encompasses approximately 23 acres in the northern section of Pease AFB. Records indicate that LF-5 was used continuously from 1964 to 1975 as the primary base landfill, although some disposal occurred as late as 1979. Domestic and industrial refuse reportedly disposed of in the landfill includes waste oils and solvents, paints, paint strippers and thinners, pesticide containers and empty cans and drums. In addition, the landfill received sludge from the base industrial wastewater treatment plant. LF-5 has been investigated under the Air Force Installation Restoration Program (IRP). Results of the investigation indicate that sediments, surface water, soil and groundwater have been impacted by activities at LF-5.

The 4,365-acre Pease Air Force Base (AFB) is located in the towns of Portsmouth and Newington, Rockingham County, New Hampshire (approximately 3 miles northwest of the City of Portsmouth). As shown in Figure 1, Pease AFB is located on a peninsula bounded on the west and southwest by Great Bay; on the northwest by Little Bay; and on the north and northeast by the Piscataqua River. The base is situated in the approximate center of the peninsula.

At the beginning of World War II, an airport at the current Pease AFB location was used by the U.S. Navy. The Air Force assumed control of the site in 1951, and construction of the present facility was completed in 1956. During its history, Pease AFB has been the home of the 100th Bombardment Wing and the 509th Bombardment Wing whose mission was to maintain a combat-ready force capable of long-range bombardment operations. Over time, various quantities of fuels, oils, solvents, lubricants, and protective coatings were used at the base, and releases of contaminants into the environment occurred.

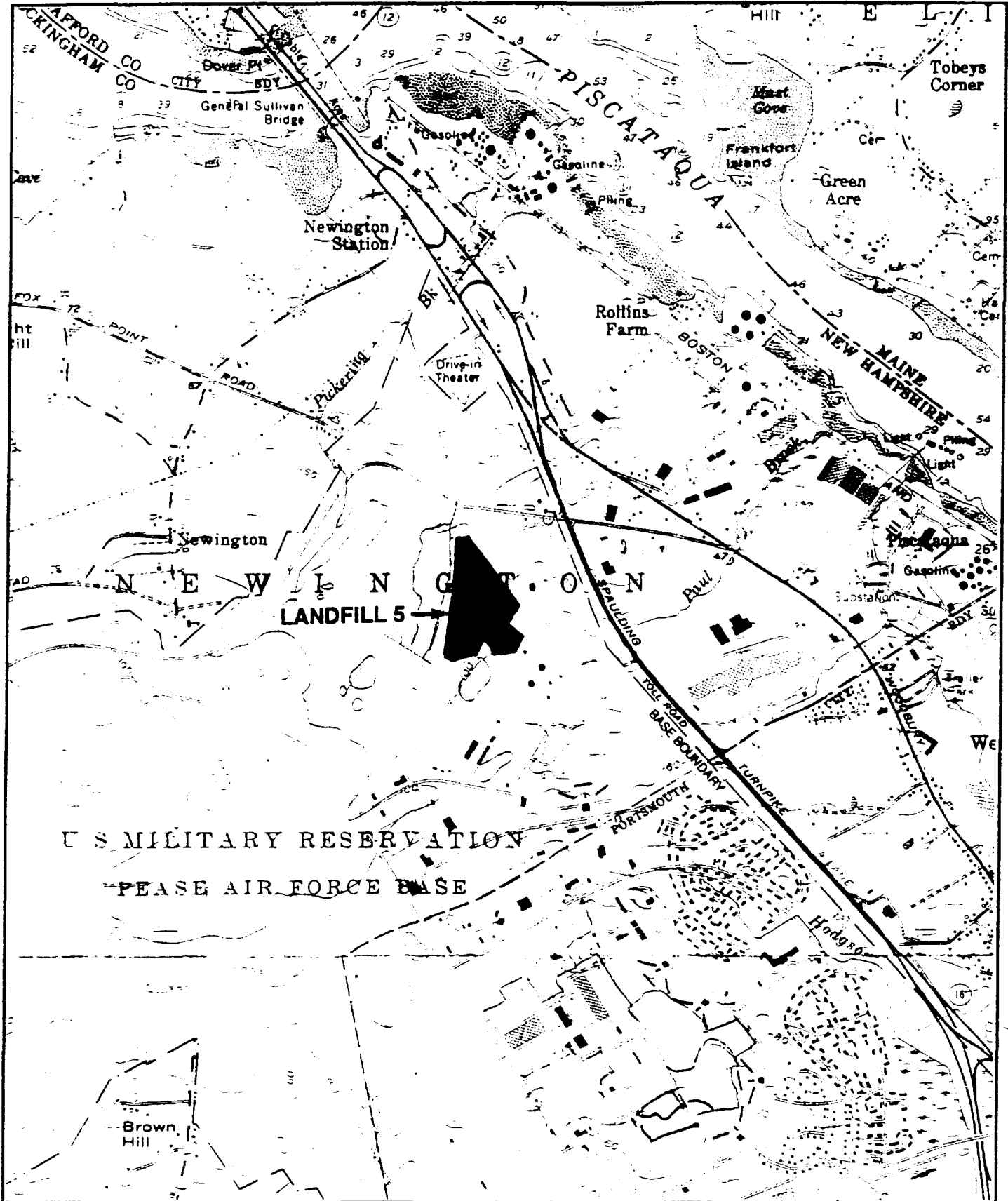
The New Hampshire Air National Guard (NHANG) relocated the 157th Military Airlift Group (MAG) from Grenier Field at Manchester, NH, to Pease AFB in 1966. The mission of the group was changed in 1975, when it was designated as the 157th Air Refueling Group.

In December 1988, Pease AFB was selected as one of 86 military installations to be closed by the Secretary of Defense's Commission on Base Realignment and Closure. The base was closed as an active military reservation on 31 March 1991. The New Hampshire Air National Guard remains at the airfield and will use some of the existing facilities. The remainder of the reservation will be divided between the State of New Hampshire's Pease Development Authority (PDA), the Department of the Interior, and the USAF.

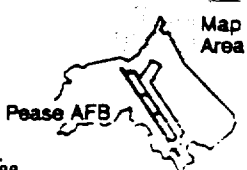
Land use in the vicinity of LF-5 varies. LF-5 is bordered by Merrimac Drive to the north, an abandoned railroad bed to the east; Flagstone Brook to the west; and a Bulk Fuel Storage Area (BFSA) to the southeast (see Figure 2). Zone features near LF-5 include Landfill-2 (LF-2) to the northeast; Landfill-3 (LF-3) to the east; the BFSA to the southeast; a Paint Can Disposal Area (PCDA) to the south; the Air National Guard's (NHANG) North Ramp to the west; and Landfill-4 (LF-4) to the northwest (see Figure 1). LF-2, LF-3, LF-4, LF-5, and the PCDA are inactive disposal areas located within restricted access areas. The BFSA is still used by the NHANG for bulk fuel storage. The NHANG uses the north ramp for large aircraft maintenance and as a temporary staging area. Undeveloped land is located along the western boundary of LF-5.

A portion of the site located at the southern entrance of LF-5 was used as a temporary staging area for drums that were removed from the eastern area of LF-5 in the fall of 1989. This area continues to be used to temporarily store drummed solids and liquids generated during investigation activities conducted as part of the basewide Installation Restoration Program (IRP). Stored drummed solids and liquids are eventually disposed of off-base.

Off-base, a commercial and residential area is located along Spaulding Turnpike, approximately 1,000 feet northeast of the Pease AFB eastern boundary and approximately 1,500 feet north of LF-5. An abandoned outdoor theater and a water supply booster station are located approximately 150 feet north of the Pease AFB boundary. A small shop and a shopping mall are located on the eastern side of Spaulding Turnpike.



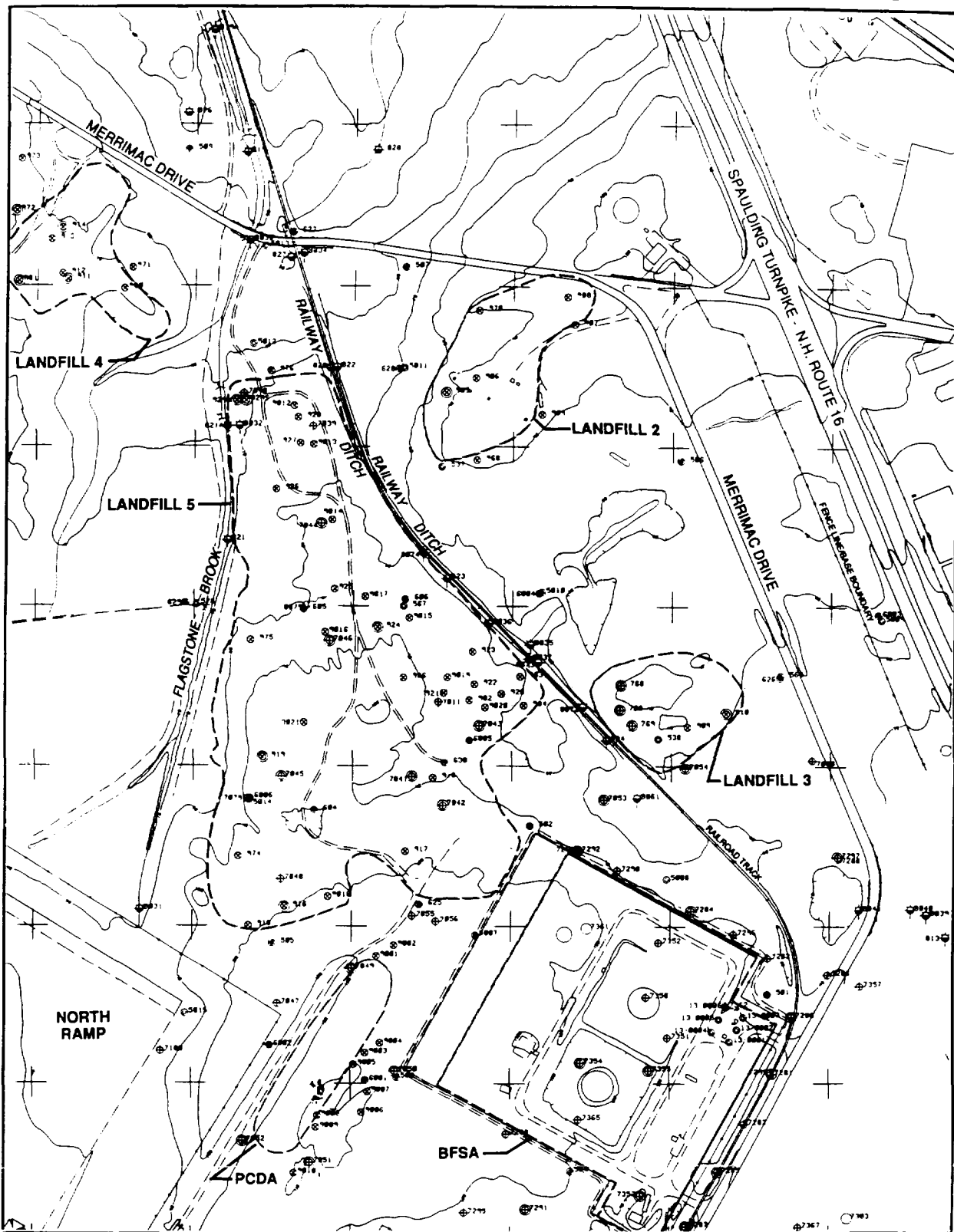
U S MILITARY RESERVATION  
 PEASE AIR FORCE BASE



Landfill 5 (LF-5) Area  
 Stage 4, Record of Decision  
 Pease Air Force Base, New Hampshire

**FIGURE 1  
 GENERAL LAND USE MAP**

Base Map Source:  
 Detail area from USGS 7.5 min. series, Portsmouth,  
 NH - ME Quadrangle, dated 1956, PR 1981 and 1988



**LEGEND:**

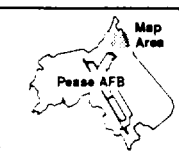
<b>WELLS-BORINGS</b>		— 50	Surface contour/elevation(FT/MSL) 10 foot interval
⊕	Staff gage	□	Surface soil sample
○	Piezometer	●	Test pit
⊕	Piezometer/soil boring	◆	Soil boring
⊙	Monitor well(Overburden)	⊕	Seep
⊙	Monitor well(Bedrock)	—	Roads (asphalt-paved)
		- - -	Other roads and trails
		▭	Buildings
		- x - x -	Fence

**NORTH**

0 50 100 200 300 400

**SCALE IN FEET**

Base Map Source  
Detail area of photogrammetric compilation of  
PAFB from aerial photography dated 11-23-87



**NOTE:**

**Landfill 5 (LF-5) Area  
Stage 4, Record of Decision  
Pease Air Force Base, New Hampshire**

**FIGURE 2  
LANDFILL 5 (LF-5) SITE MAP**

There are approximately 3,700 dwellings within a 1-mile radius of Pease AFB. Based on water usage surveys conducted in 1988 and 1992 and on available U.S. Geological Survey (USGS) and New Hampshire Department of Environmental Services (NHDES) information, it was determined that a number of these dwellings have wells and or springs located on their associated properties. The Town of Newington in particular has a large number of private wells. The vast majority of Portsmouth residences surveyed are serviced by town water only. A complete compilation of area springs and wells for Pease AFB, based on information available to date can be found in the Pease AFB Off-Base Well Inventory Letter Report (F-518). Information is presented in tabular form in Tables 1 through 7 of the Letter Report. Well location maps are provided as attachments to the report.

Pease AFB is located on a peninsula within the Piscataqua River drainage basin (see Figure 1). Drainage is radially away from the peninsula, into Great Bay toward the west, Little Bay to the northwest and north, and the Piscataqua River to the east. Little Bay flows into the Piscataqua River at the northern end of the peninsula. Great Bay, Little Bay, and the Piscataqua River are all tidally influenced. Consequently, these bodies of water are subject to semidiurnal water-level variations.

There are several surface water pathways that channel surface runoff away from the LF-5 area toward the Piscataqua River (see Figure 2). Surface drainage from LF-2, and portions of LF-3 and LF-5, flows into ditches located on both sides of the railway spur (collectively known as the Railway Ditch), which subsequently flows north and enters a swampy area east of the railroad tracks. The Railway Ditch eventually joins with Flagstone Brook, approximately 3,000 feet north of LF-5.

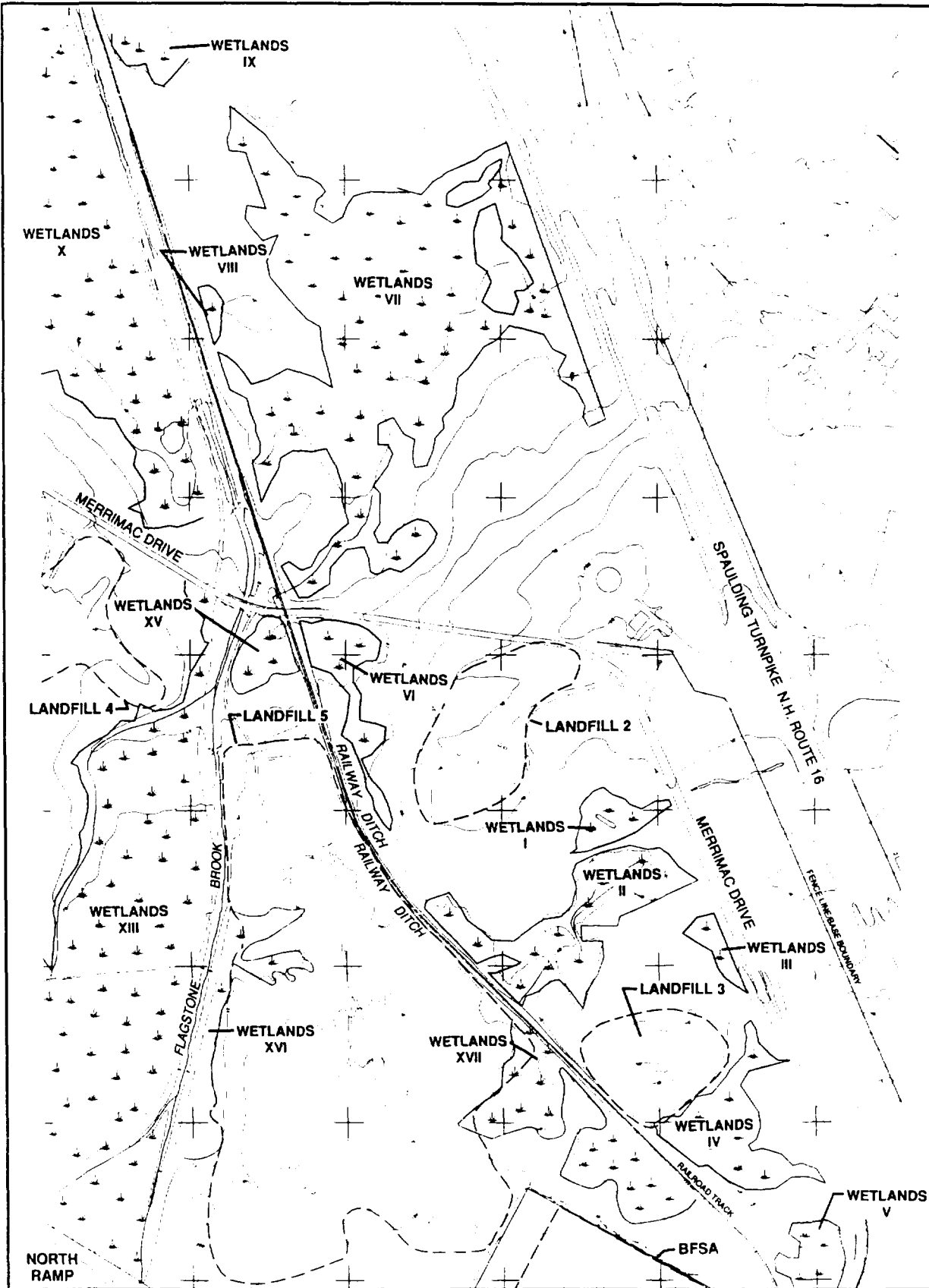
A portion of LF-5's surface runoff flows directly into Flagstone Brook, which flows north through a series of weirs and empties into the Piscataqua River near the General Sullivan Bridge. The total drainage area of the stormwater collection system within the headwaters of Flagstone Brook is approximately 78 acres, which includes a number of industrial areas of the base. Below the confluence of the eastern and western branches,

Flagstone Brook flows north along the western edge of LF-5. Surface runoff seeps from LF-5 discharge directly into Flagstone Brook.

In addition to the Railway Ditch and Flagstone Brook, several wetland areas exist in the LF-5 vicinity. On and immediately adjacent to the landfill are three wetlands: Wetlands XV, XVI, and XVII (see Figure 3). Wetlands XVI drains to Flagstone Brook and Wetlands XV and XVII drain to the Railway Ditch. East of the landfill, between the railroad and Merrimac Drive, are Wetlands I, II, III, IV, V, and VI. Wetlands I, III, IV, and V drain toward Merrimac Drive, and Wetlands II and VI drain to the Railway Ditch. North of the landfill, there are several wetlands associated with the Railway Ditch and Flagstone Brook. Wetlands VII and VIII are associated with the Railway Ditch until it reaches Wetlands IX and joins Flagstone Brook through a culvert under the railroad. Wetlands X is located north of LF-5 and west of Flagstone Brook and has no identified surface water connection to Flagstone Brook. However, subsurface flow may exist under the roadbed. West of the landfill, Wetlands XIII is immediately adjacent to Flagstone Brook and a portion of it flows into Flagstone Brook near its conjunction with Merrimac Drive. It is not known if LF-5 is within a 100-year flood plain, since flood plain location maps were not available for Pease AFB.

A more complete description of the site can be found in the Stage 3C Landfill-5 Remedial Investigation (RI) Report (F-500).





**LEGEND:**



Preliminary wetlands delineation line  
August - September 1991

Wetlands area

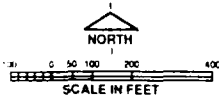
50 Existing surface contour/elevation (FT/MSL)  
10 foot interval

— Roads (asphalt/paved)

- - - Other roads and trails

Buildings

Fence (existing)



Base Map Source  
Detail area of photogrammetric compilation of  
PAFB from aerial photography dated 11-23-87

**NOTE**

Landfill 5 (LF-5) Area  
Stage 4, Record of Decision  
Pease Air Force Base, New Hampshire

**FIGURE 3  
LOCATION OF DELINEATED WETLANDS**

## **II. SITE HISTORY AND ENFORCEMENT ACTIVITIES**

### **A. Site Use and Response History**

Records indicate that LF-5 was used continuously from 1964 to 1975 as the primary base landfill, although some disposal occurred as late as 1979. Domestic and industrial refuse reportedly disposed of in the landfill includes waste oils and solvents, paints, paint strippers and thinners, pesticide containers, and empty cans and drums. In addition, the landfill received an estimated 20,000 gallons of sludge from the base industrial wastewater treatment plant. Sludge from the base wastewater treatment facility, which may have contained trichloroethylene (TCE) residues, grass clippings, wood chips, miscellaneous soils, and concrete rubble, was temporarily stored at the landfill pending ultimate disposal. As previously discussed, a small drum staging area used for temporary storage of drums encountered on-base, miscellaneous soils, and metals is located at the southern landfill entrance. Based on aerial photographs, this area may have been a drum storage area as early as 1960.

One method of landfilling used between 1964 and 1975 was trenching. Based on review of aerial photographs and other information, trenches were constructed 15 to 20 feet wide, 150 to 300 feet long, and 6 to 8 feet deep (or to bedrock). The trenches were then filled with refuse and covered with local fill. Today, the settled trenches appear to cover about one-third of the 23-acre landfill. The trenches are located in the north-central, central, and southwestern portions of the landfill. Surface filling or backfilling was also a major landfilling technique used at LF-5. The fill between the trench areas was probably emplaced using these methods.

In 1983, an IRP Phase I Problem Identification/Records Search was conducted at Pease AFB. The study identified LF-5 as a potential source for the release of contaminants into the environment. In response to this finding, a pre-survey was conducted to obtain sufficient information for use in the planning of a more detailed study. The pre-survey was completed in 1984. Based on the pre-survey, Remedial Investigations (RIs) were conducted in accordance with the Comprehensive Environmental Response, Compensation, and Liability

Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, at LF-5 and at 18 other IRP sites at Pease AFB. The investigations were conducted in three stages between 1984 and 1991.

During Stage 2 of the investigation (October 1987 through May 1989) 5- and 55-gallon drums were identified in LF-5. Because these drums were determined to present a potential threat to human health and the environment, fast-track remedial action was initiated. Drum removal was completed during Stage 3 RI field activities. The RI field work was completed in October 1991. During drum removal, 54 85-gallon overpacks containing drums and waste material and over 2,000 empty, crushed drums were removed and disposed of at a licensed off-base disposal facility.

To date, LF-5 RI activities have included geophysical surveys, sampling of surface and subsurface soils, test pit investigations, sampling of groundwater beneath and surrounding LF-5, sampling of sediments and surface water in Flagstone Brook and the Railway Ditch, a wetlands determination in the area of LF-5, and measurement of groundwater levels and hydraulic gradients at LF-5. Table 1 provides a summary of RI activities performed to date.

A more detailed description of the LF-5 site history can be found in the RI in Subsection 2.1.

## **B. Enforcement History**

The enforcement history at LF-5 is summarized as follows:

- In 1976, the Department of Defense (DOD) devised a comprehensive Installation Restoration Program (IRP) to assess and control environmental contamination that may have resulted from past operations and disposal practices at DOD facilities.
- In 1983, an IRP Phase I Problem Identification/Records Search was conducted at Pease AFB. As a result, a total of 18 IRP sites were identified and 16 were recommended for follow-on investigations (Phase II).

Table 1

Summary of Site Investigations,  
LF-5 and Vicinity,  
Pease AFB, NH

Date	Activity	Sampling Points	Purpose
Stage 1			
11/84	Surface water sampling	SW-2,3,4,6,7,8,9*	Evaluate surface water for TOX, TOC, O&G, cyanide, phenols, metals, and lindane.
11/84-2/85	Monitor well installation and development	502 (RFW-2) 505 (RFW-5)	Establish groundwater monitoring points upgradient of LF-5.
3/85	Surface water sampling	SW-2,3,4,6,7,8,9*	Evaluate surface water for TOX, TOC, O&G, cyanide, phenols, metals, and lindane.
3/85-4/85	Groundwater sampling (round 1)	502, 505	Evaluate groundwater for TOX, TOC, O&G, cyanide (502 and 505), phenols, metals, and lindane (505 only).
4/85-5/85	Groundwater sampling (round 2)	502, 505	Same as round 1.
5/85	Surveying	502, 505	Determine elevations and locations.
8/85-9/85	Surface water resampling	SW-2,3,4,6,7,8,9*	Re-evaluate surface water for cyanide, O&G, and lindane because holding times were exceeded.
8/85-9/85	Groundwater resampling	502, 505	Re-evaluate groundwater for phenols, cyanide, and lindane because holding times were exceeded.
8/85-9/85	Slug test	502	Determine hydraulic conductivity. 1
Date	Activity	Scope	Report
Stage 2			
10/87-1/88	Aerial photograph review	Photographs from 1952, 1960, and 1976	Evaluate areal extent of LF-5. ITR No. 1 <sup>b</sup>
10/87-1/88	Magnetometer survey	25- x 50-foot grid 10- x 10-foot subgrids	Evaluate areas of buried ferrous material (i.e., drums). ITR No. 1 <sup>b</sup>

Table 1

Summary of Site Investigations  
LF-5 and Vicinity  
Pease AFB, NH  
(Continued)

Date	Activity	Scope	Purpose	Report
Stage 2 (continued)				
10/87-1/88	GPR survey	10- x 10-foot subgrids	Verify anomalous magnetometer readings.	ITR No. 1 <sup>b</sup>
Begin 11/87	Water level measurements (quarterly)	Stage 1 wells, Stage 2 wells, piezometers, gages as installed	Evaluate hydrologic characteristics.	ITR No. 1 <sup>b</sup>
12/87	Survey	Monitor wells 502 and 505	Establish locations and elevations.	ITR No. 1 <sup>b</sup>
3/88-4/88	Test pit excavation	15 pits: 915 to 929	Investigate magnetic and GPR anomalies; determine depth and character of fill.	ITR No. 2 <sup>c</sup>
3/88-4/88	Piezometer installation	In test pits 919, 920, 924, 929 (north), and 929 (south)	Obtain water level measurements.	ITR No. 2 <sup>c</sup>
4/88	Staff gage installation	818 to 824	Obtain water level measurements; establish surface water and sediment sampling locations.	ITR No. 2 <sup>c</sup>
4/88-5/88	Survey	Test pits, borings, gages, and piezometers	Determine elevations and locations.	ITR No. 2 <sup>c</sup>
9/88-10/88	Bedrock well installation and development	604, 605, 606	Evaluate bedrock water quality.	ITR No. 3 <sup>d</sup>
10/88	Test pit excavation	974, 975, 976	Evaluate refuse type and saturated thickness.	ITR No. 3 <sup>d</sup>
11/88-12/88	Survey	Monitor wells and test pits	Determine elevations and locations.	ITR No. 3 <sup>d</sup>

Table 1

Summary of Site Investigations  
 LF-5 and Vicinity  
 Pease AFB, NH  
 (Continued)

Date	Activity	Scope	Purpose	Report
Stage 2 (continued)				
11/88	Surface water and sediment sampling	818 to 824	Evaluate surface water for VOCs, SVOCs, pesticides/PCBs, herbicides, total metals, and cyanide. Evaluate sediment for VOCs, SVOCs, pesticides/PCBs, metals, herbicides, and TPHs.	ITR No. 4*
11/88	Minirate pumping test	604	Estimate hydraulic conductivity.	ITR No. 4*
11/88-12/88	Round 1 groundwater sampling	604, 605, 606	Evaluate groundwater for VOCs, SVOCs, pesticides/PCBs, herbicides, dissolved metals, common anions, total hardness, and nitrate/nitrite.	ITR No. 4*
5/89	Surface water and sediment sampling	818 to 824	Evaluate surface water for VOCs, pesticides/PCBs, total metals, BOD, and ammonia/nitrogen. Evaluate sediment for cyanide.	ITR No. 4*
Date	Activity	Scope	Purpose	
Stage 3				
9/89	Sediment and surface water sampling	10 locations (818 to 824, 826 to 828)	Evaluate surface water quality and measure its potential effect on macroinvertebrate populations.	
10/89	Overburden well installation	567, 568	Evaluate overburden groundwater quality.	
10/89-1/90	Drum removal IRM	One-acre tract. Southeastern section of landfill.	IRM performed to remove possible contaminant source.	
11/89-12/89	Bedrock well installation	625 to 630	Evaluate bedrock groundwater quality.	

Table 1

Summary of Site Investigations  
 LF-5 and Vicinity  
 Pease AFB, NH  
 (Continued)

Date	Activity	Scope	Purpose
Stage 3 (continued)			
11/89-4/90	Column leaching test	405, 406, 407, 408	Evaluate effect of soil contamination on groundwater quality.
2/90	Minirate pumping tests	625, 627 to 630	Evaluate aquifer characteristics.
3/90, 10/90, 6/91, 8/91, 10/91	Groundwater sampling	See groundwater analyte summary table (Appendix A).	Characterize bedrock and overburden groundwater quality in the LF-5 area.
9/90	Overburden well installation	578	Evaluate overburden groundwater quality west of LF-5. Paired with bedrock well 629 to calculate vertical hydraulic gradient.
5/91	Test pit excavation	9001 to 9010	Delineate potential PCE source upgradient of LF-5.
5/91	Landfill cover soil sampling	32 locations (336 to 367) 200- x 200-ft grid	Characterize landfill cover material to assess air, direct contact, and surface runoff pathways.
5/91-6/91	Borehole permeability tests	7039 to 7048	Further delineate landfill solid waste and establish permeability values in the underlying material.
5/91-7/91	Bedrock well installation	6003 to 6006	Evaluate bedrock water quality in/near LF-5.
5/91-7/91	Overburden well installation	5007, 5008, 5015	Delineate PCE plume area.
5/91-7/91	Overburden well installation	5009 to 5011, 5014	Monitor overburden water quality. Paired with bedrock wells to calculate vertical hydraulic gradient.
5/91-7/91	Overburden well installation	5012, 5013	Monitor water quality hydraulically downgradient of the northern trench area.
5/91-7/91	Bedrock well installation	6001, 6002	Evaluate bedrock water quality upgradient of LF-5. Delineate potential PCE source.

**Table 1**

**Summary of Site Investigations  
LF-5 and Vicinity  
Pease AFB, NH  
(Continued)**

Date	Activity	Scope	Purpose
<b>Stage 3 (continued)</b>			
6/91	Sediment and surface water sampling	18 locations (818 to 824, 826 to 828, 8031 to 8038)	Evaluate surface water quality and measure its potential effect on macroinvertebrate populations.
6/91, 10/91	Wetlands delineation	In and adjacent to LF-5	Identify wetlands areas.
7/91	Pumping test	48-hour test on well 630	Estimate hydraulic conductivity within the landfill.
9/91	Test pit excavation and soil sampling	9012 to 9021	Characterize LF-5 soil and debris.
9/91	TCLP analyses	Railway Ditch sediments Test pits	Evaluate leachability of soil and sediments.
10/91	Sediment and surface water sampling	Five locations (8061, 8072 to 8074, 8079)	Further delineate known contamination.

\*Corresponds to surface water sampling points 824, 823, 822, 821, 820, 819, and 818, as shown in Figure 2.1-1 in F-500.

<sup>b</sup>F-452.

<sup>c</sup>F-453.

<sup>d</sup>F-458.

<sup>e</sup>F-459.



- In 1984, Phase II (Problem Confirmation and Quantification) was initiated via conducting a presurvey to obtain sufficient information to plan a more detailed study. Based on the presurvey results, LF-5 and 19 other IRP sites (three areas were dropped and four areas were added as IRP sites) were recommended for further study and were entered into the RI/FS process (F-447).
- In October 1987, the Air Force initiated a second part of the Phase II study (Stage 2). At this point, the IRP approach was adjusted to be consistent with the U.S. Environmental Protection Agency's (EPA) Remedial Investigation/Feasibility Study (RI/FS) terminology and philosophy. Stage 2 field activities were concluded in May 1989.
- Following groundwater analyses in Phase II (Stage 2), five sites were identified for initiation of interim remedial measures (IRMs). LF-5 was among these sites, due to the presence of buried drums in the landfill and due to high contaminant levels in LF-5 soils and groundwater (F-455).
- On 14 July 1989, Pease AFB was proposed for addition to the National Priorities List (NPL). The effective date of addition was February 1990.
- In 1990, a Technical Review Committee (TRC) was established to facilitate communication and coordination among various agencies and the public concerning Pease AFB IRP activities. The TRC assists in keeping the local community apprised of investigative/remedial actions and findings at Pease AFB. The TRC is comprised of individuals representing the Air Force; NHDES; EPA; PDA; the Towns of Newington, Greenland, and Portsmouth; and a community representative. TRC meetings are held monthly.
- On 24 April 1991, the U.S. Air Force, EPA, and NHDES signed a Federal Facilities Agreement (FFA) establishing the protocol and timetable for conducting the RI/FS and Remedial Design/Remedial Action (RD/RA) processes at Pease AFB.
- In October 1991 (Stage 3), a drum removal IRM was conducted at LF-5. During field activities 54 85-gallon overpacks containing drums, waste materials, and over 2,000 empty, crushed drums were removed and disposed of at an off-base, licensed facility (F-463).

As part of the timetable established in the FFA, the U.S. Air Force, in an effort to streamline activities, designed a basewide strategy plan for conducting an RI/FS investigation. This strategy plan grouped the numerous sites into seven zones. The zones were delineated based on hydrogeological similarities, analytical results, geographical location, surface features, and types of source areas contained within the zones. RI/FS

reports have been or will be prepared for each zone. As noted for Stage II, prior to inclusion of Pease AFB on the NPL, five sites, including LF-5, were on an accelerated RI/FS approach because of the potential threat they posed to human health and the environment. The U.S. Air Force, EPA, and NHDES agreed that the source area RI/FS reports, as well as the remedial actions at these sites, would continue on an accelerated track toward source area cleanup, independent of the zones in which they were contained.

- In April 1992, the U.S. Air Force submitted a Draft Final RI Report for LF-5 (F-500).
- In August 1992, the U.S. Air Force submitted a Draft Final FS for LF-5 (F-494).

### III. COMMUNITY PARTICIPATION

Throughout the site's history, the community has been actively involved. EPA, NHDES, and the U.S. Air Force have kept the community and other interested parties apprised of site activities through informational meetings, fact sheets, press releases, public meetings, and TRC meetings.

During January 1991, the U.S. Air Force released a community relations plan, which outlined a program to address community concerns and keep citizens informed about and involved in remedial activities. This plan was updated and released in the summer of 1993.

Numerous fact sheets have been released by the U.S. Air Force throughout the IRP program at Pease AFB. These fact sheets are intended to keep the public and other concerned parties apprised of developments and milestones in the Pease IRP. The fact sheets released to date that concern LF-5 are summarized as follows:

<u>Fact Sheet</u>	<u>Release Date</u>
Pease AFB Installation Restoration Program Update	October 1991
Pease AFB Installation Restoration Program Update	December 1992
Proposed Plan for Landfill-5 Source Area	January 1993
Revised Proposed Plan for Landfill-5 Source Area	July 1993

In addition to the fact sheets, a number of public meetings have been held concerning the remediation of LF-5. On 14 November 1991 an IRP update public meeting was held and on 12 January 1993 an IRP public workshop and meeting was conducted to provide the public with information on the status of the IRP at Pease AFB. On 27 January 1993 the U.S. Air Force conducted a public hearing and information session for the LF-5 Proposed Plan, during which oral comments on the Proposed Plan were received. A transcript of oral comments received during this meeting and U.S. Air Force response to comments are included in the attached Responsiveness Summary (Appendix C). In addition, a public

comment period for the Proposed Plan was conducted between 14 January and 13 February 1993. Responses to written comments received during this period are also included in Appendix C.

TRC meetings have been held on a monthly basis since 1990 (see Subsection II.B). Through these meetings, lines of communication among the public and the various lead agencies have been kept open.

On 5 August 1993, the U.S. Air Force conducted a public hearing and information session for the Revised Proposed Plan for LF-5 during which comments on the Proposed Plan were received. A transcript of comments received during this meeting and the U.S. Air Force response to comments are included in the attached Responsiveness Summary (Appendix C). In addition, a public comment period for both the Revised Proposed Plan for Landfill-5 and the Proposed Plan for Landfills-2 and -4 was held from 20 July to 19 August 1993. Responses to written comments received during that period are also included in Appendix C.

A complete information repository, containing documents relating to the Pease AFB IRP, is maintained at Pease AFB in Building 43. An administrative record pertaining to the Pease AFB IRP is located in Building 43 of Pease AFB. An index of the administrative record is maintained in the EPA Region I Headquarters.

#### IV. SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION

Zone 1 encompasses six areas of concern, including the source area operable unit for LF-5. Other areas of concern include LF-2, LF-3, and LF-4, the BFSA, and the PCDA. The remedy presented in this Record of Decision (ROD) provides for source control at LF-5. Remediation at a Superfund site typically involves activities to remove or isolate contaminant source materials in conjunction with activities that mitigate migration of contamination through groundwater, surface water, and/or air pathways. This ROD addresses only source control measures. Management of contaminant migration will be addressed in a separate ROD for Zone 1, which is scheduled for completion in September 1994.

Source materials at LF-5 have been identified as landfill soil and solid wastes, landfill surficial soils, and sediment in the Railway Ditch and associated wetlands. Although sediment in Flagstone Brook may represent an additional source, contaminants present in this medium may be directly related to runoff from other sources and, therefore, are addressed in the Zone 1 Draft FS, which was completed in August 1993, rather than in the LF-5 source control FS. Groundwater and surface water are not considered source materials, however, remedial action objectives (RAOs) and cleanup goals have been established for these media, as well as for the source materials, since they will be affected by source control activities.

Subsequent to the completion and public review of the original Proposed Plan for LF-5, it was proposed that two additional source areas, LF-2 and LF-4, be excavated (in their entirety) and consolidated on LF-5. The volume increase of materials consolidated on LF-5 would total approximately 76,320 cubic yards (yd<sup>3</sup>). The two landfills, which are adjacent to (in the case of LF-2) or within 200 feet (in the case of LF-4) of LF-5, cover a total area of approximately 12 acres. The materials in LF-2 and LF-4 are mainly soil and debris as with LF-5. In keeping with the public's desire to consolidate landfill materials wherever possible to provide for more available land whose future use is not restricted, it was determined that consolidation of LF-2 and LF-4 onto LF-5 would be the best strategy in

terms of meeting the public's requests. Because LF-2 and LF-4 are part of the Zone 1 operable unit, consolidation of LF-2 and LF-4 onto LF-5 will be addressed in the Zone 1 Proposed Plan and ROD. A final decision under CERCLA will be required prior to implementation of the LF-2 and LF-4 excavation and consolidation plan.

The selected source control remedy for LF-5, as described in the Proposed Plan, was developed by combining components of different source control technologies to aid in obtaining a comprehensive approach for site source area remediation. In summary, the remedy provides for:

- Excavation and consolidation of selected sediments on the existing landfill.
- Excavation of soil and debris in LF-2 and LF-4 and consolidation on LF-5 (not included in the original LF-5 Proposed Plan but added in the revised Proposed Plan).
- Excavation of soil and solid wastes predicted to be below the water table after capping and placement of excavated material on the existing landfill. Dewatering of areas requiring excavation, on-site treatment of the extracted groundwater, and discharge to the local publicly-owned treatment works (POTW) may be necessary.
- Regrading and capping of the existing landfill.
- Conducting long-term environmental monitoring and placement of institutional controls.

The remedial action addresses the following primary risks and principal threats to human health and the environment posed by the site:

- Risks posed to ecological receptors from direct contact with, or ingestion of, sediment in the Railway Ditch and associated wetlands containing contaminants in excess of concentrations that may present a risk.
- Risks posed to humans from direct contact with, or ingestion of, contaminated soils or debris that may present a health risk.

- Risks posed to ecological receptors from direct contact with, or ingestion of, soil or debris containing contaminants in excess of concentrations that may present health risks.
- Migration of contaminants from soil or debris within the LF-5 source area into the groundwater, which may inhibit attainment of the groundwater RAOs for Zone 1.
- Migration of contaminants from soil or debris within the LF-5 source area into surface water, including wetlands, which may inhibit attainment of the surface water RAOs for Zone 1.

The selected source control remedy will complete the mitigation of the site risks related to source areas as described in Subsection 1.6 of the LF-5 FS (F-494).

## V. SUMMARY OF SITE CHARACTERISTICS

Subsections 1.3 and 1.4 of the FS contain an overview of the RI. Based on the results of the RI, a working conceptual model was developed that incorporates all known data concerning LF-5 and vicinity, including geological, hydrological, analytical, field measurements, and visual observations. The salient points of the model are summarized as follows:

- Several primary, discrete contaminant source areas exist within LF-5.
- Landfill operations have caused the excavation of native soils down to bedrock in places; consequently, buried refuse is in direct contact with groundwater and weathered and fractured bedrock.
- Contaminated soil is a likely source for some of the contaminants that have been observed in other matrices in the LF-5 area.
- An enhanced groundwater recharge area for LF-5 and its vicinity overlaps the central trench area.
- Groundwater within LF-5 is contaminated with halogenated volatile organic compounds (VOCs), aromatic VOCs, and semivolatile compounds (SVOCs); metals; and pesticides. The concentrations of a few of these substances exceed federal and state standards.
- Aromatic and halogenated VOCs are discharged from groundwater to surface water in the Railway Ditch and Flagstone Brook.
- A groundwater plume containing VOCs (halogenated) is migrating from LF-5.
- The extent of the halogenated VOC plume east of the Railway Ditch is known; the downgradient limit coincides with wells 5009 and 6003.
- Surface water and sediment in Flagstone Brook appear to be affected by other sources in addition to LF-5.
- Surface water and sediment in the Railway Ditch appear to be significantly affected by LF-5.

The results of the RI as conceptualized are discussed in more detail in the subsections that follow.

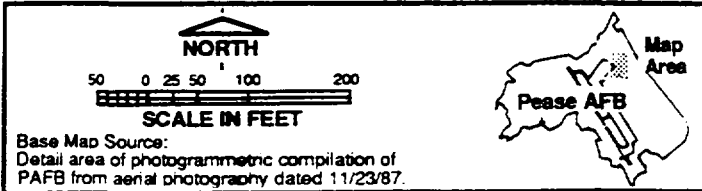
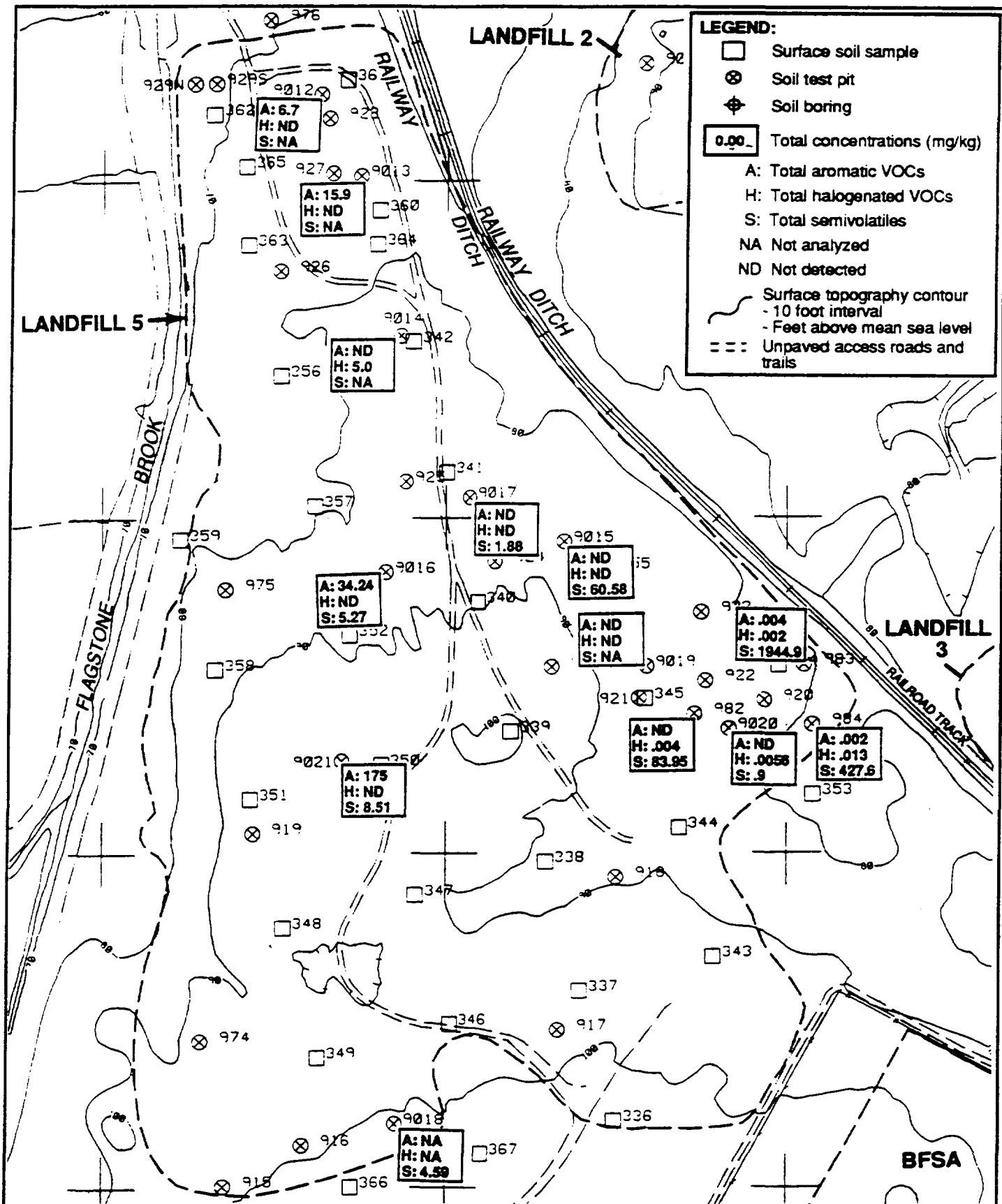


## **A. Subsurface Soils and Solid Waste**

Source characterization at LF-5 included the collection and analysis of subsurface soil and solid waste samples. Subsurface soils refer to material collected at a depth of 2 feet or greater. All subsurface soil samples were collected from the landfill over a period of 4 years. Samples were obtained from approximately 30 test pits and several samples were collected during drum removal operations. Figure 4 depicts the distribution of organics in subsurface soils in and adjacent to LF-5. Major findings of the analyses of all test pit soil samples are summarized as follows:

- The highest total SVOCs were detected within the drum removal area.
- The highest total VOCs were detected in soils collected near the central trench area. Total xylenes were the largest component [33 milligrams/kilogram (mg/kg)] of the total aromatic VOCs. 1,4-Dichlorobenzene (DCB) was detected in soil from the southwestern corner of the central trench area at a concentration of 0.140 mg/kg.
- Low concentrations of total aromatics were detected in test pit soils collected from the northern trench area.
- TCE was detected in soils from test pit 9014 at a concentration of 0.005 mg/kg.
- Arsenic was detected above the background concentrations in the sample from test pit 9018. The copper background concentration was exceeded in samples from test pit 9013. Zinc concentrations exceeded the background concentration in samples from test pits 983, 9013, 9015, 9016, and 9018.
- Cadmium concentrations exceeded the background concentrations in samples from test pits 9013, 9016, and 9021. The mercury background concentration was exceeded in samples from test pits 9016 and 9017. Lead concentrations exceeded the background concentration in samples from test pits 982, 983, 984, and 9016. The nickel background concentration was exceeded in the sample from test pit 9015.

Soil samples from test pits 9016 and 9020 were also subjected to the Toxicity Characteristic Leaching Procedure (TCLP). Leachate was analyzed for VOCs, SVOCs, metals, pesticides, and herbicides. Laboratory data indicate that no TCLP regulatory limits were exceeded.



**Landfill 5 (LF-5) Area  
Stage 4, Record of Decision  
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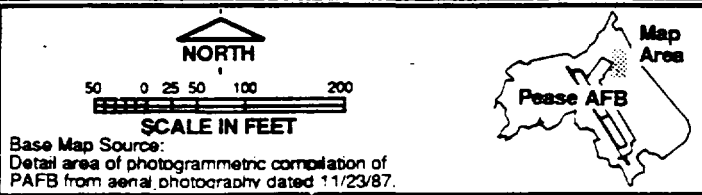
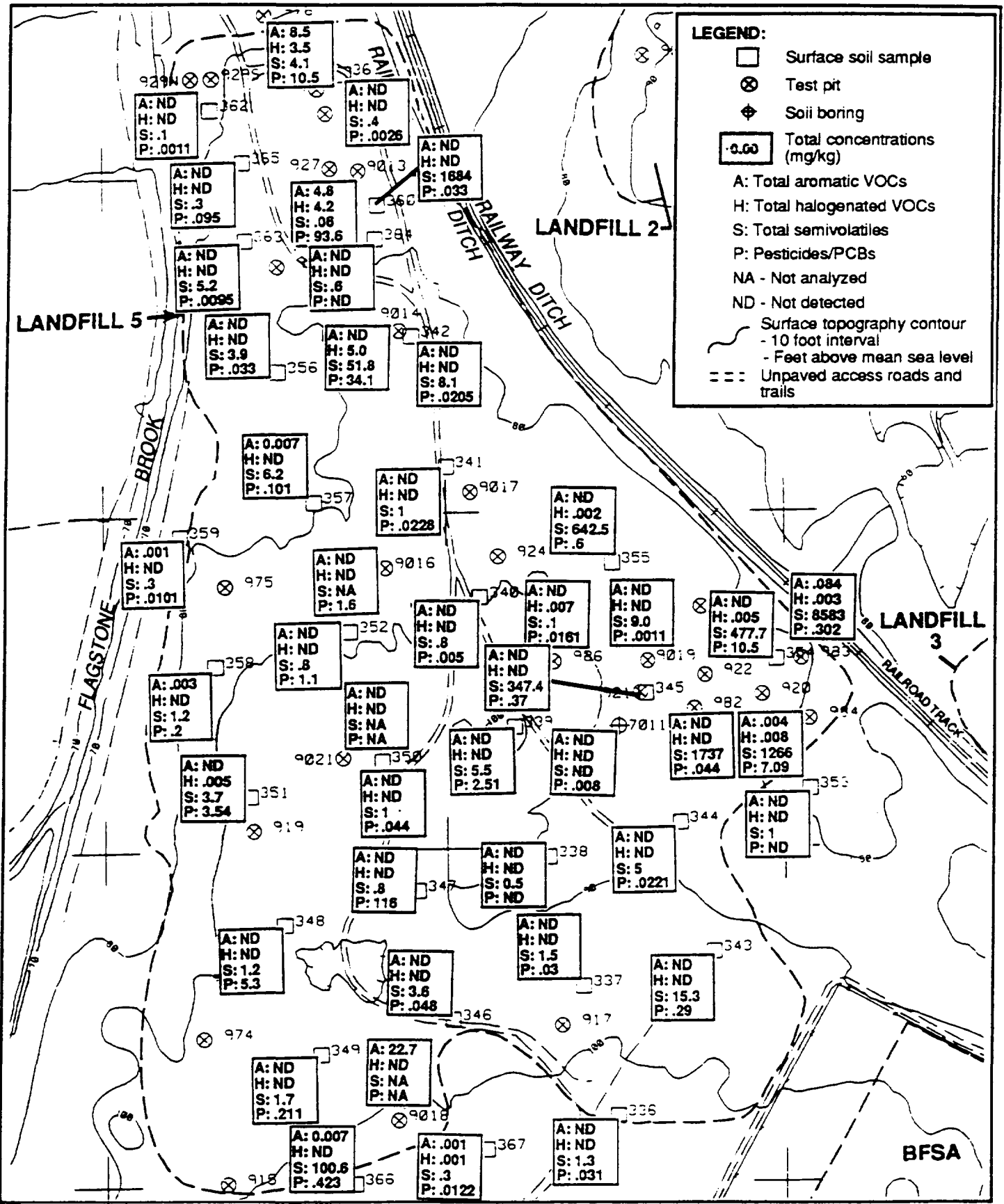
**FIGURE 4  
DISTRIBUTION OF ORGANICS IN  
SUBSURFACE SOILS**

Contaminants in subsurface soils at LF-5 are of concern since they are, in some landfill areas, in contact with groundwater and have the potential to migrate from the site via this medium.

## **B. Surface Soils**

A total of 32 landfill surface soil samples (336 through 367) were collected from a depth of 0 to 2 feet to characterize the landfill cover soil. Surficial (0 to 2 feet) test pit samples were also used to describe the landfill cover soils. Figure 5 depicts the distribution of organics in surface soils in and adjacent to LF-5. The results of the laboratory analyses may be summarized as follows:

- Aromatic and halogenated VOCs were detected at low concentrations in soils collected from all areas of the landfill. The highest concentrations were detected in soils from test pit 983 and soil sample 357.
- SVOCs were detected in all soil samples. From areas outside the drum removal area, total concentrations ranged from 0.06 mg/kg (9013) to 1,684 mg/kg (360). Most of the highest total SVOCs were detected in soil samples collected from the drum removal area (345, 354, and 355) and test pits from the drum removal area (982, 983, and 984).
- Polynuclear aromatic hydrocarbons (PAHs) (e.g., chrysene) were most often detected in soil from the drum removal area.
- The highest concentrations of total petroleum hydrocarbons (TPHs) were detected in the samples from location 364 (2,500 mg/kg) from the northern trench area and location 345 (2,200 mg/kg) from the drum removal area.
- Pesticides were detected in most of the surface soil samples. Both heptachlor and dieldrin were elevated in the sample from location 354 (drum removal area), and dieldrin was detected in the sample from locations 366 and 984.
- Most of the samples that contained metals that exceeded the background concentrations were collected from the drum removal area and the northern trench area. Table 2 includes a summary of locations and concentrations that have metals concentrations that exceed background in surface soils at LF-5.



**Landfill 5 (LF-5) Area**  
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**FIGURE 5**  
**DISTRIBUTION OF ORGANICS IN**  
**SURFACE SOILS**

Table 2

Summary of Elevated Metals Concentrations in Soil  
LF-5, Stage 3, Pease AFB, NH

Compound	As	B	Ba	Cr	Cu	Mn	Na	Ni	Pb	V	Zn	Hg	Cd	Sc
Background concentration <sup>a</sup> (mg/kg)	25.2	67.3	262	49.4	54.3	1,020	366	70.5	54.0	150	219	1.2	6.7	1.4
Northern trench area	365s (28.6) 364s (dup.) (35.1)		364s (4,430)	364s (dup.) (54.0J)	9012s (215J) 364s (dup.) (55.7) 9013d (133J)	362s (1,080J)			364s (159) 9013s (75.5) 9012s (193) 360s (81.2)		9012s (259J) 364s (962J) 9013d (362J)		9012s (11.9J) 9013s (9.0) 9013d (13.5J)	
Drum removal area					354s (130J)		983s (2,560)		354s (55.8J) 982d (86.5) 983d (74.1) 984d (71.6)		983d (333)			
Other areas	9018d (37.8)				352s (65.8J)			9015d (86.5)	342s (120J) 349s (54J) 357s (67.7J) 358s (78.6J) 9016d (114)		9015d (246J) 9016d (491) 9018d (258J)	9016d (2.9) 9017d (1.6)	9021d (19.9J) 9016d (11.4)	9013s (8.1)

<sup>a</sup>Background concentrations were established in both a letter report dated 4 December 1991 and a letter included in Appendix G in F-500.

s = Sample collection depth was 0 to 2 feet.

d = Sample collection depth was > 2 feet.

(28.6) = Concentration (mg/kg).

364 = Sample location.

Note: The common mineral-forming minerals aluminum and silicon are not included.

- One surface soil sample (9013) was subjected to TCLP. Leachate from the test was analyzed for VOCs, SVOCs, metals, pesticides, and herbicides. Preliminary laboratory data indicate that TCLP regulatory limits were not exceeded.

Contaminants in surface soils at LF-5 are of concern because of the potential for direct human and ecological receptor contact with these soils and the potential for contaminants in surface soils to migrate to surrounding surface water bodies and wetlands.

### C. Surface Water and Sediments

The LF-5 surface drainage system consists of two main drainage channels. The first, Flagstone Brook, has its headwaters at the North Ramp and flows northward forming the western boundary of LF-5. The second, the Railway Ditch, flows northward along the eastern border of LF-5, eventually joining Flagstone Brook, approximately 3,000 feet north of LF-5. Flagstone Brook eventually drains to the Piscataqua River to the east of Pease AFB.

Nine surface water/sediment stations were sampled to characterize Flagstone Brook, while 15 stations were sampled to determine the impact of LF-5 on the Railway Ditch. Sampling results and data interpretation are discussed in Subsection 4.5 of the Zone 1 Draft Final RI (F-500). The sampling history of all LF-5 surface waters and sediment stations is summarized in Appendix B of that document. Figures 6 and 7 present the distribution of organics in LF-5 surface waters and sediments, respectively.

Tetrachloroethene (PCE) is the only VOC confirmed in the surface waters of Flagstone Brook at concentrations greater than 1 microgram per liter ( $\mu\text{g}/\text{L}$ ). This sample was collected at station 821 during the January 1990 sampling round. No SVOCs were detected in the Flagstone Brook surface waters. The pesticide DDT and its metabolite DDE were the only pesticides confirmed in Flagstone Brook surface waters; these two compounds were detected at concentrations of 0.14  $\mu\text{g}/\text{L}$  and 0.2  $\mu\text{g}/\text{L}$ , respectively, at

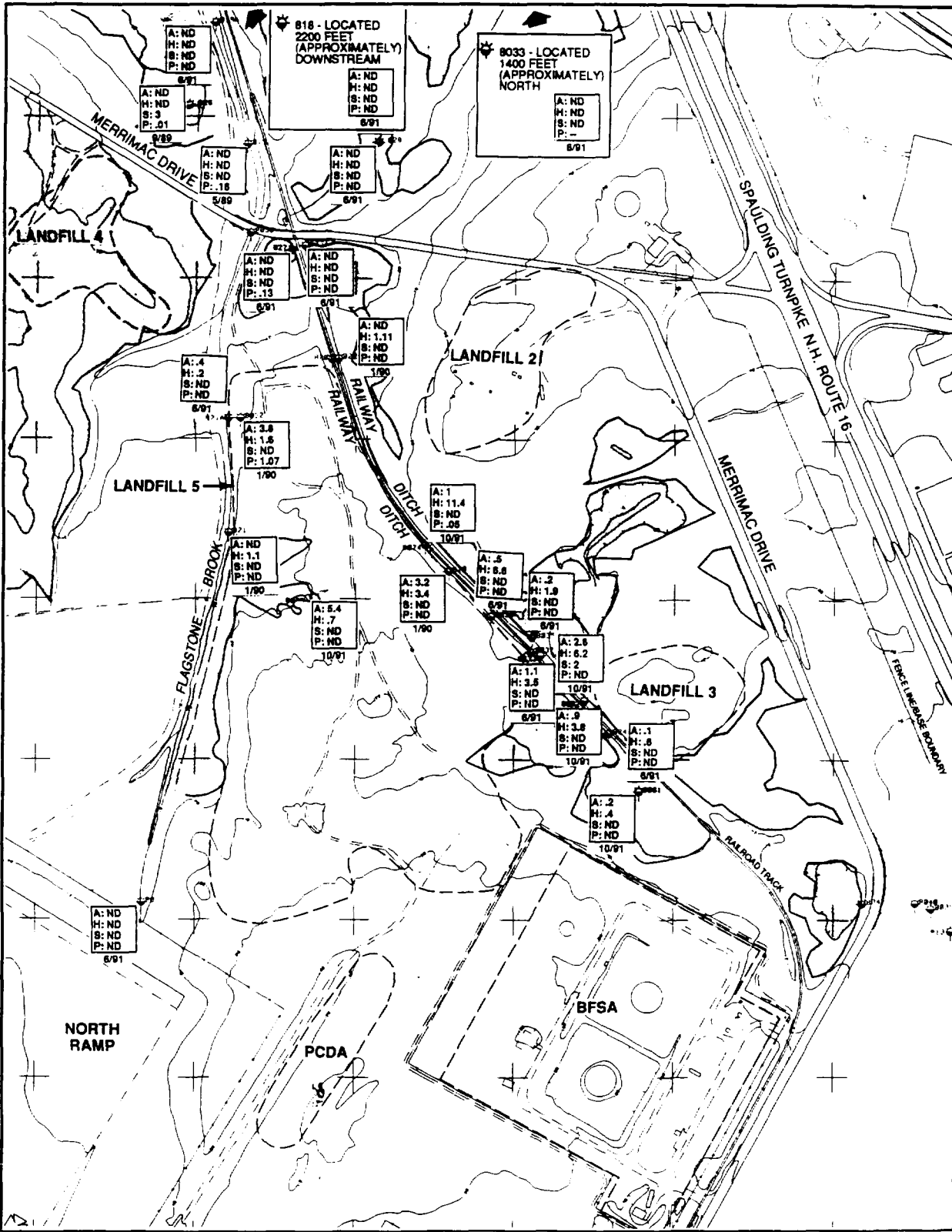
station 819 during the May 1989 sampling round. Polychlorinated biphenyls (PCBs) were not detected at any location. - -

The highest concentrations of aromatic VOCs and SVOCs in the Flagstone Brook watershed were detected at seeps 8079 and 826, respectively. Total aromatic VOCs were detected at 54  $\mu\text{g}/\text{L}$  for station 8079 during the October 1991 sampling round, and the SVOC 4-methylphenol was detected at 3.0  $\mu\text{g}/\text{L}$  for station 826 during the September 1989 sampling round.

DDT (station 819) was the only organic compound detected in the Flagstone Brook watershed that exceeded ambient water quality criteria (AWQC) (0.001  $\mu\text{g}/\text{L}$ ).

VOCs were not detected in any of the sediment samples taken in Flagstone Brook; however, VOCs were detected in seep sediments. The VOCs detected in sediments were chlorobenzene (0.07 mg/kg) and 1,4-DCB (0.002 mg/kg) at seep 8079. SVOCs have been detected in the sediments of all but two of the stations (stations 821 and 821A) in the Flagstone Brook watershed. Stations 8031 and 8032 had the highest total sediment SVOC concentrations, 3.07 mg/kg and 2.48 mg/kg, respectively. The greatest contributors to the total SVOC concentrations at all stations were PAHs. It is important to note that the highest total SVOC concentration was reported for station 8031, which is upgradient from LF-5. This implies that sources other than LF-5 are contributing SVOCs and possibly other contaminants to surface water and sediments in the Flagstone Brook drainage.

Pesticides/PCBs were detected in the sediments at six stations in the Flagstone Brook drainage. The highest total pesticide/PCB concentration was detected at the upgradient station (8031) and was based on a single hit of 1.00 mg/kg for heptachlor epoxide. Other pesticides/PCBs observed in Flagstone Brook drainage sediments, and the number of stations at which they were reported include: 4,4'-DDT (4), 4,4'-DDE (3), gamma-chlordane (1), and Aroclor-1260 (1).



**LEGEND:**

- Staff gage
- Surface water/sediment sampling location
- Seep
- Preliminary delineated wetlands
- 0.00** Total concentrations ( $\mu$ g/l)
- A:** Total aromatic VOCs
- H:** Total halogenated VOCs
- S:** Total semivolatiles
- P:** Pesticides/PCBs
- ND:** Not detected
- Surface contour/elevation (FT/MSL) 10 foot interval
- Roads (asphalt/paved)
- Other roads and trails
- Buildings
- Fence

Samples collected on dates as noted beneath concentrations.

**SCALE IN FEET**

0 50 100 200 300 400

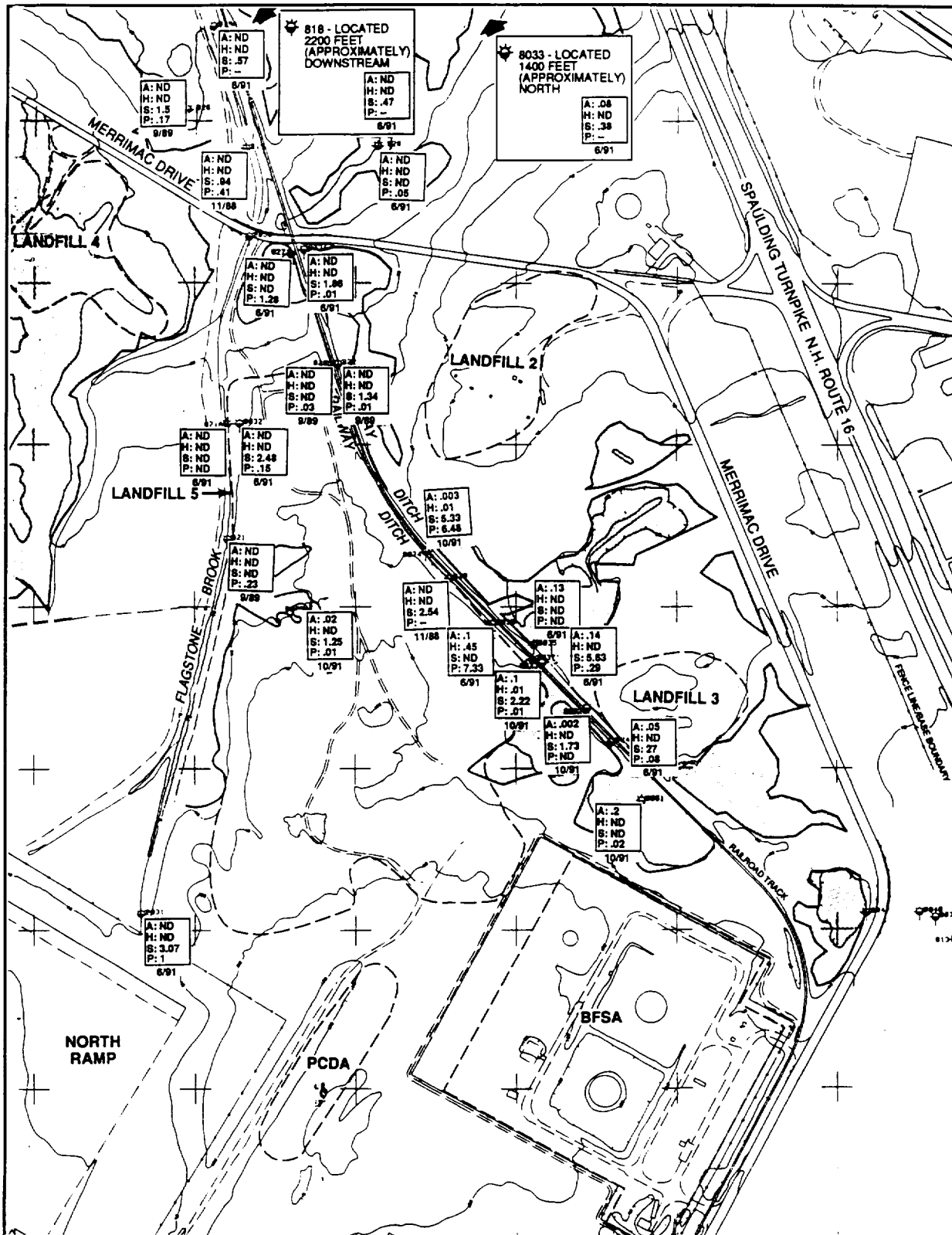
Base Map Source  
Detail area of photogrammetric compilation of PAFB from aerial photography dated 11/23/87



**NOTE:**

**Landfill 5 (LF-5) Area  
Stage 4, Record of Decision  
Pease Air Force Base, New Hampshire  
FIGURE 6  
DISTRIBUTION OF ORGANICS IN  
SURFACE WATER**

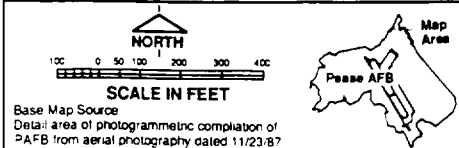




**LEGEND:**

- Staff gage
- Surface water/sediment sampling location
- Seep
- Preliminary delineated wetlands
- 0.00** Total concentrations ( $\mu\text{g}/\text{kg}$ )
- A: Total aromatic VOCs
- H: Total halogenated VOCs
- S: Total semivolatiles
- P: Pesticides/PCBs
- ND: Not detected
- 50 Surface contour/elevation (FT./MSL) 10 foot interval
- Roads (asphalt/paved)
- Other roads and trails
- Buildings
- Fence

Samples collected on dates as noted beneath concentrations.



**NOTE:**

**Landfill 5 (LF-5) Area  
Stage 4, Record of Decision  
Pease Air Force Base, New Hampshire  
FIGURE 7  
DISTRIBUTION OF ORGANICS IN  
SEDIMENTS**

Inorganic concentrations in surface waters in the Flagstone Brook drainage were compared with the State of New Hampshire freshwater chronic criteria for the protection of aquatic life, when available. Metals for which criteria are hardness- or pH-dependent have been adjusted assuming hardness of 20 mg/L and pH of 6.5. The state AWQC for seven inorganics were exceeded at one or more stations in the Flagstone Brook drainage. Zinc concentrations at stations 819, 819A, 826, 8031, and 8079 exceeded the state AWQC (0.027 mg/L). The state AWQC for iron (1.0 mg/L) was exceeded at stations 819, 826, 8031, and 8079; and the state AWQC for lead (0.000041 mg/L) was exceeded at three stations (826, 8031, and 8079). The four other compounds that exceeded surface water criteria and the number of stations are beryllium (1), copper (2), nickel (1), and thallium (1).

Inorganic sediment concentrations in the Flagstone Brook drainage were compared to concentrations at upgradient station 8031. Station 8031 had the highest detected concentrations of barium (445 mg/kg) and chromium (91.9 mg/kg) in sediments when compared to other Flagstone Brook drainage samples. In general, inorganic sediment concentrations did not exceed the upgradient sample by more than an order of magnitude, the exceptions being mercury and beryllium, which were not detected at station 8031. Mercury was identified in a duplicate sample taken at station 8032 (0.15 mg/kg) in June 1991. Beryllium was identified at stations 819A (0.27 mg/kg) and 8079 (0.41 mg/kg) during June and October 1991 sampling, respectively. The only other compound that exceeded the upgradient concentration by more than an order of magnitude was aluminum, which was detected at station 826 (20,800 mg/kg) in a sample collected in September 1989.

Aromatic and halogenated VOCs were detected in surface water at nine stations in the Railway Ditch during the 1991 field investigations at LF-5 (see Figure 7). Aromatic VOCs detected included chlorobenzene, benzene, toluene, ethylbenzene, trimethylbenzene, and butylbenzene. Chlorobenzene was the most frequently detected and also showed the highest concentration of 2.0  $\mu\text{g/L}$  at station 8073. Halogenated VOCs were detected at the same stations where aromatic VOCs were present. Halogenated VOC contaminants included PCE, TCE, trans- and cis-1,2-dichloroethene (DCE), 1,1-DCA, 1,4-DCB, and 1,2-DCB. TCE, cis-1,2-DCE, 1,1-dichloroethane (DCA), and 1,4-DCB were the dominant halogenated

VOCs present in Railway Ditch surface water. TCE was detected at the highest concentration (9  $\mu\text{g}/\text{L}$  at station 8074). No aromatic or halogenated VOCs were detected in surface water downstream of station 827. The area of aromatic/halogenated VOC surface water contamination extends from staff gage 8061 downstream to station 820/822.

No SVOCs were detected in surface water sampled from the Railway Ditch. The pesticide DDT and its metabolite 4,4'-DDD were detected in surface water collected from four Railway Ditch stations (820, 827, 828, and 8074). The highest concentrations of DDT and 4,4'-DDD in surface water were detected at staff gage 820. No herbicides or PCBs were detected in Railway Ditch surface waters.

Aromatic VOCs were detected in sediments at nine stations in the Railway Ditch during the 1991 field investigations at LF-5 (see Figure 7). Aromatic VOCs detected included chlorobenzene, 1,2-DCB, methylene chloride, 2-butanone, toluene, and acetone; 2-butanone had the highest detected concentration of 0.2 mg/kg at station 8061. Halogenated VOCs were detected in sediment at three stations in the Railway Ditch and included 1,2-DCE, TCE, and 1,1-DCA. The aromatic VOC 1,2-DCE was detected in the highest concentration at station 8036 (0.45 mg/kg). Aromatic VOCs were detected in sediments in the upper Railway Ditch from staff gage 8061 downstream to station 8074, while halogenated VOCs were detected at stations 8074, 8036, and 8073. No VOCs were detected in sediments sampled below station 8074.

SVOCs were detected in sediments sampled at eight stations in the Railway Ditch. Phenanthrene, fluoranthene, and pyrene were the most common SVOCs out of a total of 15 SVOC compounds detected. The highest SVOC concentration detected in Railway Ditch sediments was a 27-mg/kg concentration of benzoic acid at station 824. SVOCs were detected throughout the Railway Ditch system from station 824 downstream to station 8033.

Pesticides were detected in sediments at 10 stations in the Railway Ditch. DDT was the most widely distributed pesticide in the Railway Ditch sediments and was detected at six stations. The DDT metabolites 4,4-DDE and 4,4-DDD were both detected at seven stations

in the Railway Ditch. The highest sediment concentration of pesticide (DDT) was detected at station 8036. No herbicides or PCBs were detected in Railway Ditch sediments.

Inorganic concentrations detected in surface waters of the Railway Ditch drainage were compared with the State of New Hampshire freshwater chronic criteria for the protection of aquatic life. State AWQC for five inorganics were exceeded at one or more stations in the Railway Ditch drainage. Arsenic concentrations at stations 8036, 8037, and 8073 exceeded the state AWQC (0.048 mg/L). State AWQC for copper (0.003 mg/L) was exceeded at stations 8035 and 8061. A total of 10 stations (820, 823, 827, 8035, 8036, 8037, 8061, 8072, 8073, and 8074) exceeded the state AWQC for iron (1.0 mg/L). Lead concentrations at seven stations (820, 822, 8035, 8036, 8061, 8072, and 8073) exceeded the state AWQC (0.00041 mg/L), and the state AWQC for zinc (0.027 mg/L) was exceeded at stations 8035, 8036, 8037, and 8061.

Railway Ditch sediment concentrations of inorganics were compared to the upgradient station on Flagstone Brook (8031). Inorganics concentrations in Railway Ditch sediments that were one order of magnitude greater in concentration than those detected at station 8031 are described as follows. Eight sediment inorganics were one order of magnitude greater in concentration than those detected at station 8031. These included: arsenic at seven stations, iron at one station, lead at two stations, calcium at three stations, cobalt at one station, potassium at one station, manganese at six stations, and silicon at eight stations. Four inorganics (beryllium, selenium, silver, and thallium) detected in Railway Ditch sediments were not detected at station 8031.

Potential pathways by which contaminants have entered Flagstone Brook and the Railway Ditch include overland flow (erosion) and groundwater discharge. The PAHs and pesticides observed in sediments are transported via erosion of LF-5 soils. VOCs detected in the Railway Ditch surface waters reflect contaminated groundwater discharge. The relative absence of VOCs in Flagstone Brook surface waters may result from dilution, losses due to volatilization, or a smaller contaminant load migrating westward, as opposed to eastward toward the Railway Ditch.

Halogenated VOCs in Railway Ditch waters have been determined to have originated from three separate source locations in the vicinity of LF-5; the central trench area (chlorobenzene, 1,4-DCB, and C-1,2-DCE), the southern trench area (PCE), and an area south of the landfill near the PCDA.

Based on sampling results in Flagstone Brook and the Railway Ditch, it is estimated that approximately 3,000 yd<sup>3</sup> of Railway Ditch sediments will require remediation.

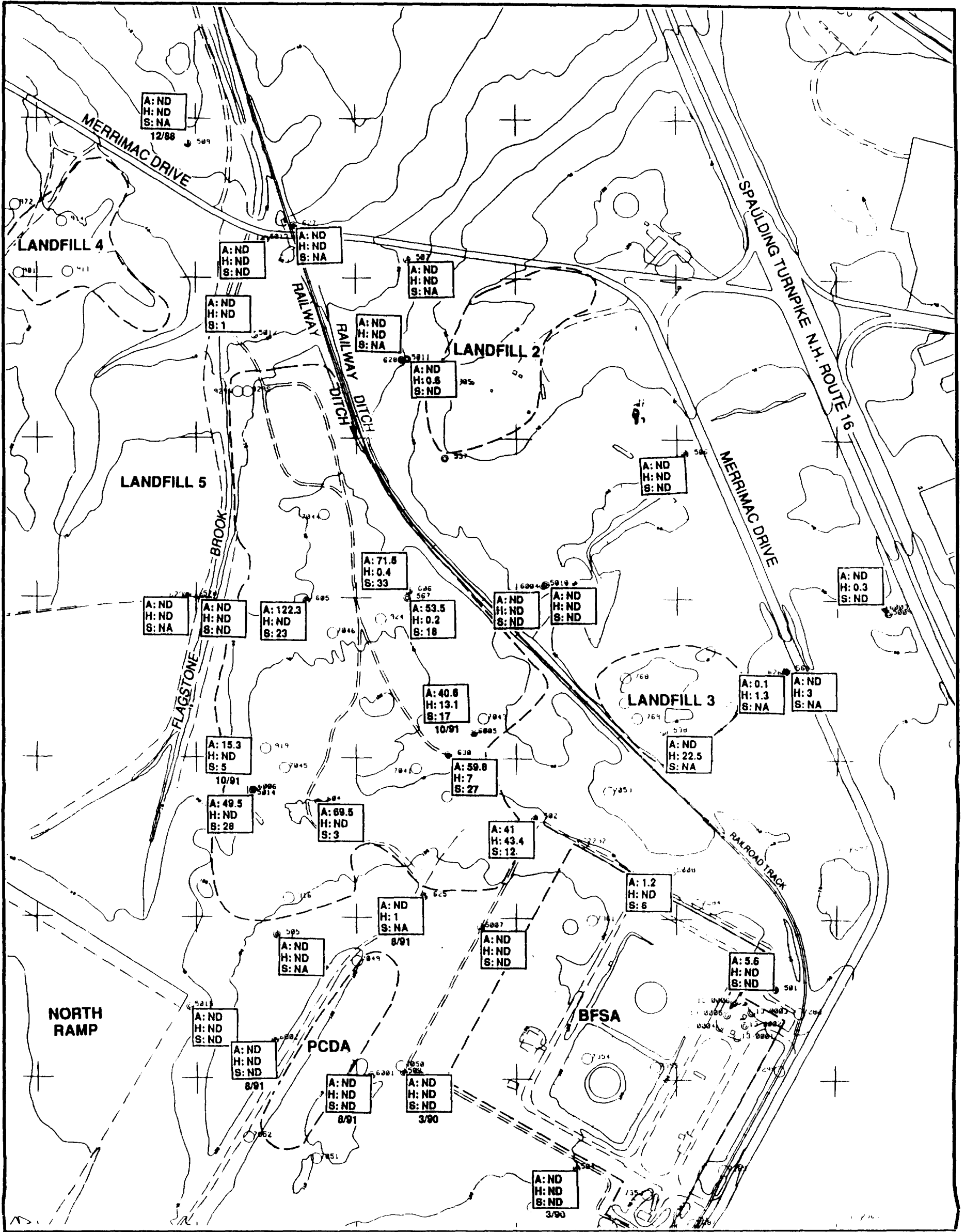
#### **D. Groundwater**

During the LF-5 characterization, 38 groundwater sample locations were tested for VOCs with varied frequency. Both aromatic and halogenated VOCs have been detected on- and off-site. However, the off-site aromatic VOCs have been detected in wells 502 and 5008. Well 5008 is downgradient of both LF-5 and the BFSA.

All of the groundwater samples collected from monitor wells installed within the established LF-5 boundary have contained VOCs. Outside the landfill boundary, halogenated VOCs were detected in samples collected from five wells located east of the southern section of LF-5 (502, 538, 568, 626, and 6003); and one well located northeast of the landfill (5011). Figure 8 depicts the distribution of the concentrations of total halogenated VOCs, total aromatic VOCs, and total SVOCs for each well.

The highest concentrations of total aromatic VOCs (primarily benzene, chlorobenzene, and 1,4-DCB) and SVOCs are typically detected in groundwater collected from wells near the central trenches (567, 603, 604, 605, and 6005).

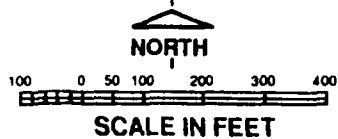
The highest concentrations of halogenated VOCs, primarily TCE and PCE, in groundwater are hydraulically downgradient of the southeastern corner of LF-5, but low concentrations have been detected in samples from one well, located adjacent to the central portion of the southern boundary, during three separate sampling events. Low concentrations of dichlorinated alkenes and alkanes cis-1,2-DCE, 1,1-DCA, and 1,2-DCA are present across



**LEGEND:**

- ☉ Staff gage
- Monitor well (Bedrock)
- ⊙ Monitor well (Overburden)
- ⊕ Monitor well (Hybrid)
- Piezometer
- 0.00 Total concentrations (µg/l)
- A: Total aromatic VOCs
- H: Total halogenated VOCs
- S: Total semivolatiles
- NA Not analyzed
- ND Not detected
- 50 Surface contour/elevation(FT/MSL)  
10 foot interval
- == Roads (asphalt/paved)
- - - Other roads and trails
- ▭ Buildings
- x-x- Fence

Samples collected in 6/91 except as noted.



Base Map Source:  
Detail area of photogrammetric compilation of  
PAFB from aerial photography dated 11/23/87.

**Landfill 5 (LF-5) Area**  
**Stage 4, Record of Decision**  
**Pease Air Force Base, New Hampshire**  
**FIGURE 8**  
**DISTRIBUTION OF ORGANICS IN**  
**GROUNDWATER**

the landfill, but the higher concentrations ( $>5 \mu\text{g/L}$ ) are restricted to the southeastern region of LF-5. The highest detected concentrations of total SVOCs and total aromatic VOCs have been in the central trench area (605 and 606); benzene has repeatedly exceeded the Federal Maximum Contaminant Level (MCL) of  $5 \mu\text{g/L}$  in samples collected from one well (5014) in this area. No other final or proposed MCLs have been exceeded for aromatic VOCs or SVOCs at LF-5. The MCLs for TCE ( $5 \mu\text{g/L}$ ) and vinyl chloride ( $2 \mu\text{g/L}$ ) have been exceeded in groundwater samples collected from well 502, and the MCL for PCE ( $5 \mu\text{g/L}$ ) has been exceeded in all samples from wells 502 and 538.

Groundwater samples collected from 38 wells in and around LF-5 have been analyzed for pesticides. Low concentrations (below quantitation limits) of either delta-BHC, endosulfan I, or 4,4'-DDD have been detected in groundwater samples collected from three of the wells (605, 606, and 629). The two samples containing endosulfan I were collected from wells located downgradient of the central trench area (605 and 606). The concentrations present are not above any existing federal or state criteria. No herbicides have been detected in groundwater samples collected from the wells in and around LF-5.

A total of 96 groundwater samples collected from 38 wells were analyzed for dissolved metals. Table 3 summarizes those wells at which dissolved metal concentrations have exceeded background. Iron and manganese were consistently present at concentrations above established background concentrations near the central trench area (wells 567, 604, 605, 606, 630, 6005, and 6006). In all wells in which dissolved manganese concentrations exceeded the background concentrations, aromatic VOCs were detected. A similar correlation exists with dissolved iron except in wells 508 and 5010, which do not contain VOCs. The majority of the metals concentrations that were present in elevated concentrations were located in wells near the central trenches.

Dissolved arsenic was detected above the background concentration ( $50 \mu\text{g/L}$ ) in seven wells; six of these wells are located near the central trenches (567, 605, 630, 6005, and 6006) and the seventh (501) is located downgradient of the BFSA. Dissolved arsenic was detected

Table 3

Locations of Elevated Dissolved Metals Concentrations in Groundwater  
LF-5, Stage 3, Pease AFB, NH

Parameter:	As	Fe	Mn	Mg	Si	Co	Tl	B	K	Al	Na	Ni
Background concentration (µg/L)	50	1,090	59.7	41,300	13,400	50	200	163	12,900	439	8,800	100
Locations	501 (2/5) 567 (3/3) 5014 (1/1) 6006 (1/1) 605 (4/4) 606 (4/4) 630 (3/3)	5010 (1/1) 501 (5/5) 567 (3/3) 604 (4/4) 605 (4/4) 606 (4/4) 630 (3/3) 5014 (1/1) 6005 (1/1) 6006 (1/1)	*	567 (2/3)	5010 (1/1) 567 (1/3) 605 (2/3) 606 (2/4)	606 (2/4) 5014 (1/1)	501 (1/5) 567 (1/3) 604 (1/4) 605 (1/4) 606 (1/4) 630 (1/3)	5008 (1/1) 501 (1/4) 567 (1/3) 605 (2/4) 606 (2/4) 630 (1/3)	567 (1/3) 606 (4/4)	508 (1/2)	5010 (1/1)	606 (1/4)

(2/4) = Number of times above background/number of times analyzed.

\*All the wells within the landfill have concentrations that exceed the background concentration.



at lower concentrations in wells that are hydraulically upgradient of the trench area (502 and 505), and in well 629.

Contaminant migration in groundwater beneath and adjacent to LF-5 is discussed in detail in Subsections 5.2 and 5.3 of the Zone 1 Draft Final RI (F-500). The salient points of the discussion are presented in the paragraphs that follow.

Six potential groundwater contaminant migration pathways exist at LF-5. The six pathways are overburden and bedrock groundwater pathways to the north, east, and west of LF-5.

The bedrock and overburden water-bearing zones within LF-5 are intimately interconnected hydraulically. Excavating and landfilling activities resulted in removal of much of the relatively low-permeability Marine Clay and Silt (MCS) and Glacial Till (GT) units, that, in many other areas, act as an aquitard between the bedrock and overburden aquifers. Consequently, low-permeability material, which would otherwise separate groundwater in the overburden from groundwater in the weathered bedrock, is only sporadically present throughout LF-5. The observed contaminant distributions within LF-5 are consistent with the single hydraulic unit model.

Groundwater beneath LF-5 is recharged primarily from the south, although a local groundwater mound, which acts as an enhanced recharge zone, has developed in the central trench area. The center of this recharge zone is located north of well 604 (see Figure 8).

The location of this recharge zone coincides with an area characterized by elevated concentrations of several aromatic and halogenated VOCs. A north/south-trending groundwater divide transects this recharge zone along an axis through test pits 925, 927, and 928, and bedrock wells 604 and 605. Groundwater (bedrock and overburden) flows radially away from the recharge area and then joins the dominant flow pattern toward Flagstone Brook to the west and the Railway Ditch to the east.

Hydraulic gradients across LF-5 indicate that groundwater flows toward both the Railway Ditch and Flagstone Brook, thereby resulting in discharge from the water table to surface water. Although the Railway Ditch was not flowing during the September 1989 surface water sampling event, it appears to be a perennial stream because flow has been noted during all previous and subsequent sampling rounds. Organic contaminants present in surface water samples from staff gages along the Railway Ditch are the same as found in groundwater at LF-5. Although groundwater is also discharging into Flagstone Brook, with the exception of a small amount of PCE in one of four surface water samples collected at staff gage 821, there is a relative absence of contaminants detected in surface water samples. The relative absence of contaminants in Flagstone Brook may result from dilution, because of its relatively high discharge, contaminant losses resulting from aeration and volatilization, and/or it may be a reflection of a relatively smaller contaminant load migrating westward rather than eastward toward the Railway Ditch.

#### **E. Wetlands**

In addition to the Railway Ditch and Flagstone Brook, several wetlands areas exist in the LF-5 vicinity. On and immediately adjacent to the landfill are three wetlands: Wetlands XV, XVI, and XVII (see Figure 3). Wetlands XVI drains to Flagstone Brook and Wetlands XV and XVII drain the Railway Ditch. East of the landfill, between the railroad and Merrimac Drive, are Wetlands I, II, III, IV, V, and VI. Wetlands I, III, IV, and V drain toward Merrimac Drive, and Wetlands II and VI drain to the Railway Ditch. North of the landfill, there are several wetlands associated with the Railway Ditch and Flagstone Brook. Wetlands VII and VIII are associated with the Railway Ditch until it reaches Wetlands IX and joins Flagstone Brook through a culvert under the railroad. Wetlands X is located north of LF-5 and west of Flagstone Brook and has no identified surface water connection to Flagstone Brook. However, subsurface flow may exist under the roadbed. West of the landfill, Wetlands XIII is immediately adjacent to Flagstone Brook and a portion of it flows into Flagstone Brook near its conjunction with Merrimac Drive. More detailed information pertaining to the wetlands

in the LF-5 vicinity is presented in the Wetlands Delineation Report in Appendix M of the LF-5 RI (F-500).

Based on wetland area surface soil and sediment sampling results that were available during preparation of the FS, it was assumed that sediment in Wetlands VI and XV, located outside the northern boundary of the landfill on either side of the Railway Ditch and south of Merrimac Drive, would require remediation. The estimated volumes of sediment in Wetlands VI and XV that may require remediation are 4,200 yd<sup>3</sup> and 2,400 yd<sup>3</sup>, respectively. However, it should be noted that these volumes were conservatively estimated assuming that the entire wetlands will require sediment excavation. While sediment samples from the portions of these wetlands immediately adjacent to the Railway Ditch contained contaminant concentrations exceeding the No Observable Adverse Biological Effects Levels (ER-Ms), published by the National Oceanic and Atmospheric Administration (NOAA) samples were not collected from these wetlands at locations farther away from the Railway Ditch so there are no data to suggest that remediation of the entire wetlands is necessary. Confirmational sampling has been conducted in these wetlands to confirm whether sediment removal is necessary. Remedial volumes resulting from the sampling results will be confirmed prior to implementation of remedial action. Excavation will be avoided, wherever possible, to avoid the adverse long-term effects of wetlands destruction.

## **VI. SUMMARY OF SITE RISKS**

A Risk Assessment (RA) was performed to estimate the probability and magnitude of potential adverse human health and environmental effects from exposure to contaminants associated with the Site. The public health risk assessment followed a four-step process:

1. Contaminant identification, which identified those hazardous substances which, given the specifics of the site, were of significant concern.
2. Exposure assessment, which identified actual or potential exposure pathways, characterized the potentially exposed populations, and determined the extent of possible exposure.
3. Toxicity assessment, which considered the types and magnitude of adverse health effects associated with exposure to hazardous substances.
4. Risk characterization, which integrated the three earlier steps to summarize the potential and actual risks posed by carcinogenic risks.

The results of the baseline human health and ecological risk assessments for Pease AFB are discussed in the subsections that follow.

### **A. Human Health Risk Assessment**

A total of 75 contaminants of concern, listed in Tables 4 through 12, were selected for evaluation in the human health risk assessment. These contaminants constitute a representative subset of the more than 98 contaminants identified at the site during the RI. The 75 contaminants of concern were selected to represent potential site-related hazards based on toxicity, concentration, frequency of detection, mobility, and persistence in the environment. A summary of the health effects of each of the contaminants of concern can be found in Subsection 6.3.2 and Appendix L.4 of the LF-5 Draft Final RI (F-500).

Table 4

**Chemicals of Concern in Main Soils<sup>a</sup>  
LF-5, Pease AFB, NH**

Chemical	Frequency of Detection <sup>b</sup>	Range of Sample Quantitation Limits (mg/kg)	Range of Averaged (Detected) Concentrations <sup>c</sup> (mg/kg)	Mean Concentration <sup>d</sup> (mg/kg)	Upper 95% Confidence Limit of the Mean (mg/kg)
<i>Organics</i>					
Aroclor-1242	2/33	0.045-9.1	1.6-5.3	0.43	1.0
Aroclor-1248	3/33	0.045-9.1	0.82-3.4	0.39	0.88
Bis(2-ethylhexyl) phthalate	27/33	0.45-15	0.055-1.0(1.1)	0.66	1.0
4,4'-DDD	8/33	0.009-1.8	0.003-0.23	0.062	0.13
4,4'-DDE	14/33	0.014-1.8	0.001-0.71	0.085	0.25
4,4'-DDT	23/33	0.009-0.41	0.002-3.4	0.18	0.66
Dibenzofuran	7/33	0.35-2.4	0.055-30	0.56	1.0
1,4-Dichlorobenzene	2/31	0.35-15	0.057-0.11	0.42 <sup>d</sup>	0.64 <sup>d</sup>
Dieldrin	5/33	0.009-1.8	0.009-0.24	0.068	0.15
Di-n-butyl phthalate	6/33	0.35-15	0.039-0.084	0.40 <sup>e</sup>	0.68 <sup>e</sup>
2-Methylnaphthalene	3/33	0.35-2.4	0.29-8.9	0.39	0.57
Naphthalene	6/33	0.35-2.4	0.10-34	0.54	0.97
<i>PAHs</i>					
Acenaphthene	8/33	0.35-2.4	0.037-52	0.74	1.6
Acenaphthylene	2/33	0.35-15	0.096-0.20	0.42 <sup>d</sup>	0.62 <sup>d</sup>
Anthracene	12/33	0.35-2.4	0.045-85	0.95	2.5
Benzo(a)anthracene	22/33	0.35-2.4	0.042-130	1.6	5.7
Benzo(a)pyrene	21/33	0.35-2.4	0.040-110	1.4	4.4
Benzo(b)fluoranthene	22/33	0.36-2.4	0.041-100	1.5	4.7
Benzo(g,h,i)perylene	10/34	0.35-2.4	0.20-110	1.3	3.2
Benzo(k)fluoranthene	21/33	0.36-2.4	0.036-82	1.2	3.3
Chrysene	25/33	0.36-2.4	0.040-120	1.7	6.3

**Table 4**  
**Chemicals of Concern in Main Soils<sup>a</sup>** - -  
**LF-5, Pease AFB, NH**  
**(Continued)**

Chemical	Frequency of Detection <sup>b</sup>	Range of Sample Quantitation Limits (mg/kg)	Range of Averaged (Detected) Concentrations <sup>c</sup> (mg/kg)	Mean Concentration <sup>d</sup> (mg/kg)	Upper 95% Confidence Limit of the Mean (mg/kg)
<i>Organics (continued)</i>					
Dibenzo(a,h)-anthracene	8/33	0.35-2.4	0.082-23	0.51	0.88
Fluoranthene	28/33	0.36-2.4	0.045-200	2.7	12.5
Fluorene	7/33	0.35-2.4	0.075-62	0.77	1.7
Indeno(1,2,3-cd)-pyrene	10/33	0.35-2.4	0.17-87	1.1	2.6
Phenanthrene	16/33	0.35-2.4	0.048-240	2.4	10
Pyrene	28/33	0.36-0.45	0.048 (0.040) - 210	2.4	10
Pentachlorophenol	4/33	1.8-76	0.093-0.94	1.8 <sup>d</sup>	2.8 <sup>d</sup>
<i>Inorganics</i>					
Arsenic	36/36	1.0 <sup>e</sup>	4.0-28.6	9.7	11
Cadmium	4/36	1.7-7.6	2.0-11.9	1.7	2.1
Copper	36/36	3.0 <sup>e</sup>	6.8-215	23	28
Lead	33/36	9-15	7.1-193	37	49
Manganese	36/36	1.0 <sup>e</sup>	105-1,080	333	388
Mercury	8/34	0.11-0.28	0.14-0.81	0.13	0.17
Zinc	32/36	15-34	25-259	68	89

<sup>a</sup>The listed chemicals were selected as chemicals of concern for both the human health and ecological risk assessments.

<sup>b</sup>Number of sampling locations at which the chemical was detected compared with the total number of sampling locations.

<sup>c</sup>If the minimum or maximum detected concentration differed from the respective minimum or maximum averaged concentration, the detected concentration is given in parentheses.

<sup>d</sup>Mean was calculated for the averaged concentrations using the minimum variance unbiased estimation approach for lognormally distributed data (F-230).

<sup>e</sup>Exceeds the maximum detected concentration.

<sup>f</sup>Sample quantitation limits were unavailable. Method detection limit is indicated (F-484).

Table 5

**Chemicals of Concern in Hot Spot Soils – Drum Removal Area<sup>a</sup>  
LF-5, Pease AFB, NH**

Chemical	Frequency of Detection <sup>b</sup>	Range of Sample Quantitation Limits (mg/kg)	Range of Averaged (Detected) Concentrations <sup>c</sup> (mg/kg)	Mean Concentration <sup>d</sup> (mg/kg)	Upper 95% Confidence Limit of the Mean (mg/kg)
<i>Organics</i>					
alpha-Chlordane	2/6	0.23-13	0.011-1.7	2.6 <sup>e</sup>	15,953 <sup>e</sup>
gamma-Chlordane	1/6	0.23-13	1.7	1.5	28 <sup>e</sup>
4,4'-DDD	5/6	2.2	0.021(0.011)-0.67	0.37	39 <sup>e</sup>
4,4-DDE	2/6	0.0046-2.1	0.15-0.26	0.15	0.46 <sup>e</sup>
4,4'-DDT	4/6	0.0046-0.20	0.16-6.0	1.9	19,411 <sup>e</sup>
Dibenzofuran	6/6	0.35-2.4 <sup>f</sup>	0.38(0.093)-110	37	87,005 <sup>e</sup>
Dieldrin	2/6	0.046-2.6	1.5-1.5	0.57	65 <sup>e</sup>
Heptachlor	2/6	0.023-1.0	0.15-0.16	0.09	0.42 <sup>e</sup>
2-Methylnaphthalene	5/6	19	0.18(0.039)-41	19	27,715 <sup>e</sup>
Naphthalene	5/6	19	0.18(0.054)-64	27	95,617 <sup>e</sup>
<i>PAHs</i>					
Acenaphthene	6/6	0.33 <sup>f</sup>	0.69(0.19)-190	67	113,721 <sup>e</sup>
Anthracene	6/6	0.33 <sup>f</sup>	1.1(0.30)-220	90	75,800 <sup>e</sup>
Benzo(a)anthracene	6/6	0.33 <sup>f</sup>	2.3(0.77)-890	242	568,196 <sup>e</sup>
Benzo(a)pyrene	6/6	0.33 <sup>f</sup>	1.7(0.55)-750	199	633,285 <sup>e</sup>
Benzo(b)fluoranthene	6/6	0.33 <sup>f</sup>	1.7(0.61)-610	182	394,218 <sup>e</sup>
Benzo(g,h,i)perylene	5/6	19	1.1(0.41)-120	45	6,712 <sup>e</sup>
Benzo(k)fluoranthene	6/6	0.33 <sup>f</sup>	1.5(0.47)-300	129	86,233 <sup>e</sup>
Chrysene	6/6	0.33 <sup>f</sup>	2.1(0.74)-910	239	724,126 <sup>e</sup>
Dibenzo(a,h)-anthracene	5/6	0.38-19	0.38-88	28	16,408 <sup>e</sup>
Fluoranthene	6/6	0.33 <sup>f</sup>	4.2(1.5)-1,300	379	505,372 <sup>e</sup>
Fluorene	6/6	0.33 <sup>f</sup>	0.59(0.15)-200	69	218,424 <sup>e</sup>

Table 5

Chemicals of Concern in Hot Spot Soils – Drum Removal Area<sup>a</sup>  
 LF-5, Pease AFB, NH  
 (Continued)

Chemical	Frequency of Detection <sup>b</sup>	Range of Sample Quantitation Limits (mg/kg)	Range of Averaged (Detected) Concentrations <sup>c</sup> (mg/kg)	Mean Concentration <sup>d</sup> (mg/kg)	Upper 95% Confidence Limit of the Mean (mg/kg)
<i>Organics (continued)</i>					
Indeno(1,2,3-cd)-pyrene	5/6	19	1.0(0.39)-190	60	27,942 <sup>e</sup>
Phenanthrene	6/6	0.33 <sup>f</sup>	3.7(1.2)-1,200	326	429,142 <sup>e</sup>
Pyrene	6/6	0.33 <sup>f</sup>	61-1,400	354	509,661 <sup>e</sup>
Toluene	2/5	0.006-0.007	0.007(0.004)-0.082	0.014	2.2 <sup>e</sup>
<i>Inorganics</i>					
Boron	1/3	17-23	18.9	13	64 <sup>e</sup>
Copper	6/6	3.0 <sup>f</sup>	14.8(13.9)-130	31	140 <sup>e</sup>
Lead	6/6	20 <sup>f</sup>	5.1-55.8	23	108 <sup>e</sup>
Mercury	2/4	0.11-0.22	0.29-0.34	0.18	0.90 <sup>e</sup>

<sup>a</sup>The listed chemicals were selected as chemicals of concern for both the human health and ecological risk assessments.

<sup>b</sup>Number of sampling locations at which the chemical was detected compared with the total number of sampling locations.

<sup>c</sup>If the minimum or maximum concentration differed from the minimum or maximum averaged concentration, the detected concentration is given in parentheses.

<sup>d</sup>Mean was calculated for the averaged concentration using the minimum variance unbiased estimation approach for lognormally distributed data (F-230).

<sup>e</sup>Exceeds maximum detected and/or averaged concentration.

<sup>f</sup>Sample quantitation limits were unavailable. The method detection limit is indicated (F-484).



Table 6

Chemicals of Concern in Hot Spot Soils — Staged UST Location<sup>a</sup>  
 LF-5, Pease AFB, NH

Chemical	Range of Averaged (Detected) Concentrations <sup>b</sup>
<i>Organics</i>	
Bis(2-ethylhexyl) phthalate	0.24 (0.21-0.27)
Di-n-butyl phthalate	0.048 (0.043-0.052)
<i>PAHs</i>	
Benzo(a)pyrene	0.066 (0.065-0.066)
Chrysene	0.049 (0.048-0.049)
Fluoranthene	0.059 (0.058-0.060)
Pyrene	0.078 (0.071-0.084)
<i>Inorganics</i>	
Arsenic	35.1 <sup>c</sup> (6.2-35.1)
Barium	8,200 <sup>c</sup> (4,430-8,200)
Boron	309 (195-422)
Cadmium	2.4 (2.2-2.5)
Chromium	54.0 <sup>c</sup> (21.0-54.0)
Lead	187 (159-214)
Zinc	1,690 <sup>c</sup> (962-1,690)

<sup>a</sup>The listed chemicals were selected as chemicals of concern for both the human health and ecological risk assessments.

<sup>b</sup>The range represents the analytical results of duplicate samples from one sampling location (364). The arithmetic mean of the samples is presented, unless otherwise indicated, and the results of the duplicate samples are given in parentheses. Because there is only one sampling location, an upper 95% confidence limit of the mean was not calculated.

<sup>c</sup>The higher reported value is indicated instead of the mean because the relative percent difference of the concentrations for the duplicate samples exceeded the criterion (i.e., 50%).

Table 7

**Chemicals of Concern in Groundwater<sup>a</sup> --  
LF-5, Pease AFB, NH**

Chemical	Frequency of Detection <sup>b</sup>	Range of Sample Quantitation Limits ( $\mu\text{g/L}$ )	Range of Averaged (Detected) Concentrations <sup>c</sup> ( $\mu\text{g/L}$ )	Mean Concentration <sup>d</sup> ( $\mu\text{g/L}$ )	Upper 95% Confidence Limit of the Mean ( $\mu\text{g/L}$ )
<i>Organics</i>					
Acetone	1/9	10	46	9.6	18
Benzene	9/27	0.7-10	0.35(0.30)-12 (14)	1.5	2.4
Bis(2-ethylhexyl) phthalate	8/25	10-11	1.0-8.3(11)	5.0	5.5
n-Butylbenzene	3/25	1.0	0.45(0.40)-2.0	0.57	0.67
sec-Butylbenzene	8/25	1.0	0.30(0.40)-3.0	0.76	0.98
Chlorobenzene	11/37	1.0-1.2	0.30-66(80)	5.7	9.9
Chloroethane	3/27	2.0-3.0	1.3(1.0)-2.5(3.0)	1.3	1.4
4-Chloro-3-methylphenol	9/25	10-11	2.5(2.0)-10(11)	5.6	6.1
1,2-Dichlorobenzene	8/27	0.6-2.0	0.30(0.20)-12(32)	1.2	2.0
1,4-Dichlorobenzene	11/27	0.6-1.0	0.20-28(38)	6.4	9.5
Dichlorodifluoromethane	4/27	2.0-9.0	3.9(2.0)-13(23)	3.2	4.0
1,1-Dichloroethane	5/27	0.4-1.0	0.32(0.50)-14(15)	1.3	2.2
1,2-Dichloroethane	4/27	0.20-1.0	0.26(0.10)-1.4(2.2)	0.37	0.44
cis-1,2-Dichloroethene	7/27	0.5-1.0	0.30(0.10)-8.6(22)	0.82	1.4
Diethyl phthalate	9/25	10-11	3.7(1.0)-8.3(11)	5.2	5.6
Dimethyl phthalate	4/25	10-11	1.0-8.0(11)	5.2	5.6
Di-n-butyl phthalate	4/25	10-11	3.2(2.0)-8.3(11)	5.4	5.7
Ethyl ether	2/9	2.0	2.0-19(40)	3.1	6.9
Isopropyl-benzene	8/24	1.0	0.50-2.0	0.72	0.87

Table 7

**Chemicals of Concern in Groundwater<sup>a</sup>**  
**LF-5, Pease AFB, NH**  
**(Continued)**

Chemical	Frequency of Detection <sup>b</sup>	Range of Sample Quantitation Limits (µg/L)	Range of Averaged (Detected) Concentrations <sup>c</sup> (µg/L)	Mean Concentration <sup>d</sup> (µg/L)	Upper 95% Confidence Limit of the Mean (µg/L)
<i>Organics (continued)</i>					
2-Methyl-naphthalene	2/25	7.0-11	8.0(11)-8.3(11)	5.4	5.7
Naphthalene	4/25	7.0-11	3.8(1.0)-8.3(11)	5.3	5.6
PAHs Fluoranthene	3/25	10-11	3.3(1.0)-8.3(11)	5.3	5.7
n-Propylbenzene	8/25	1.0	0.20-3.0	0.67	0.85
Tetrachloroethene	6/27	0.2-1.0	0.30-21(56)	1.8	3.3
Trichloroethene	6/27	0.6-1.0	0.43(0.51)-27(46)	1.6	3.4
1,2,4-Trimethylbenzene	5/24	1.0	0.10-4.0	0.64	0.90
Xylenes (total)	3/17	1.6-2.0	1.6(2.0)-2.6(5.7)	1.2	1.4
<i>Inorganics</i>					
Arsenic (filtered)	13/27	5-7.5	3.4(5.0)-153(194)	30	46
Arsenic (total)	13/19	5-7.4	5.0-353	65	101
Boron (filtered)	24/26	100	67(100)-305(340)	117	139
Boron (total)	20/20	100 <sup>e</sup>	100-269	133	154
Cobalt (filtered)	4/27	40-45	27(40)-80	24	28
Cobalt (total)	6/20	40	40(10)-114(127)	34	45
Iron (filtered)	22/27	40-291	31(42)-55,300(64,800)	8,047	12,933
Iron (total)	20/20	40 <sup>e</sup>	1,620-173,000	40,281	55,640
Manganese (filtered)	23/27	10-19	10(12)-5,268(6,260)	842	1,262
Manganese (total)	20/20	10 <sup>e</sup>	33-4,370(4,780)	1,470	2,005
Nickel (filtered)	27/27	10 <sup>e</sup>	15-82(122)	25	30
Nickel (total)	20/20	10 <sup>e</sup>	15-433	63	99
Selenium (filtered)	4/27	5.0	3.8(5.0)-5.0	2.8	3.0
Selenium (total)	2/19	5.0-7.5	5.0(1.3)-5.0	2.9	3.2



Table 8

**Chemicals of Concern in Surface Water – Flagstone Brook<sup>a</sup>  
LF-5, Pease AFB, NH**

Chemical	Frequency of Detection <sup>b</sup>	Range of Sample Quantitation Limits (µg/L)	Range of Averaged (Detected) Concentrations <sup>c</sup> (µg/L)	Mean Concentration <sup>d</sup> (µg/L)	Upper 95% Confidence Limit of the Mean (µg/L)
<i>Organics</i>					
Chlorobenzene	1/5	1.0-1.3	0.40	0.53 <sup>e</sup>	0.61 <sup>e</sup>
4,4'-DDD	1/5	0.07-0.10	0.022 (0.01)	0.039 <sup>e</sup>	0.051 <sup>e</sup>
4,4'-DDE	1/5	0.07-0.10	0.013 (0.020)	0.038 <sup>e</sup>	0.053 <sup>e</sup>
4,4'-DDT	1/5	0.07-0.10	0.073 (0.14)	0.050	0.063
1,4-Dichlorobenzene	1/4	0.50-1.0	0.20	0.31 <sup>e</sup>	0.42 <sup>e</sup>
Lindane	1/5	0.033-0.05	0.020	0.021 <sup>e</sup>	0.025 <sup>e</sup>
Tetrachloroethene	1/5	0.20-1.0	0.35 (1.1)	0.38 <sup>e</sup>	0.50 <sup>e</sup>
<i>Inorganics</i>					
Aluminum	1/5	200	765 (1,050)	233	516
Ammonia <sup>f</sup>	2/3	0.10	0.075-0.095	0.13 <sup>e</sup>	0.25 <sup>e</sup>
Barium	2/5	50	51 (100)-62 (104)	38	55
Boron	3/5	100	80 (123) - 130 (210)	79	111
Copper	1/5	10-30	24 (34)	12	20
Iron	5/5	0.04 <sup>g</sup>	260 (286) - 2,750 (4,480)	995	1,950
Zinc	5/5	0.01 <sup>g</sup>	7.7 (12)-146	48	102

<sup>a</sup>Unless otherwise indicated, the chemical was selected as a chemical of concern for both the human health and ecological risk assessments.

<sup>b</sup>Number of sampling locations at which the chemical was detected compared with the total number of sampling locations.

<sup>c</sup>If the minimum or maximum detected concentration differed from the respective minimum or maximum averaged concentration, the detected concentration is given in parentheses.

<sup>d</sup>Arithmetic mean based on the averaged concentrations.

<sup>e</sup>Exceeds the maximum detected and/or averaged concentration.

<sup>f</sup>Selected as a chemical of concern for the ecological risk assessment only.

<sup>g</sup>Sample quantitation limits were unavailable. The method detection limit is indicated (F-484).

**Table 9**  
**Chemicals of Concern in Surface Water – Railway-Ditch<sup>a</sup>**  
**LF-5, Pease AFB, NH**

Chemical	Frequency of Detection <sup>b</sup>	Range of Sample Quantitation Limits (µg/L)	Range of Averaged (Detected) Concentrations <sup>c</sup> (µg/L)	Mean Concentration <sup>d</sup> (µg/L)	Upper 95% Confidence Limit of the Mean (µg/L)
<i>Organics</i>					
Chlorobenzene	11/15	1.0-1.1	0.10-2.0	0.81	1.0
4,4'-DDD	4/14	0.077-0.11	0.03 (0.02) - 0.17 (0.31)	0.064	0.084
4,4'-DDT	2/14	0.077-0.11	0.088 (0.16) - 0.55 (1.4)	0.088	0.15
1,4-Dichlorobenzene	8/15	0.5-1.0	0.25 (0.30)-2.0	0.68	0.94
1,1-Dichloroethane	6/15	0.4-1.0	0.20-2.0	0.53	0.73
cis-1,2-Dichloroethene	11/15	0.67-1.0	0.20-2.0	0.59	0.79
Trichloroethene	8/15	0.60-1.0	0.20-9.0	1.2	2.2
<i>Inorganics</i>					
Aluminum	10/15	200	211-12,467 (37,200)	1,299	2,732
Ammonia <sup>e</sup>	2/4	0.10	0.15-0.27	0.13	0.25
Arsenic	12/15	5.0	4.4 (5.2)-850	84	183
Barium	6/15	50	35-339 (968)	55	92
Boron	11/15	100	106-227 (351)	126	153
Copper	4/15	10-30	11-102 (287)	15	27
Iron	14/15	169	409-220,483 (658,000)	24,669	50,739
Lead	10/15	3.0-5.0	3.1 (3.7)-96 (280)	14	25
Manganese	15/15	10 <sup>f</sup>	72 (35) - 10,897 (31,500)	2,014	3,234
Mercury <sup>g</sup>	1/15	0.1-0.2	0.23 (0.55)	0.077	0.099
Nickel	4/15	15-16	9.6 (15.7)-54 (154)	15	21
Thallium	3/15	10-73	37 (90) - 1,417 (4,240)	118	282
Zinc	12/15	10-13	15 (14)-328 (974)	56	94

**Table 9**

**Chemicals of Concern in Surface Water — Railway Ditch<sup>a</sup>  
LF-5, Pease AFB, NH  
(Continued)**

<sup>a</sup>Unless otherwise indicated, the chemical was selected as a chemical of concern for the human health and ecological risk assessments.

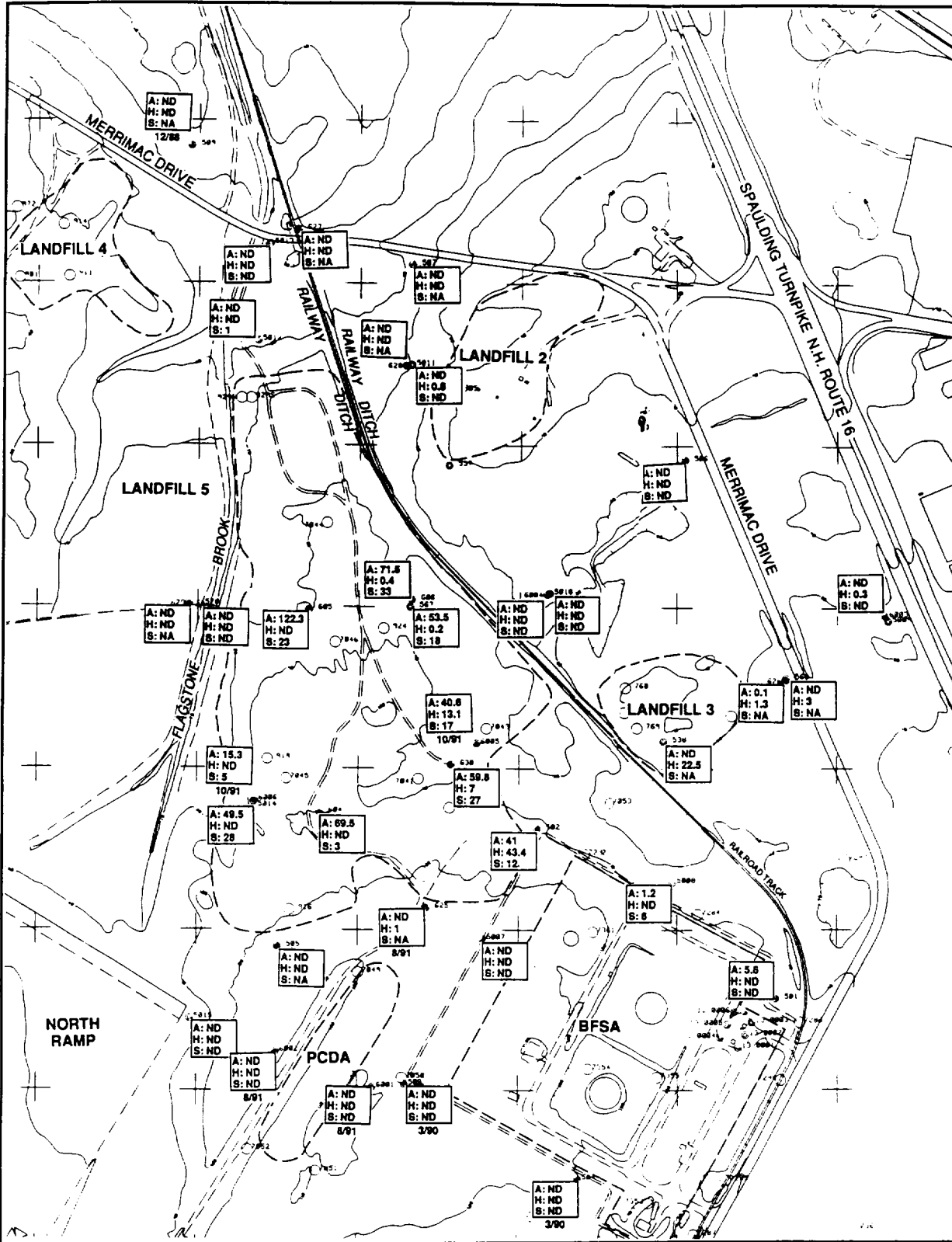
<sup>b</sup>Number of sampling locations at which the chemical was detected compared with the total number of sampling locations.

<sup>c</sup>If the minimum or maximum detected concentration differed from the respective minimum or maximum averaged concentration, the detected concentration is given in parentheses.

<sup>d</sup>Arithmetic mean based on the averaged concentrations.

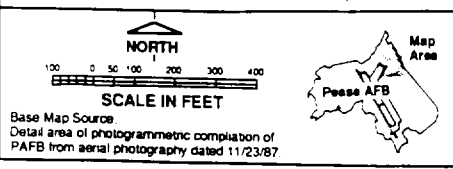
<sup>e</sup>Selected as a chemical of concern for the ecological risk assessment only.

<sup>f</sup>Sample quantitation limits were unavailable. Method detection limit is indicated (F-484).



**LEGEND:**

<ul style="list-style-type: none"> <li>☉ Staff gage</li> <li>● Monitor well (Bedrock)</li> <li>⊙ Monitor well (Overburden)</li> <li>⊙ Monitor well (Hybrid)</li> <li>○ Piezometer</li> </ul>	<p>0.00 Total concentrations (μg/l)</p> <p>A: Total aromatic VOCs H: Total halogenated VOCs S: Total semivolatiles NA Not analyzed ND Not detected</p> <p>Samples collected in 6/91 except as noted.</p>	<ul style="list-style-type: none"> <li>50 Surface contour/elevation(FT./MSL) 10 foot interval</li> <li>== Roads (asphalt/paved)</li> <li>--- Other roads and trails</li> <li>▭ Buildings</li> <li>⊕ Fence</li> </ul>
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**Landfill 5 (LF-5) Area**  
**Stage 4, Record of Decision**  
**Pease Air Force Base, New Hampshire**  
**FIGURE 8**  
**DISTRIBUTION OF ORGANICS IN**  
**GROUNDWATER**



Table 10

Chemicals of Concern in Sediment — Flagstone Brook<sup>a</sup>

Chemical	Frequency of Detection <sup>b</sup>	Range of Sample Quantitation Limits (mg/kg)	Range of Averaged (Detected) Concentrations <sup>c</sup> (mg/kg)	Mean Concentration <sup>d</sup> (mg/kg)	Upper 95% Confidence Limit of the Mean (mg/kg)
<i>Organics</i>					
4,4'-DDD	4/5	0.020-0.035	0.009 (0.005)-0.21	0.069	7.5 <sup>e</sup>
4,4'-DDE	3/5	0.018-0.035	0.021-0.12	0.036	0.57 <sup>e</sup>
4,4'-DDT	2/5	0.018-0.085	0.020-0.035	0.023	0.087 <sup>e</sup>
<i>Inorganics</i>					
Antimony	2/5	1.7-26.7	2.5 (2.2)-5.9 (2.5)	6.8 <sup>e</sup>	155 <sup>e</sup>
Boron	3/5	15.8-26.7	4.8 (2.7)-6.1 (5.2)	7.4 <sup>e</sup>	13 <sup>e</sup>
Cadmium	1/5	0.5-2.7	1.2	0.90	3.2 <sup>e</sup>
Lead	5/5	19	7.95 (6.4)-63.1	36	371 <sup>e</sup>
Selenium	1/5	0.17-1.2	0.95	0.55	4.9 <sup>e</sup>
Thallium	1/5	0.13-26.7	9.6 (19.2)	11	23,900,000 <sup>e</sup>

<sup>a</sup>Selected as a chemical of concern for both the human health and ecological risk assessments.

<sup>b</sup>Number of sampling locations at which the chemical was detected compared with the total number of sampling locations.

<sup>c</sup>If the minimum or maximum detected concentration differed from the respective minimum or maximum averaged concentration, the detected concentration is given in parentheses.

<sup>d</sup>Mean was calculated for the averaged concentrations using the minimum variance unbiased estimation approach for lognormally distributed data (F-230).

<sup>e</sup>Exceeds the maximum detected concentration.

Table 11

Chemicals of Concern in Sediment — Railway Ditch<sup>a</sup>

Chemical	Frequency of Detection <sup>b</sup>	Range of Sample Quantitation Limits (mg/kg)	Range of Averaged (Detected) Concentrations <sup>c</sup> (mg/kg)	Mean Concentration <sup>d</sup> (mg/kg)	Upper 95% Confidence Limit of the Mean (mg/kg)
<i>Organics</i>					
Acetone	3/15	0.013-1.4	0.029-0.20	0.073	0.21 <sup>e</sup>
Benzoic acid	4/13	1.8-16	0.12-14 (27)	3.5	16
Bis(2-ethylhexyl) phthalate	6/14	0.36-7.4	0.18-0.49	0.60 <sup>e</sup>	0.83 <sup>e</sup>
2-Butanone	3/15	0.13-0.77	0.019-0.20	0.024	0.041
alpha-Chlordane <sup>f</sup>	1/15	0.097-4.8	0.11	0.39 <sup>e</sup>	1.0 <sup>e</sup>
gamma-Chlordane <sup>f</sup>	1/14	0.097-4.8	0.078	0.28 <sup>e</sup>	0.67 <sup>e</sup>
4,4'-DDD	8/15	0.022-0.55	0.0038 (0.0017)-3.1 (4.9)	0.68	14 <sup>e</sup>
4,4'-DDE	10/15	0.022-0.55	0.0029-0.28	0.079	0.31 <sup>e</sup>
4,4'-DDT	9/14	0.022-0.55	0.0074-3.9 (10)	1.1	62 <sup>e</sup>
1,4-Dichlorobenzene	3/14	0.36-7.4	0.14-0.76	0.64	1.1 <sup>e</sup>
1,2-Dichloroethene (total)	3/15	0.006-0.068	0.007-0.45	0.019	0.058
<i>PAHs</i>					
Acenaphthene	3/15	0.106-7.4	0.26-0.67	0.37	0.56
Acenaphthylene	2/15	0.136-7.4	0.42-0.79	0.41	0.61
Benzo(a)-anthracene	13/15	0.40-7.4	0.0097 (0.0062)-0.53 (0.59)	0.27	0.91 <sup>e</sup>
Benzo(a)pyrene	12/15	0.0072-7.4	0.0049-0.36	0.25	1.2 <sup>e</sup>
Benzo(b)-fluoranthene	12/15	0.0055-7.4	0.039 (0.0082)- 0.66 (0.76)	0.39	1.7 <sup>e</sup>
Benzo(g,h,i)-perylene	8/15	0.023-7.4	0.020 (0.007)- 0.26	0.25	0.83 <sup>e</sup>
Benzo(k)-fluoranthene	12/15	0.0053-7.4	0.0094 (0.0033)-0.46 (0.76)	0.25	0.96 <sup>e</sup>

**Table 11**  
**Chemicals of Concern in Sediment – Railway Ditch<sup>a</sup>**  
**(Continued)**

Chemical	Frequency of Detection <sup>b</sup>	Range of Sample Quantitation Limits (mg/kg)	Range of Averaged (Detected) Concentrations <sup>c</sup> (mg/kg)	Mean Concentration <sup>d</sup> (mg/kg)	Upper 95% Confidence Limit of the Mean (mg/kg)
<i>PAHs (continued)</i>					
Chrysene	13/15	0.40-7.4	0.036 (0.010)-0.53 (0.58)	0.30	0.63 <sup>e</sup>
Dibenzo(a,h)-anthracene	3/15	0.0018-7.4	0.0041-0.090	0.37 <sup>e</sup>	6.2 <sup>e</sup>
Fluoranthene	3/15	0.40-7.4	0.087 (0.020)-0.94 (1.4)	0.44	0.90
Indeno(1,2,3-c,d)-pyrene	9/15	0.013-7.4	0.028 (0.011)-0.25	0.27 <sup>e</sup>	0.94 <sup>e</sup>
Phenanthrene	8/15	0.084-7.4	0.044 (0.030)-0.25 (1.4)	0.22	0.41 <sup>e</sup>
Pyrene	12/15	0.082-7.4	0.094 (0.019)-0.84 (0.94)	0.38	0.80
<i>Inorganics</i>					
Antimony	3/15	0.0021-0.26	8.5-24 (35)	18	45 <sup>e</sup>
Arsenic	14/15	8.2	8.0 (4.8)-800	95.6	341
Boron	8/15	23-264	8.9-75	29	48
Cobalt	13/15	13-53	8.7 (7.2)-57	18	25
Iron	15/15	4 <sup>f</sup>	9,340 (8,970)-195,000	35,400	57,400
Lead	15/15	38	13 (10)-621	106	271
Manganese	15/15	1.0 <sup>f</sup>	185 (97)-8,430	2,610	6,650
Nickel	14/15	66	18 (15)-79	34	41
Zinc	15/15	23	25-409	113	190

<sup>a</sup>Unless otherwise indicated, the chemical was selected as a chemical of concern for both the human health and ecological risk assessments.  
<sup>b</sup>Number of sampling locations at which the chemical was detected compared with the total number of sampling locations.  
<sup>c</sup>If the minimum or maximum detected concentration differed from the respective minimum or maximum averaged concentration, the detected concentration is given in parentheses.  
<sup>d</sup>Mean was calculated for the averaged concentrations using the minimum variance unbiased estimation approach for lognormally distributed data (F-230).  
<sup>e</sup>Exceeds the maximum detected and/or averaged concentration.  
<sup>f</sup>Sample quantitation limits were unavailable. The method detection limit is indicated (F-484).

Table 12

Summary of Chemicals of Concern by Medium<sup>a</sup>  
 LF-5, Pease AFB, NH

Chemical	Soil (Main)	Soil (Drum Excavation Area)	Soil (UST Location)	Groundwater	Surface Water—Flagstone Brook	Surface Water—Railway Ditch	Sediment—Flagstone Brook	Sediment—Railway Ditch
<i>Organics</i>								
Acetone				x				x
Aroclor-1242	x							
Aroclor-1248	x							
Benzene				x				
Benzoic acid								x
Bis(2-ethylhexyl) phthalate	x		x	x				x
2-Butanone								x
n-Butylbenzene				x				
sec-Butylbenzene				x				
alpha-Chlordane		x						x <sup>b</sup>
gamma-Chlordane		x						x <sup>b</sup>
Chlorobenzene				x	x			
Chloroethane				x				
4-Chloro-3-methyl phenol				x				
4,4'-DDD	x	x			x		x	x
4,4'-DDE	x	x			x		x	x
4,4'-DDT	x	x			x		x	x
Dibenzofuran	x	x						
1,2-Dichlorobenzene				x				
1,4-Dichlorobenzene	x			x	x			x
Dichlorodifluoromethane				x				
1,1-Dichloroethane				x				
1,2-Dichloroethene				x <sup>c</sup>	x <sup>c</sup>			x <sup>d</sup>
Dieldrin	x	x						
Diethyl phthalate				x				

Table 12

Summary of Chemicals of Concern by Medium<sup>a</sup>  
 LF-5, Pease AFB, NH  
 (Continued)

Chemical	Soil (Main)	Soil (Drum Excavation Area)	Soil (UST Location)	Groundwater	Surface Water—Flagstone Brook	Surface Water—Railway Ditch	Sediment—Flagstone Brook	Sediment—Railway Ditch
Dimethyl phthalate				x				
Di-n-butyl phthalate	x		x	x				
Ethyl ether				x				
Heptachlor		x						
Isopropyl benzene				x				
Lindane					x			
2-Methylnaphthalene	x	x		x				
Naphthalene	x	x		x				
PAHs								
Acenaphthene	x	x						x
Acenaphthylene	x							x
Anthracene	x	x						
Benzo(a)anthracene	x	x						x
Benzo(a)pyrene	x	x	x					x
Benzo(b)fluoranthene	x	x						x
Benzo(g,h,i)perylene	x	x						x
Benzo(k)fluoranthene	x	x						x
Chrysene	x	x	x					x
Dibenzo(a,h)anthracene	x	x						x
Fluoranthene	x	x	x	x				x
Fluorene	x	x						
Indeno(1,2,3-c,d)pyrene	x	x						x
Phenanthrene	x	x						x
Pyrene	x	x	x					x
Pentachlorophenol	x							x

Table 12

Summary of Chemicals of Concern by Medium<sup>a</sup>  
 LF-5, Pease AFB, NH  
 (Continued)

Chemical	Soil (Main)	Soil (Drum Excavation Area)	Soil (UST Location)	Groundwater	Surface Water—Flagstone Brook	Surface Water—Railway Ditch	Sediment—Flagstone Brook	Sediment—Railway Ditch
n-Propylbenzene				x				
Tetrachloroethene				x	x			
Toluene		x						
Trichloroethene				x		x		
1,2,4-Trimethylbenzene				x				
Xylenes				x				
<i>Inorganics</i>								
Aluminum					x	x		
Ammonia					x <sup>b</sup>	x <sup>b</sup>		
Antimony							x	x
Arsenic	x		x	x		x		x
Barium			x		x	x		
Boron		x	x	x	x	x	x	x
Cadmium	x		x				x	
Chromium			x					
Cobalt				x				x
Copper	x	x			x	x		
Iron				x	x	x		x
Lead	x	x	x			x	x	x
Manganese	x			x		x		x
Mercury	x	x				x		
Nickel				x		x		x
Selenium				x		x		
Silicon				x			x	
Silver				x				

Table 12

Summary of Chemicals of Concern by Medium<sup>a</sup>  
 LF-5, Pease AFB, NH  
 (Continued)

Chemical	Soil (Main)	Soil (Drum Excavation Area)	Soil (UST Location)	Groundwater	Surface Water—Flagstone Brook	Surface Water—Railway Ditch	Sediment—Flagstone Brook	Sediment—Railway Ditch
Thallium				x		x		
Zinc	x				x	x	x	x

<sup>a</sup>An "x" indicates that the chemical was selected as a chemical of concern for both the human health and ecological risk assessments, unless otherwise indicated.

<sup>b</sup>Selected as a chemical of concern for the ecological risk assessment only.

<sup>c</sup>Cis-isomer.

<sup>d</sup>Data were for "total" isomers (i.e., cis- and trans-).

The potential human health effects associated with exposure to the contaminants of concern were estimated quantitatively through the development of several hypothetical exposure pathways. These pathways were developed to reflect the potential for exposure to hazardous substances based on the present uses, potential future uses, and location of the site.

LF-5 is the largest of the landfills within Zone 1 and is located in the center of the zone. LF-5 currently is not used. The only site being used within Zone 1 is Site 13, the BFSA. It is assumed that future land use within Zone 1 will be restricted to prohibit building construction on the landfills, which includes LF-5. The areas within the zone that are currently or have previously been used for industrial purposes are assumed to have an industrial future use potential. However, areas adjacent to the landfills could be future residential areas, particularly in the northern, eastern, and western portions of the zone.

Two surface water bodies, Flagstone Brook and the Railway Ditch, are associated with LF-5. These surface waters may potentially be affected by site contaminants through groundwater discharge and overland flows. Flagstone Brook and the Railway Ditch have no current uses. It is possible, however, that if residential development were to occur in Zone 1 in the future, these surface waters could be used for recreational activities (e.g., wading).

Groundwater is not currently used on or immediately downgradient of the site. However, it is possible that in the future the groundwater may be used on the base for industrial purposes (i.e., drinking water, showering, process water) or, if residences were to be built within Zone 1, for domestic use. As such, human health risks due to exposure to groundwater at LF-5 were evaluated in the LF-5 RA included in the LF-5 FS (F-494). While future groundwater use is evaluated in the RA, it is most likely that current off-base public water supply sources would be used. Groundwater is currently used for domestic purposes by local off-base residents. An extensive survey of private wells has given no indication that groundwater contaminants associated with LF-5 have affected private wells.

The following is a brief summary of the exposure pathways evaluated. A more thorough description can be found in Subsection 6.3.1 of the RA (Subsection 6.3.1 of the RI). Only source control remedial actions are considered in this ROD. Groundwater



remedial actions will be addressed in the Zone 1 FS, scheduled for completion in September 1993.

Only one current exposure pathway was evaluated, based on current land use scenarios. The current on-site maintenance worker was assumed to be exposed to contaminants via: 1) incidental soil ingestion, and 2) dermal contact with soil. In each case, the exposure frequency was assumed to be 250 days/year for a duration of 25 years. For ingestion, rates of 7.8 mg/day for the main landfill, 3.1 mg/day for the drum removal area, and 1.6 mg/day for the staged underground storage tank (UST) area were assumed. The drum removal area and staged UST area are locations on the landfill that were identified as hot spots and were consequently evaluated separately in the RA because of the type and concentrations of contaminants in these areas.

Future use exposure pathways evaluated were as follows:

- Soil — Future maintenance worker (same exposure parameters as current maintenance worker).
- Surface water — There are two potentially exposed populations:
  - Future Zone 1 resident — This scenario assumes exposure via dermal contact (wading) at a rate of 1 hour/event at a frequency of 75 events per year for Flagstone Brook and 25 events/year for the Railway Ditch, all over a period of 30 years.
  - Future Zone 1 recreational user — This scenario assumes the same exposure rate, frequency, and duration as the residential scenario.
- Sediment — Again, both future residential and recreational users are evaluated. In each case, both incidental ingestion and dermal contact were assumed to occur at a rate of 6.25 mg/day (both Flagstone Brook and the Railway Ditch) at frequencies of 75 events/year and 25 events/year for Flagstone Brook and the Railway Ditch, respectively. In each instance, an exposure duration of 30 years was assumed.

Summaries of exposure parameters for each pathway evaluated are presented in Table 13 (i.e., exposure frequency, exposure duration, etc.). For each pathway evaluated, an average

Table 13

Summary of Exposure Parameters  
LF-5, Pease AFB, NH

Exposure Route/Receptor	Parameter	Reference
All exposure routes	Averaging time — noncarcinogenic risk	F-171
	Averaging time — carcinogenic risk	F-171
Groundwater ingestion — adult resident	Body weight	F-202
	Ingestion rate	F-202
	Exposure frequency	F-202
	Exposure duration	F-202
Noningestion groundwater uses — adult resident	Exposure equivalent	F-197
Incidental soil ingestion — maintenance worker	Other parameters	
	Ingestion rate	F-202
Exposure frequency	7.8 mg/day (7.8E-06 kg/day) for the main landfill, based on an estimated 1.25 hours of exposure per day and an ingestion rate of 50 mg/8-hour workday.	(daily ingestion rate)
	3.1 mg/day (3.1E-06 kg/day) for the drum removal area, based on an estimated 0.5 hour of exposure per day and an ingestion rate of 50 mg/8-hour workday.	
Exposure duration	1.6 mg/day (1.6E-06 kg/day) for the staged UST location, based on an estimated 0.25 hours/day and an ingestion rate of 50 mg/8-hour workday.	F-202
	250 days/year.	
	25 years.	F-202

Table 13

Summary of Exposure Parameters  
 LF-5, Pease AFB, NH  
 (Continued)

Exposure Route/Receptor	Parameter	Reference
Dermal contact with soil -- maintenance worker	Surface area	F-133; F-176
	Adherence factor	F-176
	Other parameters	
Dermal contact with surface water -- adult resident/recreational user	Surface area	F-103
	Exposure time	Estimated, site-specific
	Exposure frequency	F-197 (75 events total/year)
	Exposure duration	F-202
	Exposure rate	F-202 (daily soil ingestion rate)
Incidental sediment ingestion -- adult resident/recreational user	Exposure frequency	F-197 (75 events total/year)
	Exposure duration	F-202
	Exposure rate	F-202 (daily soil ingestion rate)
	Exposure frequency	F-197 (75 events total/year)
Dermal contact with surface water -- adult resident/recreational user	Surface area	F-103
	Exposure time	Estimated, site-specific
	Exposure frequency	F-197 (75 events total/year)
Incidental sediment ingestion -- adult resident/recreational user	Exposure duration	F-202
	Exposure rate	F-202 (daily soil ingestion rate)
	Exposure frequency	F-197 (75 events total/year)

**Table 13**

**Summary of Exposure Parameters  
LF-5, Pease AFB, NH  
(Continued)**

Exposure Route/Receptor	Parameter	Reference
Dermal contact with sediment — adult resident/recreational user	Skin surface area 1,000 cm <sup>2</sup>	F-176
Sediment-to-skin adherence factor	5E-07 kg/cm <sup>2</sup> (assumed to be the same as soil).	F-176
Other parameters	Same as incidental sediment ingestion exposure route.	

and a reasonable maximum exposure estimate was generated corresponding to exposure to the average and the maximum concentration detected in that particular medium.

Excess lifetime cancer risks were determined for each exposure pathway by multiplying the exposure level with the chemical-specific cancer factor. Cancer potency factors have been developed by EPA from epidemiological or animal studies to reflect a conservative "upper bound" of the risk posed by potentially carcinogenic compounds; i.e., the true risk is unlikely to be greater than the risk predicted. The resulting risk estimates are expressed in scientific notation as a probability (e.g.,  $1 \times 10^{-6}$  for 1/1,000,000) and indicate (using this example), that an average individual is not likely to have greater than a one-in-one-million chance of developing cancer over 70 years as a result of site-related exposure as defined for the compound at the stated concentration. Current EPA practice considers carcinogenic risks to be additive when assessing exposure to a mixture of hazardous substances.

The hazard index was also calculated for each pathway as EPA's measure of the potential for noncarcinogenic health effects. A hazard quotient is calculated by dividing the exposure level by the reference dose (RfD) or other suitable benchmark for noncarcinogenic health effects for an individual compound. Reference doses have been developed by EPA to protect sensitive individuals over the course of a lifetime and they 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 hazard quotient is often expressed as a single value (e.g., 0.3) indicating the ratio of the stated exposure as defined to the reference dose value (in this example, the exposure as characterized is approximately one-third of an acceptable exposure level for the given compound). The hazard quotient is only considered additive for compounds that have the same or similar toxic endpoint and the sum is referred to as the hazard index (HI). (For example, the hazard quotient for a compound known to produce liver damage should not be added to a second whose toxic endpoint is kidney damage.)

Calculated risks for each individual chemical of concern for each exposure pathway evaluated are presented in Appendix L.7 of the RA. A summary of additive chemical risks for each pathway evaluated is presented in Table 14 of this ROD. The conclusions of the human health risk assessment are summarized in the paragraphs that follow.

For the main landfill soils, the cancer risks ranged from  $1 \times 10^{-5}$  to  $9 \times 10^{-4}$ . The chemicals contributing most of the risk were PAHs ( $>10^{-4}$ ). Aroclor-1242, Aroclor-1248, dieldrin, and arsenic each posed a risk of  $>10^{-6}$ . The cancer risks posed by contact with hot spot soils was  $5 \times 10^{-7}$  for the staged UST location and ranged from  $1 \times 10^{-3}$  to  $4 \times 10^{-3}$  for the drum removal area. PAHs contributed most of the risk for the drum removal area ( $>10^{-4}$ ), followed by dieldrin ( $>10^{-6}$ ). There was no apparent risk of noncancer health effects posed by contact with either main landfill or hot spot soils. The hazard indices for soil were below 1 at all exposure concentrations.

Cancer risks based on future groundwater use ranged from  $6 \times 10^{-6}$  to  $3 \times 10^{-3}$  based on filtered samples and  $1 \times 10^{-3}$  to  $7 \times 10^{-3}$  based on unfiltered (total) samples. Arsenic posed the highest risk ( $>10^{-4}$ ). Benzene, bis-(2-ethylhexyl) phthalate (DEHP), 1,4-dichlorobenzene, 1,2-dichloroethane, tetrachloroethene, and trichloroethene each posed greater than a  $10^{-6}$  risk. The total hazard indices ranged from 30 to 100 based on filtered samples, and from 10 to 40 based on unfiltered samples. Arsenic and thallium had hazard indices that exceeded 10; manganese had a hazard index that exceeded 1. Thallium was detected in unfiltered samples only during one sampling round. The presence of thallium could not be confirmed during subsequent sampling rounds.

The cancer risks posed by surface water contact were minimal, ranging from  $9 \times 10^{-10}$  to  $5 \times 10^{-8}$  for Flagstone Brook, and from  $1 \times 10^{-9}$  to  $8 \times 10^{-8}$  for the Railway Ditch. The hazard indices for both surface waters were below the criterion of 1.

The cancer risks posed by contact with sediment in Flagstone Brook were minimal, ranging from  $2 \times 10^{-10}$  to  $3 \times 10^{-9}$ . The cancer risks posed by contact with sediment in the Railway Ditch ranged from  $2 \times 10^{-7}$  to  $4 \times 10^{-6}$ . Arsenic was the only chemical of concern that

Table 14

Summary of Total Lifetime Cancer Risks and Hazard Indices

Medium	RME	Total Lifetime Cancer Risk <sup>a,b</sup>			Total Hazard Index <sup>a,c</sup>		
		Mean	Upper 95 Percent Confidence Limit	Maximum	Mean	Upper 95 Percent Confidence Limit	Maximum
Main soils	Current or future maintenance worker	1E-05	4E-05	9E-04	1E-02	2E-02	2E-01
Hot spot soils — drum removal area	Current or future maintenance worker	1E-03	4E-03	4E-03	2E-01	6E-01	6E-01
Hot spot soils — staged UST location	Current or future maintenance worker	5E-07	NA	NA	7E-03	NA	NA
Groundwater <sup>d</sup>	Future resident	6E-04 (filtered) 1E-03 (total)	1E-03 (filtered) 2E-03 (total)	3E-03 (filtered) 7E-03 (total)	3E+01 (filtered) 1E+01 (total)	4E+01 (filtered) 1E+01 (total)	1E+02 (filtered) 4E+01 (total)
Surface water — Flagstone Brook	Current maintenance worker	9E-10	1E-09	1E-09	9E-06	1E-05	1E-05
Surface water — Railway Ditch	Future resident/- recreational user	4E-08	5E-08	5E-08	4E-04	4E-04	5E-04
Surface water —	Current maintenance worker	1E-09	2E-09	5E-09	1E-05	2E-05	6E-05
	Future resident/- recreational user	2E-08	3E-08	8E-08	1E-04	2E-04	8E-04
Sediment — Flagstone Brook	Current maintenance worker	2E-10	5E-10	5E-10	2E-04	3E-04	3E-04

**Table 14**  
**Summary of Total Lifetime Cancer Risks and Hazard Indices**  
**(Continued)**

Medium	RME	Total Lifetime Cancer Risk <sup>a,b</sup>			Total Hazard Index <sup>a,c</sup>		
		Mean	Upper 95 Percent Confidence Limit	Maximum	Mean	Upper 95 Percent Confidence Limit	Maximum
Sediment -- Railway Ditch	Future resident/- recreational user	1E-09	4E-09	3E-09	2E-03	4E-03	4E-03
	Current maintenance worker	2E-07	5E-07	9E-07	8E-04	2E-03	5E-03
	Future resident/- recreational user	7E-07	2E-06	4E-06	3E-03	1E-02	2E-02

NA = Not applicable.

<sup>a</sup>Values are rounded to one significant number.

<sup>b</sup>Maximum cancer risk at hazardous waste sites are regulated in the range of 1E-06 to 1E-04 (10<sup>-6</sup> to 10<sup>-4</sup>). Risks of less than 1E-06 (10<sup>-6</sup>) are generally not of concern.

<sup>c</sup>A hazard index of one (1E+00) or greater is usually considered the benchmark of potential concern.

<sup>d</sup>"Filtered" and "total" values are based on inorganics data for filtered and unfiltered (total) samples, respectively.



posed greater than a  $10^{-6}$  risk. The hazard indices for sediment from both Flagstone Brook and the Railway Ditch were below the criterion of 1. - -

## **B. Ecological Risk Assessment**

The objectives of the ecological risk assessment were to identify and estimate the potential ecological impacts associated with the chemicals of concern at LF-5, Pease AFB. The assessment focused on the potential impacts of chemicals of concern found in the soil, surface waters, and sediments to terrestrial and aquatic flora and fauna that inhabit or are potential inhabitants of the site, including Flagstone Brook and the Railway Ditch.

The species evaluated and their relevant exposure pathways are listed as follows:

### White-Tailed Deer

- Incidental ingestion of soil.
- Ingestion of vegetation (browse).
- Ingestion of surface water.

### Shrew

- Incidental ingestion of soil.
- Ingestion of soil invertebrates (earthworms).

### Robin

- Ingestion of soil invertebrates (earthworms).
- Ingestion of surface water.

### Earthworm

- Ingestion/absorption of soil.

### Aquatic Biota

- Direct contact with surface water.
- Direct contact with sediments.

### Terrestrial Plants

- Direct contact with soil.

Although wildlife present at LF-5 may be exposed to chemicals of concern through the dermal absorption and inhalation routes, there is little scientific information available with which to assess these types of exposures; therefore, these routes of exposure were not evaluated in the RA. It was assumed that exposure to terrestrial wildlife primarily occurs when the animals feed in those areas affected by site contamination. For this assessment, avian and mammalian species with the greatest potential for exposure were selected for evaluation of exposure. Species selected were representative of major foraging guilds and trophic levels that are present at LF-5. Although amphibians and reptiles are important components of this ecosystem, sufficient exposure and toxicity data were not available for their evaluation. However, a brief discussion of potential sensitivity of these phylogenetic groups to environmental perturbations were included in the uncertainty analysis. An ecological inventory of Pease AFB by the New Hampshire Natural Heritage program did not identify any threatened, endangered, or species of special concern at LF-5.

The aquatic life inhabiting Flagstone Brook and the Railway Ditch was described in Section 3 of the RI. The transport and fate of chemicals migrating from the site via surface water runoff, groundwater discharge, or air transport of dust or vapors may potentially result in the exposure of flora and fauna that inhabit these surface waters. NHDES has adopted many of the AWQC developed by EPA for the protection of 95% of all aquatic life, including fish, aquatic invertebrates, and plants. Comparisons of surface water concentrations with the New Hampshire AWQC for the protection of freshwater aquatic life were used to assess the likelihood of adverse effects to aquatic life. Where AWQC were not available for contaminants of concern, toxicity values were developed from toxicological

data in the literature. Where possible, the lowest observed effect level (LOEL) for a species similar to those reported in Flagstone Brook or the Railway Ditch was used.

During the FS, in order to assess potential adverse effects to aquatic life from exposure to sediments, chemicals of concern identified in the sediments of Flagstone Brook and the Railway Ditch were compared with biological effect levels developed by NOAA. The biological effect level used in this assessment was an environmental Effect Range-Low (ER-L) value, which is a concentration that is the lower tenth percentile of a range of sediment concentrations in which biological effects have been observed. Whenever an ER-L was not available for an organic nonpolar chemical, interstitial water concentrations were estimated using the equilibrium partitioning (EP) approach and compared to AWQC or toxicity data.

Since completion of the LF-5 Draft Final FS (F-494), it has been determined via review of RA protocols, review of characterization study results for Pease AFB, RI/FS experience at other sites, and discussions with EPA Region I representatives that ER-Ls are unrealistically conservative. Consequently a revised approach to selecting cleanup goals for organic compounds in sediments was instituted at Pease. Rather than using ER-Ls as cleanup goals for organics in sediments, the EP method was used to calculate sediment cleanup goals. Under this method the cleanup goal for a specific organic compound in sediment would be set at that compound concentration in sediment which would not partition to the pore water at a concentration exceeding an established AWQC or other toxicity value. Cleanup goals established for organic contaminants in sediments, as presented in this ROD, may be revised prior to remediation. Cleanup goals for metals in sediments will continue to be ER-Ls.

In addition to the comparisons just described, a qualitative evaluation of the benthic community sampling results was presented in Subsection 3.5.3 of the RI and will be summarized in the paragraphs that follow.

The distribution and composition of vegetative communities observed at LF-5 were described in Subsection 3.5.1 of the RI. A direct comparison of soil concentrations with

available phytotoxicity data was used to qualitatively assess potential adverse effects on vegetation.

There is currently no EPA guidance for quantitatively evaluating potential adverse effects to plants growing in contaminated soils. Based on a visual inspection of plants grown at LF-5, no signs of phytotoxic effects (i.e., necrosis, chlorosis, or stunted growth) were observed. New Hampshire and EPA AWQC provide protection for 95% of all aquatic life, including plants. Therefore, potential toxicity to aquatic plants was not evaluated separately, but was taken into account in the comparison of surface water concentrations to the New Hampshire and EPA AWQC. In the case of rooted or emergent aquatic plants, sufficient toxicity data were not available, and therefore, rooted and emergent aquatic plants were not evaluated in the RA.

The results of the environmental evaluation indicate chemicals of concern identified in the surface soils, surface waters, and sediments at LF-5 may adversely affect selected target species and aquatic life. In general, the chemicals of concern, by medium, that contributed most to the total hazard indices were as follows:

- Soil — Pesticides, benzo(a)pyrene, lead, and zinc.
- Surface waters — Aluminum, copper, iron, lead, zinc, and DDT.
- Sediments — Arsenic, DDT, DDD, DDE, alpha-chlordane, gamma-chlordane, and lead.

Total hazard indices, for target species, based on average and maximum exposure concentrations ranged from 2.76 (deer; hot spot) for average exposure concentrations to  $2.86 \times 10^4$  (masked shrew; hot spot) for maximum exposure concentrations. The hazard indices for LF-5 surface water evaluations, average and maximum concentrations, ranged from 1.47 (Flagstone Brook; acute criteria) to 2,810 (Railway Ditch; chronic criteria), respectively. The hazard indices calculated for the LF-5 sediment evaluation ranged from 77.4 (Flagstone Brook; average concentration) to 12,800 (Railway Ditch maximum concentration).

Macrobenthos population analyses were also conducted in Flagstone Brook and the Railway Ditch to provide information in support of the ecological risk assessment for LF-5. Results of the community analyses are discussed in the paragraphs that follow. A total of 1,626 benthic macroinvertebrates representing 47 taxa were collected in 20 samples from in and adjacent to Flagstone Brook stations 8031, 821, 819, and 818. Information on taxa and pollution tolerance values were used to calculate biotic indices for each of the taxa encountered.

The one-way analysis of variance (ANOVA) statistical method was performed on the data set to determine whether a significant difference in the total number of organisms and total number of taxa existed between sampling stations. The data show a downstream increase in the total number of taxa while the total number of individuals exhibits no significant increase.

Index values were computed for each sample data set from Flagstone Brook. A general trend was observed in the biotic index for Flagstone Brook. At station 8031, the biotic index of 3.1 is indicative of fair water quality. The next station downstream, station 821, had the highest biotic index value (3.8), which is indicative of poor water quality, while biotic index values at stations 819 (3.2) and 818 (2.7) exhibited an improvement in water quality downstream of LF-5. The lowest biotic index value was observed at station 818, which is indicative of good water quality. This corroborates the diversity, evenness, and community similarity data that indicate a downstream improvement in water quality below LF-5.

For the Railway Ditch, a total of 218 benthic macroinvertebrates representing 22 taxa were collected from three stations (826, 826, and 828). Stations 827 and 828 were located in the Railway Ditch, and station 826 was located as a control point west of Flagstone Brook. Station 826 was located in a stream similar in size and characteristics to the Railway Ditch stations for use as a control or reference station to compare surface water, sediment, and macrobenthos data. The control station (826) had the most taxa (13) and the largest number of individuals (190) of the three stations sampled. Stations located downstream of LF-5 exhibited a decrease in the total number of taxa in comparison to station 826.

Additionally, downstream stations had lower total numbers of individuals in comparison to station 826.

A one-way ANOVA was performed on the quantitative data set to determine whether a significant difference in total number of individuals and total number of taxa existed between each sampling station. The results of this statistical analysis indicated that station 826 (control) had significantly more organisms and taxa than either of the two stations located in the Railway Ditch (827 and 828). There were no statistical differences between the two downstream stations with respect to either the number of organisms or the number of taxa.

Station 826, the control station, had a biotic index value of 3.4, which is indicative of fair to poor water quality, while stations 827 and 828 had index values indicative of good water quality. The two downstream stations had similar biotic index values, diversities, and species composition and are different from the community at station 826.

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment. However, remediation of LF-5 soils and sediments under the ROD will serve to eliminate LF-5 as a source of contamination, thereby reducing the threat of endangerment. Additionally, Zone 1 groundwater remediation, which is to be addressed in the Zone 1 Draft Final FS (completed in August 1993) will reduce contaminant mobility such that future human health and ecological risks via exposure to groundwater and surface water at and around LF-5 will be reduced to acceptable levels.

## VII. DEVELOPMENT AND SCREENING OF ALTERNATIVES

### A. Statutory Requirements/Response Objectives

Section 121 of CERCLA establishes several statutory requirements and preferences, including: remedial actions must be protective of human health and the environment; remedial actions, when complete, must comply with all federal and more stringent state environmental standards, requirements, criteria, or limitations, unless a waiver is invoked; the remedial action selected must be cost-effective and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and a preference for remedies in which treatment that permanently and significantly reduces the volume, toxicity, or mobility of the hazardous substances is a principal element over remedies not involving such treatment. Response alternatives were developed to be consistent with these mandates.

Based on preliminary information relating to types of contaminants, environmental media of concern, and potential exposure pathways, RAOs were developed to aid in the development and screening of alternatives. These RAOs were developed to mitigate existing and future potential threats to public health and the environment via source control. These response objectives for sediment were:

- To protect ecological receptors from direct contact with, or ingestion of, sediment containing contaminants in excess of concentrations that may present a health risk (total hazard index greater than 1).
- To protect human receptors from direct contact with, or ingestion of, sediment containing contaminants in excess of concentrations that may present a health risk (total cancer risk greater than  $10^{-4}$  and a total hazard index greater than 1).

Because contaminants in sediment in Flagstone Brook may be originating from upgradient locations, including the North Ramp, remediation of Flagstone Brook sediments will not be addressed in this ROD, but will be addressed in the Zone 1 ROD, as appropriate.

The response objectives for landfill soil and solid wastes were the following:

- To protect humans from direct contact with, or ingestion of, contaminated soils or debris that may present a health risk (total cancer risk greater than  $10^{-4}$  or a total hazard index greater than 1).
- To protect ecological receptors from direct contact with, or ingestion of, soil or debris containing contaminants in excess of concentrations that may present health risks (total hazard index greater than 1).
- To reduce the migration of contaminants from soil or debris into the groundwater, which may inhibit attainment of the groundwater RAOs for Zone 1.
- To reduce the migration of contaminants from soil or debris into surface water, which may inhibit attainment of the surface water RAOs for Zone 1.

The source control response objective for groundwater and surface water was the following:

- To reduce the migration of contaminants from sediments and landfill soil and solid wastes within the LF-5 source area, which may inhibit attainment of the groundwater and surface water remedial objectives for Zone 1.

The remedial response objectives for mitigation of contaminant migration will be addressed in the Zone 1 FS and its subsequent ROD.

## **B. Technology and Alternative Development and Screening**

CERCLA and the National Contingency Plan (NCP) set forth the process by which remedial actions are evaluated and selected. In accordance with these requirements, a range of alternatives was developed for LF-5.

With respect to source control, the RI/FS developed a range of alternatives in which treatment that reduces the toxicity, mobility, or volume (TMV) of the hazardous substances is a principal element. This range included an alternative that removes or destroys hazardous substances to the maximum extent feasible, eliminating or minimizing to the degree possible the need for long-term management. This range also included alternatives that treat the principal threats posed by the site but vary in the degree of treatment



employed and the quantities and characteristics of the treatment residuals and untreated waste that must be managed; alternatives that involve little or no treatment but provide protection through engineering or institutional controls; and a no action alternative.

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## VIII. DESCRIPTION OF ALTERNATIVES

The information presented in the LF-5 Draft Final RI was used to prepare an FS. The FS provides a screening of 13 source control remedial alternatives. Five alternatives passed through the screening process and were retained for detailed evaluation.

This section provides a narrative summary of each alternative evaluated. A detailed tabular assessment of each alternative can be found in Table 5.3-1 of the FS.

### A. Source Control Alternatives Analyzed

The source control alternatives analyzed for the site include:

- Alternative SC-1: No Action/Institutional Controls (considered as a baseline requirement by CERCLA).
- Alternative SC-2A: Sediment and Landfill Consolidation, Landfill Capping, and Potential On-site Construction Dewatering, Treatment, and Disposal.
- Alternative SC-3A: Sediment Consolidation, Landfill Capping, and On-site Landfill Waste Dewatering, Treatment, and Disposal.
- Alternative SC-4D: Sediment and Landfill Consolidation, Hot Spot Thermal Treatment On-site, Landfill Capping, and Potential On-site Construction Dewatering, Treatment, and Disposal.
- Alternative SC-5A: Sediment and Landfill Waste On-site RCRA Landfilling and Potential On-site Construction Dewatering, Treatment, and Disposal.

#### **Alternative SC-1 – No Action/Institutional Controls**

This alternative was evaluated in detail in the FS to serve as a baseline for comparison with the other remedial alternatives under consideration. Under this alternative, no treatment or containment of disposal areas would occur. This alternative does include fencing and deed restrictions for the property, and also includes a long-term monitoring program. This alternative would not meet the source control remedial objectives for the site.

Estimated time for design and construction: 2 months  
Estimated period for operation: 30 years  
Estimated capital cost: \$174,400  
Estimated operation and maintenance cost (net present worth): \$2,948,315  
Estimated total cost (net present worth): \$3,123,000

**Alternative SC-2A — Sediment and Landfill Consolidation, Landfill Capping, and On-site Groundwater Treatment and Disposal for Construction Dewatering**

This alternative involves excavation and consolidation of: 1) sediments containing contaminants at levels in excess of established treatment goals, and 2) landfill debris and contaminated soils that would otherwise remain in contact with groundwater after landfill capping. During excavation, air emissions would be controlled with synthetic covers, such as geomembranes. Also during construction, the excavation would be dewatered via a system of advancing well points. Extracted groundwater would be treated in an on-site mobile unit to meet site-specific groundwater treatment goals (either risk-based, or based on federal/state groundwater MCLs). These goals will be met via multimedia filtration, ion exchange, and activated carbon adsorption. Treated water would be discharged to the local POTW via existing sewer lines. Therefore, treated water would meet Federal Clean Water Act (CWA, 40 CFR 403) pretreatment standards for discharge to a POTW. In addition, the treated water would meet New Hampshire pretreatment standards, per Env-Ws 900, Part 904.07, as well as requirements imposed by the local POTW. Following consolidation, the landfill would be capped with a composite-barrier-type cap. A security fence and deed restrictions would be used to prevent unauthorized access and future activities that could compromise the composite-barrier cap integrity.

Based on the MODFLOW model, approximately 53,500 yd<sup>3</sup> of saturated landfill material would require consolidation. The total excavated volume is estimated at 145,500 yd<sup>3</sup>. Additionally, sampling results suggest that a total sediment volume of 9,600 yd<sup>3</sup> would require consolidation. The additional LF-2/LF-4 debris, which will also be consolidated on LF-5 (see Sections IV and XII), would increase the total excavated volume by approximately 76,320 yd<sup>3</sup>. This is an increase of greater than 100% in volume. However, when this volume is partially used to fill the excavation at LF-5, and partially spread over an area of

28 acres on top of LF-5, cap design and final grading are unaffected. Additional volumes from LF-2/LF-4 and additional costs (if any) associated with placement of LF-2/LF-4 soils and debris on LF-5 are discussed in the Proposed Plan for LF-2/LF-4 completed in July 1993.

Risks posed by exposure to contaminated sediments, soils, and debris would be eliminated as soon as the cap is in place. This would also minimize the potential for LF-5 to act as a source of surface water and groundwater contamination by reducing the mobility of contaminants in the landfill materials and sediments. All soil, sediment, and air applicable or relevant and appropriate requirements (ARARs) would be met.

Treatment residuals, including concentrated salt solution and iron sludge, would be disposed of off-site. Spent activated carbon would be transported off-site for regeneration or disposal.

For implementation of Alternative SC-2A, acquisition of approvals from and coordination with the New Hampshire Wetlands Board and NHDES would be required. Quarterly air monitoring and bi-annual groundwater modelling would be required. Per CERCLA guidance, the monitoring is estimated to continue for a period of 30 years (for costing purposes), with the understanding that continued monitoring or other remedial actions subsequent to the 30-year period, are the responsibility of the Air Force. Five-year reviews to assess performance of the containment system would also be needed.

Estimated time for design and construction: 1 year

Estimated time of operation: 30 years

Estimated capital cost: \$17,362,700

Estimated operation and maintenance cost (net present worth): \$6,629,721

Estimated total cost (net present worth): \$23,992,000

### **Alternative SC-3A – Excavation and Consolidation of Sediments on Landfill, Landfill Capping, and On-site Landfill Waste Dewatering, Treatment, and Disposal**

Under Alternative SC-3A, excavation and placement of an estimated 9,600 yd<sup>3</sup> of contaminated sediments and regrading and capping the existing landfill would occur as

described for Alternative SC-2A. No landfill excavation would be performed; however, landfill debris would be dewatered. Dewatering would occur such that the post-capping water table would be lowered to a level 2 feet below the debris. This difference would minimize some of the short-term impacts associated with landfill excavation; however, it would require long-term groundwater extraction and possibly treatment in order to keep the waste dewatered. The dewatering strategy is based on water-table elevations predicted by the MODFLOW model. The dewatering system would consist of six extraction wells and a collection trench. The combined groundwater extraction rate for the six wells is expected to average 45 gallons per minute (gpm). The bottom of the collection trench would be set at 80 feet above mean sea level (MSL).

The extracted groundwater would be treated via lime precipitation and carbon adsorption. Flow rates to the treatment system would average 45 gpm, with a maximum anticipated flow rate of 60 gpm. The treatment system would be enclosed to prevent freezing during winter months. Treated effluent would be discharged to the local POTW, as specified for Alternative SC-2A.

Residuals generated from the groundwater treatment system include spent carbon (it is anticipated that two 2,200-pound units would be employed in series), and approximately 11.25 tons per year of hydroxide/carbonate sludge. Treatability studies would be required for verification of these residuals amounts. It is anticipated that the sludge will pass the Toxicity Characteristic Leaching Procedure (TCLP) tests; however, dewatered sludge would have to be analyzed to verify this, in accordance with the Resource Conservation and Recovery Act (RCRA). Sludge would be disposed of off-site in accordance with state and federal regulations. Spent carbon would be regenerated off-site.

Treated water would meet the standards for discharge to the local POTW, as described for Alternative SC-2A. Long-term monitoring of on-site groundwater would continue for an estimated 30 years, as for Alternative SC-2A, with the same provisions for extended monitoring or remedial actions, as necessary. As with Alternative SC-2A, institutional controls such as fencing and deed restrictions, would be necessary. Monitoring of

groundwater levels within the landfill would be required to ensure that the dewatering system was maintaining water levels beneath the waste material. --

Estimated time for design and construction: 1 year  
Estimated period for operation: 30 years  
Estimated capital cost: \$13,084,000  
Estimated operation and maintenance cost (net present worth): \$10,916,337  
Estimated total cost (net present worth): \$24,000,000

**Alternative SC-4D – Sediment and Landfill Consolidation, Hot Spot Thermal Treatment On-site, Landfill Capping, and Potential On-site Construction Dewatering, Treatment, and Disposal**

Under this alternative, excavation and consolidation of sediments and landfill debris predicted to be below the water table would be conducted in the same manner as for Alternative SC-2A. The volumes of sediment and landfill material excavated and consolidated would be 9,600 yd<sup>3</sup> and 53,500 yd<sup>3</sup>, respectively. Details on consolidating, regrading, and capping of the existing landfill as well as environmental monitoring and placement of institutional controls would be the same as for Alternative SC-2A. Groundwater collected during construction dewatering would be treated and discharged to the local POTW as with Alternative SC-2A. The same type and amount of treatment residuals would be produced and these would be disposed of off-site as described for Alternative SC-2A. Treatment goals and ARARs are expected to be met as with Alternative SC-2A, and the same long-term monitoring requirements as for Alternative SC-2A are anticipated.

The only significant difference in the activities posed in Alternative SC-4D versus Alternative SC-2A is the thermal treatment of hot spot soils and the placement of treated residuals back into the landfill. The hot spot soils to be treated include several areas in the drum disposal area which, after drum and tank removal operations, were found to contain high concentrations of contaminants of concern, most notably PAHs. Thermal treatment has been proposed for these soils to reduce the overall toxicities and quantities of LF-5 contaminants.

For treatment, the Low Temperature Thermal Treatment system (LT<sup>3</sup>) or its equivalent would be used. As part of the LT<sup>3</sup> process, during soil excavation, field screening would be conducted to determine whether elevated PAH levels remain. Additionally, periodic TCLP analyses of the contaminated soil would be performed to ensure that RCRA LDRs would be met. It is possible that by the time remediation is initiated, the final rule for contaminated soils will become final. In this instance, thermal treatment would be the only LDR compliance necessary. Otherwise, a treatability variance from EPA may be required such that existing LDR treatment standards can be satisfied. Currently, treatment goals are based on current hot spot data and a projected removal efficiency of 95% for the LT<sup>3</sup> system. Treatability studies may be required if a more accurate removal efficiency is required. If LF-5 receives a CAMU designation (see Sections IV, IX, and X), LDRs would not apply to this alternative.

Air monitoring would be required throughout hot spot soils excavation and treatment activities, as would institutional controls for minimization of short-term human health risks posed during excavation. Following treatment, TCLP soil analyses would be conducted on the residuals to ensure that metals have not been concentrated or their solubilities changed such that TCLP criteria are exceeded. If TCLP criteria are exceeded, pozzalonic stabilization of residuals will be performed prior to landfilling in order to reduce contaminant leachability (mobility).

Estimated time for design and construction: 2 years  
Estimated period for operation: 30 years  
Estimated capital cost: \$23,526,400  
Estimated operation and maintenance cost (net present worth): \$6,605,687  
Estimated total cost (net present worth): \$30,132,000

**Alternative SC-5A — Sediment and Landfill Waste On-site RCRA Landfilling and Potential On-site Construction Dewatering and Disposal**

In this alternative, all of the landfilled solid waste would be excavated and placed into a secure RCRA Subtitle C landfill on-site. Sediment excavation activities, on-site treatment



Similar to Alternatives SC-2A and SC-4D, groundwater extracted during construction dewatering would be treated on-site with a mobile treatment plant. In this alternative, the mass of contaminants treated would be greater than for Alternatives SC-2A and SC-4D since more extensive dewatering would be conducted. Ion-exchange salt solution and iron sludge from the mobile treatment plant would be disposed of off-site. Activated carbon used in the groundwater treatment plant (GWTP) would be transported off-site for regeneration. No residuals associated with soil handling and capping activities are expected to be produced. It was assumed that 0.5% of the landfill material would require off-site treatment to comply with ARARs; all other waste materials would be incorporated into the RCRA Subtitle C landfill.

Risks to human and ecological receptors via exposure to the waste materials, sediment, and surface soils would be minimized under this alternative. Containment of waste materials in the lined facility and collection of leachate for off-site treatment would eliminate potential contributions to groundwater that would exist for all other alternatives. This alternative may help achieve groundwater ARARs more quickly than Alternatives SC-1, SC-2A, SC-3A, and SC-4D because of the complete isolation of source contaminants and a reduction in the volume of contaminated groundwater present at the site that would be effected during construction dewatering activities.

As in the previous capping alternatives (SC-2A, SC-3A, and SC-4D), indirect treatment of the landfilled material would occur through natural biotransformation and desorption processes within the landfill. These processes may reduce the toxicity of the waste materials. In contrast to the previous capping alternatives, however, contaminants leached from soil and debris by water infiltrating the cap would be collected and treated off-site, thereby reducing the TMV of contaminated leachate.

Predicted air emissions from the landfill are expected to be less than EPA's proposed action level of 150 mg/year (above which active control of emissions is required), but air monitoring would be conducted to ensure compliance with federal and state requirements for hazardous and toxic air pollutants.

of groundwater for construction dewatering, and environmental monitoring would be performed as described for Alternative SC-2A.

The facility would be designed to hold, at a minimum, the 251,000 yd<sup>3</sup> of solid waste estimated to be landfilled. In addition, the facility should have the capacity to hold an estimated 70,000 yd<sup>3</sup> of soil from below the existing waste deposits, and an estimated 19,000 yd<sup>3</sup> of thickened sediments, plus an allowance of 17,000 yd<sup>3</sup> for intermediate cover soil. The new landfill would be constructed to RCRA Subtitle C standards. It would have a double-composite bottom liner system, providing for leachate collection and leak detection. A perimeter containment berm, constructed of selected earthen materials, would define the lateral limits of the lined facility. On completion of filling, the landfill would be capped with a multilayered composite final cover system, such as that described for Alternative SC-2A. The maximum elevation of the new landfill would be 140 (±) feet MSL, based on a contained volume of about 390,000 yd<sup>3</sup> (including 150,000 yd<sup>3</sup> of excavated material). This elevation would be approximately 40 feet above the maximum elevation of the present site. To achieve that height, the sides of the landfill would rise at a slope not exceeding 3:1 (horizontal:vertical) to about elevation 130. Above elevation 130, top slopes would be at a minimum of 20:1 (5%). Construction of the RCRA Subtitle C landfill, including dewatering, excavation, stockpiling filling, grading, liner and leachate collection systems, waste placement and compaction, and composite cap construction, would be expected to require approximately 2 years.

Leachate generated from the landfill would be collected in a wet well and would be pumped into an aboveground storage system. Off-site treatment and disposal of leachate will be performed, as required. Eventually the leachate could be processed through a groundwater treatment plant constructed on the base. Leachate generation has been estimated at between 1,400 and 2,100 gallons per day (gpd) based on a preliminary evaluation of the proposed landfill conditions. It has been assumed that the leachate would be treated off-base for the first 5 years of operation and at a plant constructed on the base after that time.

Monitoring of the volume of leachate generated from the bottom collection system of the landfill would evaluate the effectiveness of the inner geomembrane liner. Groundwater quality monitoring around the landfill for conventional leachate parameters would be used to evaluate the entire landfill's containment effectiveness. Periodic sampling and analysis of groundwater around LF-5 for conventional leachate parameters would be conducted as part of the long-term groundwater monitoring program. This program would evaluate the effectiveness of the RCRA cell in containing site contaminants.

Coordination and consultation with NHDES would be required for this alternative. Acceptance by the Waste Management Division would be expected. Coordination and consultation with the New Hampshire Wetlands Board would be expected because of activities in and around wetland areas. It is also expected that consultation with the Water Supply and Pollution Control Division of NHDES would be required concerning the effluent discharge from the GWTP. Consultation and coordination with the Air Resources Division of NHDES may also be required because of potential odor and particulate emissions from the excavation areas and stockpiled waste materials.

Estimated time for design and construction: 2 years

Estimated period for operation: 30 years

Estimated capital cost: \$28,813,600

Estimated operation and maintenance cost (net present worth): \$11,461,724

Estimated total cost (net present worth): \$40,275,000



## **IX. SUMMARY OF THE COMPARATIVE ANALYSIS OF ALTERNATIVES**

Section 121(b)(1) of CERCLA presents several factors that must be considered when assessing alternatives. Building on these specific statutory mandates, the NCP articulates nine evaluation criteria to be used in assessing the individual remedial alternatives.

A detailed analysis was performed on the alternatives using the nine evaluation criteria in order to select a site remedy. The following is a summary of the comparison of each alternative's strengths and weaknesses with respect to the nine evaluation criteria. These criteria are summarized as follows:

### **Threshold Criteria**

The two threshold criteria described must be met in order for the alternatives to be eligible for selection in accordance with the NCP.

1. Overall protection of human health and the environment addresses whether or not a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.
2. Compliance with ARARS addresses whether or not a remedy will meet all of the ARARs of other federal and state environmental laws and/or provide grounds for invoking a waiver.

### **Primary Balancing Criteria**

The following five criteria are utilized to compare and evaluate the elements of one alternative to another that meet the threshold criteria.

3. Long-term effectiveness and permanence address the criteria that are utilized to assess alternatives for the long-term effectiveness and permanence they afford, along with the degree of certainty that they will prove successful.

4. Reduction of toxicity, mobility, or volume through treatment addresses the degree to which alternatives employ recycling or treatment that reduces toxicity, mobility, or volume, including how treatment is used to address the principal threats posed by the site.
5. Short-term effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period, until cleanup goals are achieved.
6. Implementability addresses the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.
7. Cost includes estimated capital and operation and maintenance (O&M) costs, as well as present-worth costs.

### **Modifying Criteria**

The modifying criteria are used on the final evaluation of remedial alternatives generally after public comments on the RI/FS and Proposed Plan are received.

8. State acceptance addresses the state's position and key concerns related to the preferred alternative and other alternatives, and the state's comments on ARARs or the proposed use of waivers.
9. Community acceptance addresses the public's general response to the alternatives described in the Proposed Plan and RI/FS report. Community acceptance of both the original and the revised Proposed Plans for LF-5 was evaluated based on written comments and verbal comments received in public meetings during the public comment period.

Detailed tabular assessments of each alternative according to the threshold and balancing criteria can be found in Tables 5.2-1 through 5.2-6 of the FS.

Following the detailed analysis of each individual alternative, a comparative analysis, focusing on the relative performance of each analysis against the threshold and balancing criteria, was conducted. This comparative analysis can be found in Table 15.

Table 15

Summary of Detailed Alternatives Evaluation<sup>a</sup>  
 LF-5, Pease AFB, NH

Remedial Alternative	Short-Term Effectiveness Ranking	Long-Term Effectiveness Training	Reduction in TMV Ranking	Implementability Ranking	Protection of Human Health and Environment Ranking	Compliance with ARARs Ranking	Cost Analysis <sup>b</sup> (Sensitivity Analysis) <sup>c</sup> (in \$1,000)
SC-1 No Action/Institutional Controls.	AB	C	C	A	C	BC	3,123
SC-2 Sediment and Landfill Consolidation, Landfill Capping, and On-Site Groundwater Treatment and Disposal for Construction Dewatering.	B	B	BC	AB	AB	AB	23,992 (22,687 to 25,779)
SC-3A Sediment Consolidation, Landfill Capping, and On-Site Groundwater Treatment and Disposal to Dewater Landfill Waste.	AB	B	B	AB	AB	AB	24,000 (21,658 to 24,961)
SC-4D Sediment and Landfill Consolidation, Hot Spot Soil Thermal Treatment On-Site, and On-Site Groundwater Treatment and Disposal for Construction Dewatering.	B	B	AB	B	AB	AB	30,132 (29,315 to 34,266)
SC-5A Sediment and Landfill Waste On-Site RCRA Landfilling and Disposal for Construction Dewatering.	B	AB	B	B	A	A	40,275 (36,629 to 47,601)

a. The ranking system is defined as follows:

- A. The alternative meets the intent of the criterion.
- B. The alternative partially meets the intent of the criterion.
- C. The alternative does not meet the intent of the criterion.
- AB. The alternative was ranked between A and B.
- BC. The alternative was ranked between B and C.

b. Estimated costs represent the 30-year present worth cost.

c. The sensitivity analysis costs represent the upper and lower limits of the 50% confidence interval.

The following subsection presents the nine criteria, including the two modifying criteria not discussed in the FS, a brief narrative summary of the alternatives, and the strengths and weaknesses according to the detailed and comparative analysis.

#### **A. Overall Protection of Human Health and the Environment**

In the long term, Alternative SC-1 would minimize the exposure of humans and large animals to landfill soil, solid wastes, and surrounding sediment by restricting site access and development. However, site worker and small animal exposure would not be mitigated. In addition, contaminant leaching to groundwater would continue, thereby, allowing human exposure via potential groundwater use as well as through recreational uses of drainage channels to which a portion of groundwater and overland flows discharge. The continued leaching of contaminants would also affect wetlands habitats at LF-5.

Alternatives SC-2A, SC-3A, SC-4D, and SC-5A would achieve overall protection of human and ecological receptors from contaminated soils and sediments. These four alternatives would also contribute to attainment of overall Zone 1 groundwater and surface water objectives. For each of the four alternatives, protection of human and ecological receptors from surface water contaminants is expected over the long term, due to elimination of leachate and contaminated sediments as sources. Alternative SC-5A would further reduce the potential for contaminant migration to groundwater and surface water over that of the other alternatives by encasing all landfill wastes in a RCRA cell. Over the short term, groundwater use restrictions would be necessary to mitigate risks associated with groundwater use in the early stages of remediation.

#### **B. Compliance with ARARs**

Complete ARAR compliance would not be attained for Alternative SC-1 due to the lack of remediation planned for that alternative. Of the three types of ARARs



(location-specific, action-specific, and contaminant-specific), location-specific ARARs are the only ARARs for which compliance would be attained. - -

Alternatives SC-2A, SC-3A, SC-4D, and SC-5A would all be expected to achieve compliance with location- and action-specific ARARs. For contaminant-specific ARARs, all four alternatives would meet soil, sediment, and air ARARs.

### **C. Long-Term Effectiveness and Permanence**

The deed restrictions and site access restrictions in Alternative SC-1 would reduce, but would not prevent, human contact with contaminated soils, sediments, surface water, and groundwater. Exposures to ecological receptors would not be mitigated. In addition, no reduction in contaminant TMV would be achieved. Therefore, continued human and ecological receptor exposure is expected over the long term.

For Alternatives SC-2A, SC-3A, SC-4D, and SC-5A, significant risk reduction is achieved by eliminating dermal and ingestion exposure routes (both human and ecological receptors) to contamination in site soils and sediments from LF-2, LF-4, and LF-5. For all four alternatives, it is expected that long-term reliability would be enhanced via periodic inspections, and management and monitoring for a period of 30 years (this time-frame is typically chosen for costing purposes). For Alternative SC-3A, it is assumed that groundwater would require treatment for a period of 30 years to maintain long-term effectiveness.

Additionally, pursuant to the requirements of CERCLA 120(h)(3)(B)(ii), should any additional remedial actions be required (including continued monitoring) either during or subsequent to the 30-year time period, the Air Force will be responsible for implementation of these actions, regardless of when the need arises. This ensured the long-term effectiveness of Alternatives SC-2A, SC-3A, SC-4D, and SC-5A subsequent to the 30-year monitoring and treatment periods described.

There exists a potential for future receptor exposures to site contaminants due to failure of the containment strategy-cap failure for Alternatives SC-2A, -SC-3A, SC-4D, and SC-5A. Each source control alternative would contribute to attainment of overall Zone 1 objectives for groundwater and surface water.

#### **D. Reduction of Toxicity, Mobility, or Volume Through Treatment**

Alternative SC-1 would not reduce the TMV of contaminants through treatment because the alternative does not provide for treatment.

Each of the remaining alternatives, Alternatives SC-2A, SC-3A, SC-4D, and SC-5A would provide for some degree of reduction in TMV, but would not significantly reduce TMV as a principal element of the remedy. All four alternatives would reduce TMV for groundwater currently in contact with solid waste. This would serve to reduce the mobility of soil contaminants in LF-2, LF-4, and LF-5. In the case of Alternative SC-5A, which provides for on-site RCRA landfilling of contaminated soils and sediments, reduction in the mobility of soil contaminants would be significantly increased over the other three alternatives. For Alternative SC-4D, reduction of the TMV of hot spot soils via thermal treatment (LT<sup>3</sup>) would be achieved.

All four alternatives (SC-2A, SC-3A, SC-4D, and SC-5A) involve on-site groundwater treatment, which constitutes irreversible treatment. All four alternatives will produce groundwater treatment residuals (either concentrated ion salt solution, iron sludge and spent carbon, or carbonate and metal hydroxide sludge and spent carbon). In each case, off-site disposal/regeneration is expected. Thermal treatment residuals (Alternative SC-4D) would be tested for TCLP criteria and to determine the percent contaminant destruction achieved prior to placement back in the excavation.

## **E. Short-Term Effectiveness**

Implementation of Alternative SC-1 would not be expected to have significant impacts on the community. In addition, impacts to workers would not be expected, and use of personal protective equipment (PPE) would minimize potential impacts during fence and wall installation and water sampling activities. Minor environmental impacts would be possible during implementation, and would be mitigated via use of erosion control measures. The total time for implementation of Alternative SC-1 is estimated to be 2 months.

Each of the four remaining alternatives (SC-2A, SC-3A, SC-4D, and SC-5A) would result in potential community and worker exposure to emissions generated during remedial activities (landfill excavation — Alternatives SC-2A, SC-4D, SC-5A; thermal treatment — Alternative SC-4D; groundwater treatment — Alternative SC-3A). These impacts would be minimized using engineering controls and site-specific health and safety procedures. Sediment excavation and landfill dewatering during implementation of Alternatives SC-2A, SC-4D, and SC-5D could impact wetlands environments at LF-5. Long-term groundwater extraction during implementation of Alternative SC-3A could result in even greater impacts. Landfill capping could compound the effect by reducing groundwater recharge in the area (Alternatives SC-2A, SC-3A, and SC-4D). Installation of a RCRA landfill (Alternative SC-5A) could further exacerbate the problem. In all cases, wetlands mitigation may be performed as part of remedial activities.

## **F. Implementability**

Alternative SC-1, with its minimal construction activities, is easily constructed and is not hindered by site conditions. Monitoring and maintenance activities would be easily performed. Composite barrier cap construction, as planned for Alternatives SC-2A, SC-3A, and SC-4D, is a proven and well-known technology. Site conditions are not expected to inhibit construction. Composite-barrier caps are considered reliable engineering controls. Cap construction would have to be limited to warmer months, and modeling would be required to better predict the post-capping water table elevation. More comprehensive

modelling and pilot-scale treatability studies would likely be required for Alternative SC-3A due to the expected long-term groundwater pumping and on-site treatment planned. Thermal treatment (Alternative SC-4D) is a proven and well-known technology and should not be adversely impacted by site conditions. However, there would be some difficulties associated with materials handling and low throughput rates due to potentially high soil moisture content. Construction of a RCRA landfill (Alternative SC-5A) is a proven and well-known technology. However, site conditions, such as bedrock and water table elevation, actual volume of wastes to be landfilled, and the necessity to import construction fill material could hinder construction. As with Alternatives SC-2A and SC-4D, groundwater treatment for construction dewatering is a well known and reliable technology that is not difficult to implement.

All five alternatives (SC-1, SC-2A, SC-3A, SC-4D, and SC-5A) would potentially require acquisition of permits/approvals for implementation. In addition, all alternatives would require some degree of monitoring and maintenance activities. In each case, the activities are easily performed.

#### G. Cost

The estimated present worth value of each alternative and the options are as follows:

Alternative	Capital Costs	O&M	Present Worth
SC-1 No action, institutional controls.	\$174,000	\$2,948,315	\$3,123,000
SC-2A Sediment/landfill consolidation, capping, on-site groundwater treatment and disposal for dewatering.	\$17,362,700	\$6,629,721	\$23,992,000
SC-3A Sediment consolidation, landfill capping, on-site groundwater treatment and disposal to lower water table below solid waste.	\$13,084,000	\$10,916,337	\$24,000,000
SC-4D Sediment/landfill consolidation, hot spot thermal treatment, landfill capping, on-site groundwater treatment and disposal for construction dewatering.	\$23,526,400	\$6,605,687	\$30,132,000

Alternative	Capital Costs	O&M-	Present Worth
SC-5D Sediment/landfill waste on-site RCRA landfilling, on-site groundwater treatment and disposal for construction.	\$28,813,600	\$11,461,724	\$40,275,000

#### H. State Acceptance

NHDES has been involved in the environmental activities at Pease AFB since the mid-1980s, as summarized in Section II of this document. The RI was performed as an Air Force lead, with state and EPA oversight, in accordance with the FFA. NHDES has reviewed this document and concurs with the selected remedy. A copy of the Declaration of Concurrence is attached as Appendix B.

#### I. Community Acceptance

The comments received during the public comment periods and the public hearings on both the original and revised LF-5 Proposed Plans are summarized in the attached document entitled "The Responsiveness Summary" (Appendix C). The selected remedy has been modified from that presented in the original Proposed Plan based on public comment, as described in Section X.



## **X. THE SELECTED REMEDY**

The selected remedy is comprehensive in that it provides for source control and reduction of exposure to site contaminants via containment, and it also contributes to attainment of overall Zone 1 objectives (to be presented at a later date in the Zone 1 FS) of migration control for surface water and groundwater.

The selected remedy, Alternative SC-2A, involves excavation and consolidation of sediments, which contain levels of contamination in excess of selected cleanup levels, on LF-5. Landfill debris from LF-5 that was predicted to be saturated after capping (as determined via MODFLOW modelling) would also be excavated and consolidated on LF-5. In addition, LF-2 and LF-4 soil and debris would be excavated and consolidated on LF-5 (see Sections IV and XII). However, since LF-2 and LF-4 are part of the Zone 1 operable unit, final decision under the Zone 1 ROD will be required prior to implementation of the proposed excavation and consolidation plan for LF-2 and LF-4. Following consolidation, the landfill would be covered with a composite-barrier type cap to prevent water infiltration. During construction, in order to facilitate excavation, groundwater would be collected and treated in a temporary on-site mobile system. Discharge of treated water to Flagstone Brook was specified in the original Proposed Plan. Based on public comment to the original Proposed Plan, this strategy was revised to specify discharge to the local POTW via the sanitary sewer.

### **A. Methodology for Cleanup Level Determination**

Cleanup levels have been selected for each medium of concern at LF-5. Cleanup levels have been established for chemicals of concern identified in the risk assessment section of the LF-5 Draft Final RI Report and for contaminants detected at levels exceeding ARARs or risk-based concentrations.

The approach used to determine risk-based concentrations is consistent with the approach used to evaluate human health risk in the risk assessment section of the LF-5 Draft Final RI Report (F-500). This approach was originally presented in a protocols document

submitted to EPA Region I and NHDES. This document was subsequently amended and a revised version was resubmitted.

Risk-based concentrations were derived for the chemicals of concern in each medium, based on the most reasonable maximally exposed human receptor (current or future) for the medium. The chemicals of concern include those substances that were identified as chemicals of concern in the risk assessment section of the LF-5 Draft Final RI Report (F-500). In addition, risk-based concentrations were derived for a few chemicals that were not selected as chemicals of concern in the RA, but whose maximum reported concentration exceeded one or more ARAR.

Risk-based concentrations were derived for each noncarcinogenic chemical in a medium based on a goal of a hazard index of 1. For each carcinogenic chemical, the concentrations were derived based on a goal of  $10^{-6}$  (1-in-1 million) lifetime cancer risk, with the following exceptions. Some chemicals, although categorized by EPA as carcinogens, are not considered to be carcinogenic through all exposure routes. For example, several metals, including cadmium, chromium (VI), and nickel, are not classified as carcinogens through the oral exposure route. Therefore, in deriving risk-based concentrations for a given medium, if a carcinogenic chemical was not considered to be carcinogenic through the applicable exposure routes, the risk-based concentration for the chemical was based on a hazard index of 1 (i.e., noncarcinogenic risk).

Cleanup levels were selected after comparing maximum contaminant concentrations detected for each contaminant of concern in each medium with appropriate chemical-specific ARARs, human health, and, if applicable, ecological risk-based concentrations.

In general, where ARARs were available and deemed appropriate, the ARARs were selected as cleanup levels. Where ARARs were not available, or if the basis on which the ARAR was established was not consistent with LF-5 exposure scenarios, a risk-based concentration was selected as the cleanup goal. When ARARs were selected as the cleanup



goal, a human health risk was calculated for the ARAR concentration. Cleanup levels were not established for chemicals detected at maximum concentrations-that were lower than appropriate ARARs or risk-based concentrations.

Cleanup levels for the various contaminated media at LF-5 are summarized in the subsections that follow.

### **B. Groundwater Cleanup Levels/Treatment Goals**

The selected remedy for LF-5 does not address groundwater beneath and in the vicinity of LF-5. Contamination in groundwater will be addressed in the Zone 1 FS, Proposed Plan, and ROD. However, the LF-5 source control remedy would be expected to contribute to attainment of the Zone 1 objectives and cleanup goals via removal of contaminant sources and would facilitate the implementation of potential groundwater actions that will be evaluated during the Zone 1 RI/FS process. For the purposes of this ROD, the Zone 1 cleanup levels are to be considered (TBC) guidelines for treatment of groundwater extracted for construction dewatering purposes. Treatment requirements established in the state, federal, and local POTW pretreatment standards will serve as ARARs.

Table 16 presents ARARs, risk-based concentrations, maximum average detected concentrations in groundwater, and selected cleanup levels for contaminants detected in groundwater. The cleanup levels were calculated using the Zone 1 objectives for groundwater.

### **C. Landfill Soil and Solid Waste Cleanup Levels**

Table 17 presents human health and ecological risk-based concentrations, maximum detected concentrations, and selected cleanup levels for contaminants detected in soils in the landfill, including the hot spots. Cleanup levels were established for 22 contaminants in the landfill (excluding hot spot soils) detected at concentrations exceeding either human health or ecological risk-based concentrations. The majority of cleanup goals were

Table 16

Zone 1 Cleanup Goal Selection — Groundwater  
LF-5, Pease AFB, NH

Compound <i>Organics</i>	Potential ARARs (µg/L)				Risk-Based Concentration (µg/L)		Maximum Detected Concentration Total (µg/L) <sup>g</sup>	Cleanup Goal (µg/L)
	MCL <sup>a</sup>	MCLG <sup>b</sup>	NIDPHS <sup>c</sup>	RCRA <sup>d</sup>	Lifetime Health Advisory <sup>e</sup>	Hazard Index		
Acetone							4.60E+01	NA
Benzene	5.00E+00 *	0.00E+00	7.00E+02	4.00E+03			1.40E+01	5.00E+00
Bis(2-ethylhexyl) phthalate	4.00E+00 *	6.00E+00	5.00E+00	3.00E+00			1.10E+01	6.00E+00
n-Butylbenzene							2.00E+00	NTVA
sec-Butylbenzene							3.00E+00	NA
Chlorobenzene	1.00E+02	1.00E+02	1.00E+02	7.00E+02			8.00E+01	NA
Chloroethane							3.00E+00	NTVA
4-Chloro-3-methylphenol							1.00E+01	NTVA
1,2-Dichlorobenzene	6.00E+02	6.00E+02	6.00E+02		6.00E+02		3.20E+01	NA
1,4-Dichlorobenzene	7.50E+01	7.50E+01	7.50E+01		7.50E+01		3.80E+01	NA
Dichlorodifluoromethane							2.30E+01	NA
1,1-Dichloroethane <sup>b</sup>							1.50E+01	NA
1,2-Dichloroethane	5.00E+00	0.00E+00	5.00E+00	5.00E+00			2.20E+00	NA
cis-1,2-Dichloroethene	7.00E+01	7.00E+01	7.00E+01		7.00E+01		2.20E+01	NA
Diethyl phthalate							1.10E+01	NA
Dimethyl phthalate							1.10E+01	NA
Di-n-butyl phthalate							1.10E+01	NA
Ethyl ether							4.00E+01	NA
Fluoranthene							1.10E+01	NA
Isopropylbenzene							2.00E+00	NA
2-Methylnaphthalene							1.10E+01	NA
Naphthalene							1.10E+01	NA
n-Propylbenzene							3.00E+00	NTVA
Tetrachloroethene	5.00E+00 *	0.00E+00	5.00E+00	7.00E-01			5.60E+01	5.00E+00
Trichloroethene	5.00E+00 *	0.00E+00	5.00E+00				4.60E+01	5.00E+00
1,2,4-Trimethylbenzene							4.00E+00	NA
Vinyl chloride	2.00E+00 *	0.00E+00	2.00E+00				8.10E+01	2.00E+00
Xylenes (total)	1.00E+04	1.00E+04	1.00E+04	7.00E+04	1.00E+04		5.70E+00	NA
<i>Inorganics</i>								
Arsenic	5.00E+01 *		5.00E+01		5.00E+01		3.53E+02	5.00E+01
Boron			6.20E+02		6.20E+02		2.69E+02	NA
Cobalt							1.27E+02	NTVA
Iron							1.73E+05	NTVA
Lead <sup>b</sup>	1.50E+01 *	0.00E+00	1.50E+01		1.06E+01		6.70E+01	1.50E+01
Manganese							4.78E+03	3.65E+03
Nickel	1.00E+02 *	1.00E+02		7.00E+02	1.00E+02		4.33E+02	1.00E+02
Selenium	5.00E+01	5.00E+01	5.00E+01				5.00E+00	NA

Table 16

Zone 1 Cleanup Goal Selection — Groundwater  
LF-5, Pease AFB, NH

Compound	Potential ARARs (µg/L)				Risk-Based Concentration (µg/L) †		Maximum Detected Concentration Total (µg/L) ‡	Cleanup Goal (µg/L)
	MCL*	MCLG <sup>b</sup>	NHDPHS <sup>c</sup>	RCRA <sup>d</sup>	Lifetime Health Advisory <sup>e</sup>	Hazard Index		
Inorganics* (continued)								
Silicon						NTV	9.57E+04	NTVA
Silver			5.00E+01	5.00E+01	1.00E+02	1.10E+02	3.00E+01	NA
Thallium	2.00E+00 *	5.00E-01	5.00E-01			2.56E+00	1.00E+01	2.00E+00

(a) MCL = Maximum Contaminant Level, May 1992.

(b) MCLG = Maximum Contaminant Level Goal, May 1992.

(c) NHDPHS = New Hampshire Department of Public Health Services, June 5, 1992.

(d) RCRA = RCRA Corrective Action Levels (40 CFR 264.521 (a) (2)(i-iv) Appendix A)

(e) Lifetime Health Advisory, April 1992.

(f) Unless otherwise indicated, risk-based concentrations are based on a hazard index of one for noncarcinogens and a 10<sup>-6</sup> cancer risk for carcinogens. Calculations are based on the exposure scenario and assumptions presented in Subsection 2.3 and F-500.

(g) Maximum detected concentrations were taken from the risk assessment section of the LF-5 Draft Final RI Report (F-500).

(h) Although categorized as a carcinogen, in the absence of slope factors the risk-based concentration was based on noncarcinogenic risk.

(i) Although categorized as a carcinogen, the chemical is not considered carcinogenic through the applicable exposure routes.

\* = Value used to select cleanup goal.

p = Proposed standard

NTV = A risk-based concentration was not calculated due to the unavailability of the applicable toxicity value.

NTVA = No applicable toxicity value or ARAR.

NA = ARAR or risk-based concentration exceeds maximum detected concentration.

# = Parameter list is based on contaminants in groundwater in vicinity of Landfill 5.

Table 17

**Site-Specific Cleanup Goal Selection**  
**Landfill Soil and Solid Waste**  
**LF-5, Pease AFB, NH**

Main Soils	Risk-Based Concentration <sup>a</sup> (mg/kg)		Ecological Risk-Based Concentrations (mg/kg) <sup>b</sup>	Maximum Detected Concentration (mg/kg) <sup>c</sup>	Cleanup Goal (mg/kg)
	Hazard Index	Cancer Risk			
<i>Organics</i>					
Aroclor-1242		1.36E+00	1.63E-03 *	5.30E+00	1.63E-03
Aroclor-1248		1.36E+00	1.63E-03 *	3.40E+00	1.63E-03
Bis(2-ethylhexyl)phthalate		7.93E+01	4.00E-01 *	1.10E+00	4.00E-01
4,4'-DDD		4.36E+01	2.76E-01	2.30E-01	NA
4,4'-DDE		3.08E+01	3.40E-02 *	7.10E-01	3.40E-02
4,4'-DDT		3.08E+01	1.30E-03 *	3.40E+00	1.30E-03
Dibenzofuran	1.67E+03		NTV	3.00E+01	NTVA
1,4-Dichlorobenzene		4.63E+01	2.20E+03	1.10E-01	NA
Dieldrin		6.94E-02	1.38E-04 *	2.40E-01	1.38E-04
Di-n-butyl phthalate	3.74E+05		7.34E+02	8.40E-02	NA
2-Methylnaphthalene	1.59E+03		2.17E+01	8.90E+00	NA
Naphthalene	1.59E+03		2.73E+02	3.40E+01	NA
<i>PAHs</i>					
Acenaphthene	1.87E+05		1.94E+02	5.20E+01	NA
Acenaphthylene	1.25E+04		1.26E+03	2.00E-01	NA
Anthracene	9.35E+05		2.96E+03	8.50E+01	NA
Benzo(a)anthracene		7.59E-01 *	2.50E+00	1.30E+02	7.59E-01
Benzo(b)fluoranthene		7.59E-01 *	7.89E+02	1.00E+02	7.59E-01
Benzo(k)fluoranthene		7.59E-01 *	1.01E+03	8.20E+01	7.59E-01
Benzo(g,h,i)perylene	1.25E+04		1.05E+03	1.10E+02	NA
Benzo(a)pyrene		7.59E-01	7.00E-02 *	1.10E+02	7.00E-02
Chrysene		7.59E-01 *	1.48E+03	1.20E+02	7.59E-01
Dibenzo(a,h)anthracene		7.59E-01 *	1.26E+03	2.30E+01	7.59E-01
Fluoranthene	1.25E+05		2.78E+02	2.00E+02	NA
Fluorene	1.25E+05		1.39E+02	6.20E+01	NA
Indeno(1,2,3-cd)pyrene		7.59E-01 *	6.00E+02	8.70E+01	7.59E-01
Phenanthrene	1.25E+04		2.33E+00 *	2.40E+02	2.33E+00
Pyrene	9.35E+04		1.53E+02 *	2.10E+02	1.53E+02
Pentachlorophenol		9.25E+00	6.13E-02 *	9.40E-01	6.13E-02
<i>Inorganics</i>					
Arsenic		2.10E+01	5.08E-01 *	2.86E+01	5.08E-01
Cadmium <sup>d</sup>	1.70E+04		5.18E-02 *	1.19E+01	5.18E-02
Copper	4.85E+05		2.14E+00 *	2.15E+02	2.14E+00
Lead <sup>e</sup>	1.27E+04		6.50E-02 *	1.93E+02	6.50E-02
Manganese	1.31E+06		3.33E+04	1.08E+03	NA
Mercury	3.93E+03		2.00E-02 *	8.10E-01	2.00E-02
Zinc	2.62E+06		8.43E-02 *	2.59E+02	8.43E-02

- (a) Unless otherwise indicated, risk-based concentrations are based on a hazard index of one for noncarcinogens and a  $10^{-6}$  cancer risk for carcinogens. Calculations are based on the exposure scenario and assumptions presented in Subsection 2.3 in F-500.
- (b) Ecological risk-based concentrations were developed based on the exposure scenarios and assumptions presented in Subsection 2.3 in E-429 (F-500).
- (c) Maximum detected concentrations were taken from the risk assessment section of the LF-5 Draft Final RI Report (F-500).
- (d) Although categorized as a carcinogen, the chemical is not considered to be carcinogenic through the applicable exposure routes.
- (e) Although categorized as a carcinogen, in the absence of slope factors the risk-based concentration was based on noncarcinogenic risk.
- NA = Not applicable, risk-based concentrations exceed maximum detected concentration.
- NTV = A risk-based concentration was not calculated because of the unavailability of the applicable toxicity value.
- NTVA = No applicable toxicity value or ARAR.
- \* = Value used to select cleanup goal.

Table 17

**Site-Specific Cleanup Goal Selection**  
**Landfill Soil and Solid Waste**  
**LF-5, Pease AFB, NH**  
**(Continued)**

Hot Spot Soils - Drum Removal Area	Risk-Based Concentration <sup>a</sup>		Ecological Risk-Based Concentrations (mg/kg) <sup>b</sup>	Maximum Detected Concentration (mg/kg) <sup>c</sup>	Cleanup Goal (mg/kg)
	Hazard Index	Cancer Risk			
<i>Organics</i>					
alpha-Chlordane		8.49E+00	4.00E-01 *	1.70E+00	4.00E-01
gamma-Chlordane		8.49E+00	3.17E-03 *	1.70E+00	3.00E-03
4,4'-DDD		4.60E+01	2.77E-01 *	6.70E-01	2.77E-01
4,4'-DDE		3.25E+01	3.40E-02 *	2.60E-01	3.40E-02
4,4'-DDT		3.25E+01	1.00E-03 *	6.00E+00	1.00E-03
Dibenzofuran	1.70E+03			1.10E+02	NA
Dieldrin		7.07E-02	1.38E-04 *	1.50E+00	1.38E-04
Heptachlor		2.51E-01	9.79E-03 *	1.60E-01	9.79E-03
2-Methylnaphthalene	1.62E+03		2.17E+01 *	4.10E+01	2.17E+01
Naphthalene	1.62E+03 *		2.73E+02	6.40E+01	NA
<i>PAHs</i>					
Acenaphthene	2.18E+05 *		1.94E+02	1.90E+02	NA
Anthracene	1.09E+06 *		5.02E+03	2.20E+02	NA
Benzo(a)anthracene		8.86E-01 *	2.50E+00	8.90E+02	8.86E-01
Benzo(b)fluoranthene		8.86E-01 *	7.88E+02	6.10E+02	8.86E-01
Benzo(k)fluoranthene		8.86E-01 *	1.01E+03	3.00E+02	8.86E-01
Benzo(g,h,i)perylene	1.45E+04 *		1.05E+03	1.20E+02	NA
Benzo(a)pyrene		8.86E-01	7.00E-02 *	7.50E+02	7.00E-02
Chrysene		8.86E-01 *	1.48E+03	9.10E+02	8.86E-01
Dibenzo(a,h)anthracene		8.86E-01 *	1.26E+03	8.80E+01	8.86E-01
Fluoranthene	1.45E+05		2.79E+02 *	1.30E+03	2.79E+02
Fluorene	1.45E+05 *		1.39E+02	2.00E+02	NA
Indeno(1,2,3-cd)pyrene		8.86E-01 *	6.00E+02	1.90E+02	8.86E-01
Phenanthrene	1.45E+04		2.33E+00 *	1.20E+03	2.33E+00
Pyrene	1.09E+05		1.53E+02 *	1.40E+03	1.53E+02
Toluene	8.08E+04 *		1.33E+00	8.20E-02	NA
<i>Inorganics</i>					
Boron	2.97E+06		5.99E+00 *	1.89E+01	5.99E+00
Copper	1.22E+06		2.15E+00 *	1.30E+02	2.15E+00
Lead <sup>e</sup>	3.19E+04		6.53E-02 *	5.58E+01	6.53E-02
Mercury	9.89E+03		2.00E-02 *	3.40E-01	2.00E-02

- (a) Unless otherwise indicated, risk-based concentrations are based on a hazard index of one for noncarcinogens and a  $10^{-6}$  cancer risk for carcinogens. Calculations are based on the exposure scenario and assumptions presented in Subsection 2.3 in F-500.
- (b) Ecological risk-based concentrations were developed based on the exposure scenarios and assumptions presented in Subsection 2.3 in F-500.
- (c) Maximum detected concentrations were taken from the risk assessment section of the LF-5 Draft Final RI Report (F-500).
- (d) Although categorized as a carcinogen, the chemical is not considered to be carcinogenic through the applicable exposure routes.
- (e) Although categorized as a carcinogen, in the absence of slope factors the risk-based concentration was based on noncarcinogenic risk.
- NA = Not applicable, risk-based concentrations exceed maximum detected concentration.
- \* = Value used to select cleanup goal.

Table 17

**Site-Specific Cleanup Goal Selection  
Landfill Soil and Solid Waste  
LF-5, Pease AFB, NH  
(Continued)**

Hot Spot Soils - Staged UST Location	Risk-Based Concentration <sup>a</sup>		Ecological Risk-Based Concentrations (mg/kg) <sup>b</sup>	Maximum Detected Concentration (mg/kg) <sup>c</sup>	Cleanup Goal (mg/kg)
	Hazard Index	Cancer Risk			
<i>Organics</i>					
Bis(2-ethylhexyl) phthalate		8.12E+01	NC	2.70E-01	NA
Di-n-butyl phthalate	4.01E+05		NC	5.20E-02	NA
<i>PAHs</i>					
Benzo(a)pyrene		9.35E-01	NC	6.60E-02	NA
Chrysene		9.35E-01	NC	4.90E-02	NA
Fluoranthene	1.54E+05		NC	6.00E-02	NA
Pyrene	1.15E+05		NC	8.40E-02	NA
<i>Inorganics</i>					
Arsenic		1.02E+02	NC	3.51E+01	NA
Barium	4.47E+06		NC	8.20E+03	NA
Boron	5.75E+06		NC	4.22E+02	NA
Cadmium <sup>d</sup>	8.30E+04		NC	2.50E+00	NA
Chromium (III) <sup>e</sup>	6.39E+07		NC	5.40E+01	NA
Chromium (VI) <sup>g,h</sup>	3.19E+05		NC	5.40E+01	NA
Lead <sup>f</sup>	6.17E+04		NC	2.14E+02	NA
Zinc	1.28E+07		NC	1.69E+03	NA

- (a) Cancer risk is calculated for carcinogens; a hazard index is calculated for noncarcinogens. Calculations are based on the exposure scenario and assumptions presented in Subsection 2.3 in F-500.
- (b) Ecological risk-based concentrations were developed based on the exposure scenarios and assumptions presented in Subsection 2.3 in F-500.
- (c) Maximum detected concentrations were taken from the risk assessment section of the LF-5 Draft Final RI Report (F-500). The maximum represents the highest analytical result of duplicate samples from one sampling location.
- (d) Although categorized as a carcinogen, the chemical is not considered to be carcinogenic through the applicable exposure routes.
- (e) Chromium is assumed to be present totally as chromium (III).
- (f) Chromium is assumed to be present totally as chromium (VI).
- (g) Although categorized as a carcinogen, in the absence of slope factors, the risk-based concentration was based on noncarcinogenic risk.
- NA = Not applicable, risk-based concentrations exceed maximum detected concentrations.
- \* = Value used to select cleanup goal.
- NC = As discussed in the risk assessment section of the LF-5 Draft Final RI Report (F-500), ecological risk-based concentrations were not evaluated for the staged UST hot spot.

ecological risk-based concentrations. Ecological risk-based concentrations were developed as described in Subsection 2.3 of the LF-5 FS. Cleanup goals were also established for contaminants in the drum removal area hot spot soils. Again, most of the cleanup goals were ecological risk-based concentrations. Drum removal area hot spot contaminants for which cleanup levels were established include seven pesticides, one SVOC, 10 PAHs, and four metals. Cleanup levels were not established for any contaminants in the staged UST location hot spot.

#### **D. Sediment Cleanup Levels**

Table 18 presents human health risk-based concentrations, maximum concentrations detected in sediment, and TBC criteria that were used in determining ecological risks. These TBC criteria are the NOAA biological effects levels (ER-Ls) established by Technical Memorandum NOS OMA 52, March 1990. While NOAA sediment guidelines are not enforceable and, consequently, are not considered ARARs, they appear to be appropriate toxicity benchmark values and were used in deriving ecological risk-based cleanup levels. In all cases, these TBCs were selected as sediment cleanup goals. As a result, cleanup goals were established for five pesticides, seven PAHs, and five metals in the Railway Ditch, and for three pesticides and two metals in Flagstone Brook. As described in Subsection 2.1 of the LF-5 Draft Final FS, remediation of sediment in Flagstone Brook will be an objective of the Zone 1 remedy. It should be noted that DDE, DDD, and DDT were detected in most sediment samples collected at Pease AFB and may be indicative of background levels. Human health risk-based concentrations were typically orders of magnitude greater than the NOAA criteria and were not used to select cleanup goals. As shown in Table 2.4-2 of the FS, there are no human health risks associated with these ecologically based TBC sediment criteria.

**Table 18**  
**Zone 1 Cleanup Goal Selection**  
**for the Railway Ditch and Flagstone Brook — Sediment**  
**LF-5, Pease AFB, NH**

Railway Ditch	TBC Criteria <sup>a</sup> (mg/kg)	Risk-Based Concentration <sup>b</sup> (mg/kg)		Maximum Detected Concentration (mg/kg) <sup>c</sup>	Cleanup Goal (mg/kg)
		Hazard Index	Cancer Risk		
<i>Organics</i>					
Acetone		3.99E+05		2.00E-01	NA
Benzoic Acid		1.60E+07		2.70E+01	NA
Bis(2-ethylhexyl) phthalate			6.65E+02	4.90E-01	NA
2-Butanone		1.99E+05		2.00E-01	NA
alpha-Chlordane	5.00E-04 *		6.83E+01	1.10E-01	5.00E-04
gamma-Chlordane	5.00E-04 *		6.83E+01	7.80E-02	5.00E-04
4,4'-DDD	2.00E-03 *		3.70E+02	4.90E+00	2.00E-03
4,4'-DDE	2.00E-03 *		2.61E+02	2.80E-01	2.00E-03
4,4'-DDT	1.00E-03 *		2.61E+02	1.00E+01	1.00E-03
1,4-Dichlorobenzene			3.88E+02	7.60E-01	NA
1,2-Dichloroethene (total) <sup>d</sup>		3.99E+04		4.50E-01	NA
<i>PAHs</i>					
Acenaphthene	1.50E-01 *	1.96E+06		6.70E-01	1.50E-01
Acenaphthylene		1.31E+05		7.90E-01	NA
Benzo(a)anthracene	2.30E-01 *		6.64E+00	5.90E-01	2.30E-01
Benzo(b)fluoranthene			6.64E+00	7.60E-01	NA
Benzo(k)fluoranthene			6.64E+00	7.60E-01	NA
Benzo(g,h,i)perylene		1.31E+05		2.60E-01	NA
Benzo(a)pyrene	4.00E-01		6.64E+00	3.60E-01	NA
Chrysene	4.00E-01 *		6.64E+00	5.80E-01	4.00E-01
Dibenzo(a,h)anthracene	6.00E-02 *		6.64E+00	9.00E-02	6.00E-02
Fluoranthene	6.00E-01 *	1.31E+06		1.40E+00	6.00E-01
Indeno(1,2,3-cd)pyrene			6.64E+00	2.50E-01	NA
Phenanthrene	2.25E-01 *	1.31E+05		1.40E+00	2.25E-01
Pyrene	3.50E-01 *	9.81E+05		9.40E-01	3.50E-01
Total PAHs <sup>e</sup>	4.00E+00 *	1.31E+05	6.64E+00	3.89E+00 <sup>f</sup>	4.00E+00
<i>Inorganics</i>					
Antimony	2.00E+00 *	6.54E+04		3.50E+01	2.00E+00
Arsenic	3.30E+01 *		2.18E+02	8.00E+02	3.30E+01
Boron		1.47E+07		7.45E+01	NA
Cobalt		NTV		5.74E+01	NTVA
Iron		NTV		1.95E+05	NTVA
Lead <sup>g</sup>	3.50E+01 *	1.58E+05		6.21E+02	3.50E+01
Manganese		1.64E+07		8.43E+03	NA
Nickel <sup>h</sup>	3.00E+01 *	3.27E+06		7.92E+01	3.00E+01
Zinc	1.20E+02 *	3.27E+07		4.09E+02	1.20E+02
<i>Flagstone Brook</i>					
<i>Organics</i>					
4,4'-DDD	2.00E-03 *		1.23E+02	2.10E-01	2.00E-03
4,4'-DDE	2.00E-03 *		1.87E+03	1.20E-01	2.00E-03
4,4'-DDT	1.00E-03 *		1.87E+03	3.50E-02	1.00E-03
Total PAHs <sup>e</sup>	4.00E+00 *	4.36E+04	2.21E+00	1.11E+00 <sup>f</sup>	NA
<i>Inorganics</i>					
Antimony	2.00E+00 *	2.18E+04		2.50E+00	2.00E+00
Boron		4.91E+06		5.20E+00	NA
Cadmium <sup>h</sup>	5.00E+00	7.09E+04		1.20E+00	NA
Lead <sup>g</sup>	3.50E+01 *	5.27E+04		6.31E+01	3.50E+01
Selenium		2.73E+05		9.50E-01	NA
Thallium		3.82E+03		1.92E+01	NA

(a) NOAA Biological Effect Levels (ER-L), NOAA Technical Memorandum, NOS OMA 52, March 1990.

(b) Unless otherwise indicated, risk-based concentrations are based on a hazard index of one for noncarcinogens and a 10<sup>-6</sup> cancer risk for carcinogens. Calculations are based on the exposure scenarios and assumptions presented in Subsection 2.3 in F-500.

(c) Maximum detected concentrations were taken from the risk assessment section of the LF-5 Draft Final RI Report (F-500).

(d) The risk number for 1,2-dichloroethene is based on the RfD of the cis isomer.

(e) Risk numbers for total PAHs are based on the RfD for naphthalene and the slope factor for benzo(a)pyrene.

(f) Maximum detected total PAH concentration is a sum of individual maximum detected PAH concentrations including naphthalene which by itself is not a chemical of concern.

(g) Although categorized as a carcinogen, in the absence of a slope factor, the risk-based concentration was based on noncarcinogenic risk.

(h) Although categorized as a carcinogen the chemical is not considered to be carcinogenic through the applicable exposure routes.

NA - ARAR or risk-based concentration exceeds maximum detected concentration.

NTV - A risk-based concentration was not calculated due to the unavailability of the applicable toxicity value.

NTVA - No applicable toxicity value or ARAR.

\* = Value used to select cleanup goal.



## E. Surface Water Cleanup Levels

Table 19 presents ecological risk-based ARARs, human health risk-based concentrations, maximum detected concentrations, and cleanup levels for contaminants detected in surface water in the Railway Ditch. The cleanup goals were derived to satisfy the Zone 1 Railway Ditch RAOs. As discussed previously, the LF-5 source control remedy would be expected to contribute to attainment of the Zone 1 objectives and cleanup goals. All cleanup goals were based on New Hampshire surface water standards that are protective of aquatic life. Chronic criteria were used to evaluate ecological risks in the baseline RA and therefore, are selected as the applicable ARARs for Zone 1. Cleanup levels were established for one pesticide, 10 metals in the Railway Ditch, and one pesticide and four metals in Flagstone Brook. Human health risks associated with Zone 1 ARAR concentrations selected as cleanup goals are presented in Table 2.4-7 of the LF-5 Draft Final FS. As shown in the table, cancer risks greater than  $10^{-6}$  exist due to the use of ARARs as cleanup goals for DDT, 1,4-dichlorobenzene, and TCE. The maximum residual cancer risk was for TCE ( $2.15 \times 10^{-5}$ ). No excess noncancer human health risks would result.

## F. Description of Remedial Components

The chosen LF-5 remedy, whose main remedial goal is source control, will involve the following key components:

- Excavation and consolidation of Railway Ditch sediments that contain contaminants at concentrations exceeding site-specific cleanup goals. A mobile laboratory will be on-site to confirm the removal of contaminated material. The excavated material will be dewatered and bulked, if necessary, and consolidated on LF-5.
- Landfill debris that would still be in contact with groundwater after capping will be excavated and consolidated on dry locations on the landfill prior to capping. The excavation will be backfilled with clean fill to a level at least 2 feet above the natural groundwater table after capping and excavated waste will be placed above the clean fill.

**Table 19**  
**Zone 1 Cleanup Goal Selection for the Railway Ditch —**  
**Surface Water**  
**LF-5, Pease AFB, NH**

Railway Ditch	ARARs ( $\mu\text{g/L}$ )		Risk-Based Concentration ( $\mu\text{g/L}$ ) <sup>c</sup>		Maximum Detected Concentration ( $\mu\text{g/L}$ )	Cleanup Goal ( $\mu\text{g/L}$ )
	NH <sup>a</sup>	FAWQC <sup>b</sup>	Based on Hazard Index	Based on Cancer Risk		
<i>Organics</i>						
Chlorobenzene	5.00E+01		6.12E-04		2.00E+00	NA
4,4'-DDD				1.58E+01	3.10E-01	NA
4,4'-DDT	1.00E-03 *			1.12E+01	1.40E+00	1.00E-03
1,4-Dichlorobenzene	7.63E+02 <sup>d,e</sup>			1.95E+02	2.00E+00	NA
1,1-Dichloroethane <sup>f</sup>			1.05E+06		2.00E+00	NA
cis-1,2-Dichloroethene	1.16E+04 <sup>d,g</sup>	1.16E+04 <sup>d,g</sup>	6.01E+05		2.00E+00	NA
Trichloroethene	2.19E+04 <sup>d</sup>			1.02E+03	9.00E+00	NA
<i>Inorganics</i>						
Aluminum	8.70E+01 *		NC		3.72E+04	8.70E+01
Ammonia	2.20E+03 <sup>b</sup>	2.20E+03 <sup>b</sup>	NC		2.70E-01	NA
Arsenic (V)	4.80E+01 *		NC		8.50E+02	4.80E+01
Barium				NC	9.68E+02	NCA
Boron					3.51E+02	NCA
Cadmium <sup>j</sup>	9.71E-01 <sup>h</sup> *	9.71E-01 <sup>h</sup>	NC		8.70E+00	9.71E-01
Copper	9.98E+00 <sup>i</sup> *	9.98E+00 <sup>i</sup>			2.87E+02	9.98E+00
Iron	1.00E+03 *	1.00E+03	NC		6.58E+05	1.00E+03
Lead	2.47E+00 <sup>i</sup> *	2.47E+00 <sup>i</sup>	NC		2.80E+02	2.50E+00
Manganese					3.15E+04	NCA
Mercury <sup>j</sup>	1.20E-02 *	1.20E-02	NC		5.50E-01	1.20E-02
Nickel	1.33E+02 <sup>i</sup>	1.33E+02 <sup>i</sup>	NC		1.54E+02	1.33E+02
Thallium	4.00E+01 <sup>d</sup> *	4.00E+01 <sup>d</sup>	NC		4.24E+05	4.00E+01
Zinc	8.96E+01 <sup>i</sup> *	8.96E+01 <sup>i</sup>	NC		9.74E+02	9.00E+01

- (a) NH = State of New Hampshire Water Quality Criteria for Toxic Substances – Protection of Aquatic Life (freshwater chronic criteria), April 1990.
- (b) FAWQC = Federal Ambient Water Quality Criteria for protection of aquatic life (freshwater chronic criteria), EPA, 1991.
- (c) Unless otherwise indicated, risk-based concentrations are based on a hazard index of one and a  $10^{-6}$  cancer risk for carcinogens. Calculations are based on scenarios and assumptions presented in Subsection 2.3 in F-500.
- (d) Value presented is the Lowest Observed Effect Level (LOEL).
- (e) Value is for total dichlorobenzenes.
- (f) Although categorized as a carcinogen, in the absence of a slope factor, the risk-based concentration is based on noncarcinogenic risk.
- (g) Value is freshwater acute criterion for total dichloroethenes.
- (h) Values presented are for a temperature of 14°C and a pH of 7.3 in Railway Ditch.
- (i) Chronic criterion based on a measured hardness of 82 mg/L as CaCO<sub>3</sub> for Railway Ditch.
- (j) Although categorized as a carcinogen, the chemical is not considered to be carcinogenic through the applicable exposure route.
- NC = Not calculated. Chemical is not of concern to human health through the surface water pathway.
- NCA = Risk-based levels were not calculated and no applicable ARARs are available.
- NA = Not applicable. ARARs and/or risk-based concentration exceed maximum detected concentration.
- \* = Value used to select cleanup goal.

- The LF-5 debris excavation area will be dewatered, as necessary, during the excavation process (i.e., the groundwater table will be artificially lowered rendering the area to be excavated dry). Any groundwater extracted as part of the dewatering process will be treated in an on-site mobile treatment unit to meet site-specific groundwater treatment objectives. Treated groundwater will be discharged to the local POTW via the sanitary sewer.
- Soil and waste materials from LF-2 and LF-4 will be consolidated on LF-5. A final decision under CERCLA for LF-2 and LF-4 will be required prior to implementation of the proposed consolidation plan for LF-2 and LF-4.
- Following consolidation of all wastes, including material from LF-2 and LF-4, the landfill will be capped with a composite barrier cap, which will meet performance standards required in a RCRA cap. As part of the cap construction, a passive gas collection system will be installed to capture and vent landfill gases. It is estimated the cap will cover the entire landfill, an area of approximately 1.2 million square feet. Deed restrictions will be imposed to restrict future construction activities that could violate the integrity of the cap.
- The remedial action will be monitored to ensure that the integrity of the cap is maintained as well as monitoring groundwater elevation to ensure that the waste material remains dry.
- Five-year reviews would be required as part of the environmental monitoring program. The 5-year reviews would assess the performance of the containment system and make recommendations, as appropriate, regarding additional remedial action.

Figure 9 provides a remedial process flow sheet for the selected remedy that depicts the elements described. Detailed descriptions of the various components follow.

Sediment excavation and consolidation on LF-5 would be performed in a phased approach. Sediments would first be excavated and placed on compacted soils adjacent to the Railway Ditch. These activities will be conducted in accordance with the requirements of Env-Ws 415. During excavation, silt fences, hay bales, and other erosion control measures would be used for control of erosion and runoff. Following excavation, the sediments would be transported to a central staging area for thickening. Thickening would involve mixing the sediments with sandy soil in a 1:1 ratio. The use of heavy equipment and engineering controls, such as containment, during thickening would be facilitated by the installation of

a concrete pad within the staging area. Following thickening, sediments would be placed on LF-5 for compaction, along with excavated landfill debris, prior to landfill regrading and capping.

As described in Section VII of this ROD, it is anticipated that 3,200 yd<sup>3</sup> of sediments from the Railway Ditch will be excavated and consolidated, according to the method presented previously. In addition, it is currently believed that a total of 6,600 yd<sup>3</sup> of sediments from two site wetlands may require similar remediation. During remedial design, available data (including additional Stage 4 data) will be used to refine this estimate, as well as to determine the potential for and magnitude of harmful environmental effects resulting from wetlands excavation. During remedial design, it will be determined whether excavation in a particular wetland would result in more harm to the ecosystem and greater human health risks than can be justified by the expected contaminant reduction.

Since excavation would result in destruction of portions of the affected wetlands, excavation will be avoided wherever possible. The remedial design also will include wetlands restoration or formation of new wetlands, as necessary.

Currently, restoration of the Railway Ditch following excavation is not anticipated. The ditch will likely be allowed to stabilize and revegetate naturally. The necessity for immediate stabilization and revegetation will be reevaluated, if during remedial design, it becomes apparent that regrading and capping actions at LF-5 would adversely impact the ditch.

This alternative also involves excavation and consolidation of landfill soil and debris predicted to be in contact with groundwater or within 2 feet above the groundwater table as it would exist following capping of LF-5. Available groundwater elevation data were used in conjunction with the MODFLOW model to predict what portion of landfill soils would require excavation under this scenario. All excavated materials would initially be stockpiled within a bermed area atop the landfill. The MODFLOW model estimates the volume of excavated soil and debris at a total of 145,500 yd<sup>3</sup>, approximately 92,000 yd<sup>3</sup> of which

represents unsaturated materials that are to be returned to the landfill following placement of clean fill to 2 feet above the water table. The remaining 53,500 yd<sup>3</sup> would be consolidated on the landfill. Material from LF-2 and LF-4 will also be consolidated on LF-5 prior to capping. The quantities of this material were estimated to be approximately 76,320 cubic yards from LF-2 and LF-4 combined. Consolidation of this additional material onto LF-5 is not expected to significantly change the cap design criteria originally presented in the FS.

During excavation/consolidation activities, erosion runoff and odor and particulate emissions would be controlled via the use of a temporary runoff detention basin adjacent to the stockpile, and placement of geomembranes on the stockpile and sideslopes of the excavation areas. Continuous on-site air monitoring will also be conducted during excavation.

Construction activities during landfill debris excavation and consolidation may be facilitated via dewatering of the excavation below the static water table. A system of well points would be installed, which would allow groundwater extraction at an average rate of approximately 50 gpm. Following extraction, groundwater would be treated in a mobile on-site unit composed of multimedia filtration, ion exchange, and activated carbon adsorption units. Runoff from the stockpile would also be treated in the mobile unit.

Treated effluent would comply with MCLs and federal, state, and local requirements for discharge to a POTW. As such, treated water will be: 1) discharged to the local POTW via sanitary sewer lines, or 2) used for site dust control (see Figure 9, for a schematic).

Subsequent to consolidation of sediments and landfill materials on LF-5, the landfill would be capped with a composite barrier that would meet RCRA performance standards. The cap would consist of the following (from bottom to top):

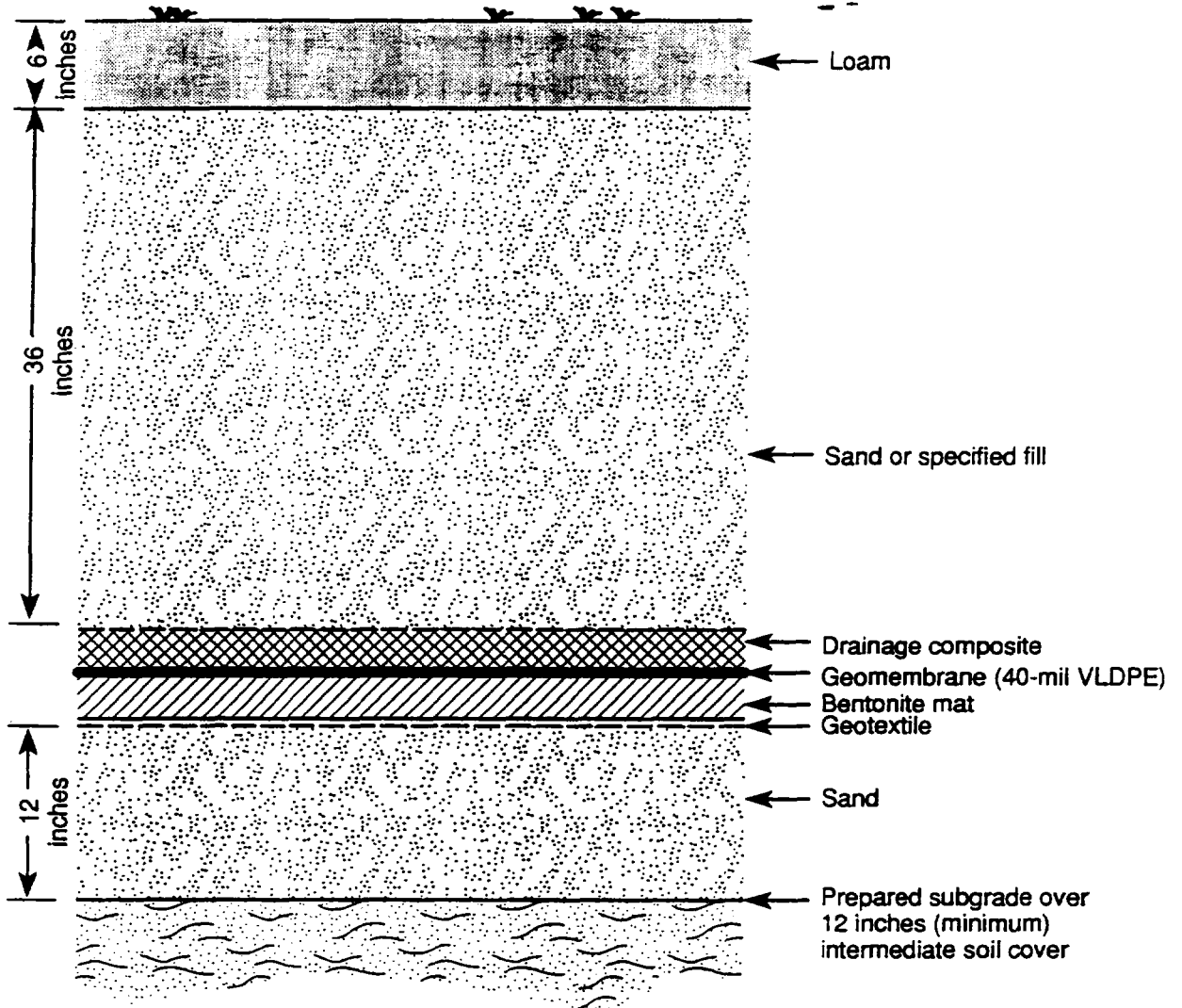
- A subbase/gas ventilation layer, consisting of a 12-inch lift of sandy soils placed on a graded and compacted 12-inch layer of intermediate soil overlying the landfill. Decomposition gases would be vented via passive gas vents constructed of perforated and solid-walled plastic pipe. The vents would be installed at 200-foot intervals through the final cover and linked to the sand

subbase layer, which would aid in the interception and transmission of gases to the vents. A geotextile would overlie the sand layer and would serve as a bedding layer for the overlying composite barrier.

- A composite barrier layer, consisting of a clay mat overlain by a 40-mil, very low density polyethylene (VLDPE) geomembrane. The clay mat would be composed of bentonite clay bonded to a geomembrane or a geotextile.
- A drainage composite layer, composed of a single-layer high-density polyethylene (HDPE) drainage net with a nonwoven needle-punched geotextile. This layer would allow for water percolation, while preventing cover soil intrusion.
- A protective cover layer, comprised of a minimum of 36 inches of drainage sand and 6 inches of mulched, seeded topsoil. This layer would provide protection against erosion and frost penetration.

The drainage composite layer and its underlying geomembrane would be terminated in a perimeter anchor trench. The trench would be fitted with a subdrain of perforated plastic piping embedded in crushed stone. An estimated 18,000 yd<sup>3</sup> of perimeter landfill materials adjacent to the Railway Ditch and Flagstone Brook would be excavated and regraded to allow for appropriate construction of the anchor trench, drainage, access, and setbacks from site waterways. Figure 10 provides a schematic of the final cover system for the barrier cap at LF-5.

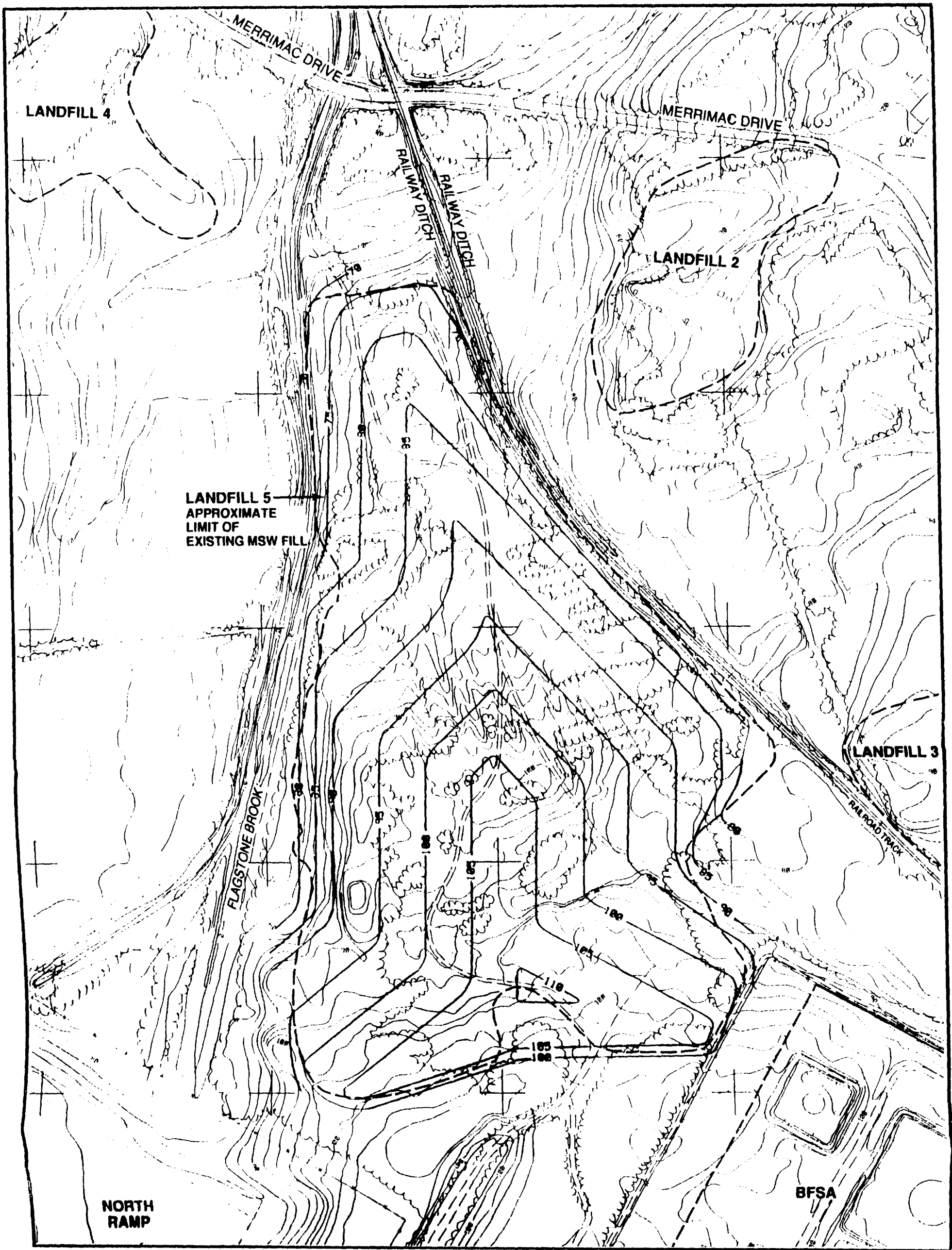
The composite-barrier cap system would cover an estimated 28 acres. Final grading prior to capping would result in a minimum slope of 5% on top, and a maximum of 33% sideslope. Figure 11 depicts proposed final grades for the landfill barrier cap. Subsidence of the landfill surface would be monitored annually. Final grading may be contoured to blend with the surrounding topography. This grading will be presented in the remedial design.



NOT TO SCALE



**Landfill 5(LF-5) Area  
 Stage 4, Record of Decision  
 Pease Air Force Base, New Hampshire**  
**FIGURE 10  
 DETAIL OF TYPICAL FINAL COVER SYSTEM  
 LANDFILL BARRIER CAP**



**LEGEND:**

- 100 - Proposed final grade - landfill barrier cap (approximate) - FT/MSL - 5 foot interval
- - - Existing limit of MSW fill (approximate)
- 50 Existing surface contour/elevation (FT/MSL) - 2 foot interval
- == Roads (asphalt/paved)
- - - Other roads and trails
- ▭ Buildings
- x - Fence (existing)
- Marshy areas
- Tree line

**NOTE:**

The grades shown represent covering of the debris and soils from LF-5 and the sediments from Flagstone Brook and the Railway Ditch, only. Additional landfill materials from LF-2 and LF-4 will also be consolidated on LF-5 (total additional volume of approximately 76,000 cubic yards). The deposition of LF-6 (Zone 4) materials is still under consideration. Consolidation on LF-5 is a possibility. A revised figure will be incorporated once final design parameters are established.



Base Map Source:  
Detail area of photogrammetric compilation of  
PAFB from aerial photography dated 11/23/87.

**Landfill 5 (LF-5) Area  
Stage 4, Record of Decision  
Pease Air Force Base, New Hampshire**

**FIGURE 11  
PROPOSED FINAL GRADES LANDFILL  
BARRIER CAP**



In addition, plans exist for construction of a North Ramp access road, by the PDA, which will traverse a portion of the LF-5 cap. The Air Force has worked and will work with the PDA in coordinating the design and construction activities for the cap and the access road. A figure depicting the planned layout of the access road can be found in the remedial design of Drawing No. 1, sheet 1 of 6, entitled "North Apron Access Road — Conceptual Design," by Hoyle and Tanner Associates.

As with excavation activities, capping may result in destruction of wetlands adjacent to LF-5. (Potentially impacted wetlands are shown in Figure 12.) Mitigation of capped wetlands will involve construction of wetlands in non-wetlands areas. Appropriate wetlands reconstruction plans will be based on a wetlands function and value assessment conducted prior to commencement of construction activities.

Groundwater will be monitored via sampling and analysis on a semiannual basis for an assumed duration of 30 years. This duration is typically assumed for costing purposes, per CERCLA guidance. As stated in Section IX, any future additional actions found to be necessary, regardless of when, will be conducted by the Air Force. Analysis would likely include VOCs, SVOCs, metals, nitrate, sulfate, chemical oxygen demand (COD), and other selected inorganics. In addition, pesticides and phenols would be monitored bi-annually. It is anticipated that surface water at LF-5 will undergo the same sampling regimen as groundwater, with the addition of biannual PCB analyses. Sediments would be analyzed semiannually for SVOCs and annually for VOCs, pesticides/PCBs, metals, sulfate, nitrate, and other inorganics. Sediments would be tested for phenols biannually. As with groundwater, surface water and sediment monitoring may continue for a period of 30 years. Specifics of the groundwater, surface water, and sediment monitoring programs will be finalized during remedial design.

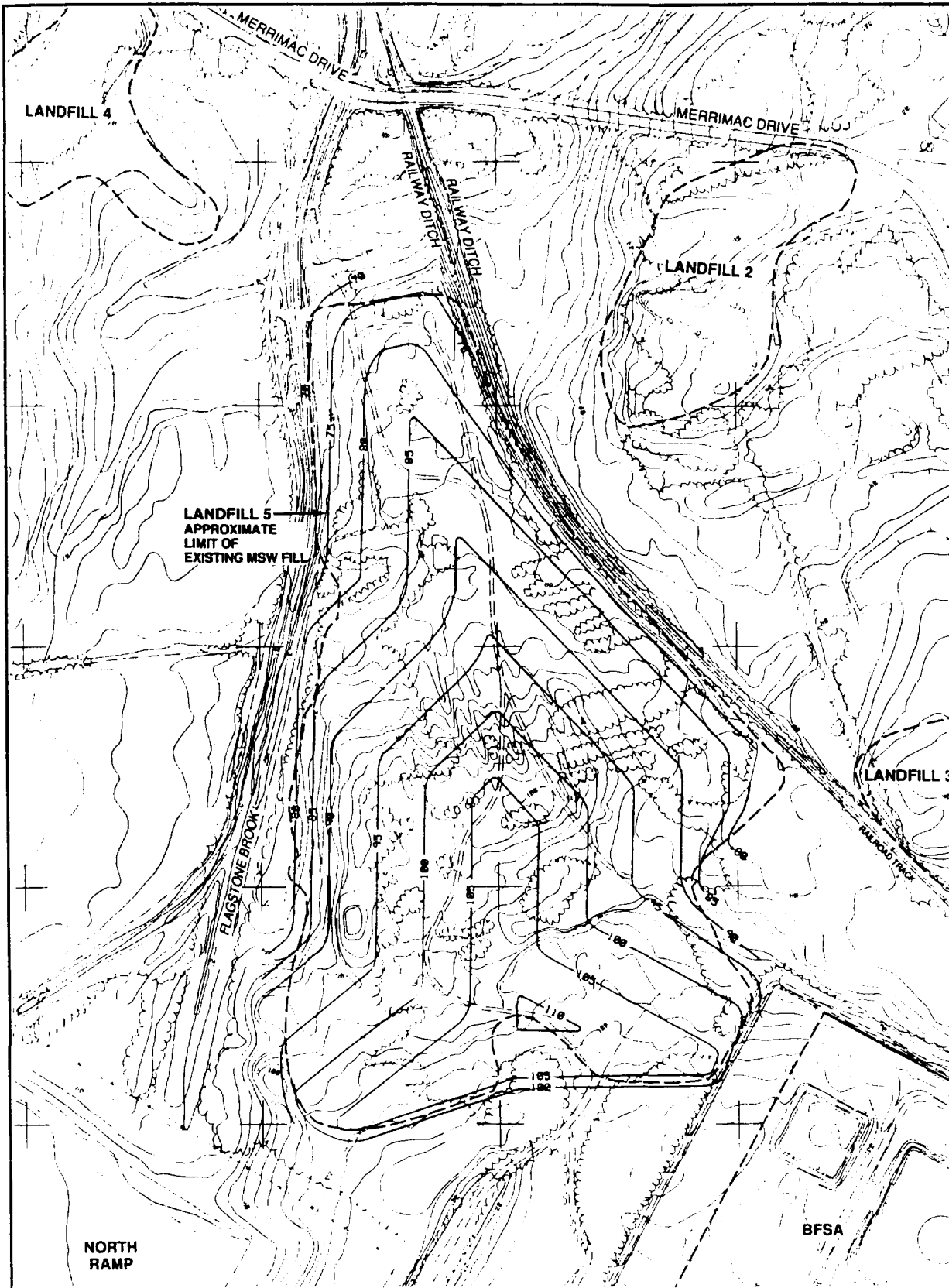
In addition to monitoring of ambient air at three stations on the landfill (upwind, downwind, central), soil gas monitoring along the LF-5 periphery would be conducted to monitor gas buildup beneath the cap. Approximately eight intermediate soil vents would be installed at locations between passive gas vents. In all cases, samples would be analyzed for methane

and VOCs over a period of 30 years, unless annual evaluations of the monitoring program indicate that a change in the program is necessary.

Five-year reviews of the containment system would be required for performance assessment and possible reevaluation and adjustments to the remediation program.

Prior to implementation of Alternative SC-2A, pre-design studies would be required to more accurately determine design parameters. These studies would include:

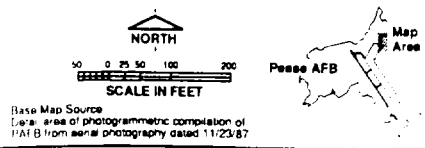
- Wetlands sampling for more accurate determination of design excavation volumes.
- Additional groundwater modeling to more closely define the depth of the water table following capping.
- Modeling of erosion/runoff from the cap to determine whether restoration of Flagstone Brook or the Railway Ditch (stabilization and revegetation) would be necessary.
- Evaluation of sampling results for LF-2 and LF-4 to determine additional consolidated soil and debris volumes in the event that they are consolidated on LF-5.
- Groundwater treatability studies for determination of mobile treatment unit design parameters.



- LEGEND:**
- 100 - Proposed final grade - landfill barrier cap (approximate) - FT/MSL - 5 foot interval
  - - - Existing limit of MSW fill (approximate)

- 50 Existing surface contour/elevation (FT/MSL) - 2 foot interval
- == Roads (asphalt paved)
- - - Other roads and trails
- Buildings
- - - Fence (existing)
- ~ Marshy areas
- Tree line

**NOTE:**  
 The grades shown represent covering of the debris and soils from LF-5 and the sediments from Flagstone Brook and the Railway Ditch, only. Additional landfill materials from LF-2 and LF-4 will also be consolidated on LF-5 (total additional volume of approximately 76,000 cubic yards). The deposition of LF-6 (Zone 4) materials is still under consideration. Consolidation on LF-5 is a possibility. A revised figure will be incorporated once final design parameters are establish



**Landfill 5 (LF-5) Area**  
**Stage 4, Record of Decision**  
**Pease Air Force Base, New Hampshire**

**FIGURE 11**  
**PROPOSED FINAL GRADES LANDFILL**  
**BARRIER CAP**

## **XI. STATUTORY DETERMINATION**

The remedial action selected for implementation at Pease AFB site is consistent with CERCLA and, to the extent practicable, the NCP. The selected remedy is protective of human health and the environment, attains ARARs or invokes appropriate waivers, and is cost-effective. The selected remedy does not satisfy the statutory preference for treatment that permanently and significantly reduces the mobility, toxicity, or volume of hazardous substances as a principal element. Additionally, the selected remedy utilizes alternative treatment technologies and resource recovery technologies to the maximum extent practicable.

### **A. The Selected Remedy is Protective of Human Health and the Environment**

The remedy at this site will permanently reduce the risks posed to human health and the environment by eliminating, reducing, or controlling exposures to human and environmental receptors through treatment, engineering controls, and institutional controls; more specifically:

- Excavation and consolidation of contaminated landfill soils and debris and contaminated sediments on LF-5, thereby eliminating leaching for contaminants to groundwater and reducing receptor exposure via containment.
- Dewatering of landfill soils and debris during construction and treatment of water to reduce toxicity prior to discharge to a local POTW.
- Capping of landfill to prevent water infiltration and reduce volume of leachate produced, and further reducing receptor exposure to contaminants.
- Deed restrictions to prevent future construction that may pose a threat to cap integrity, thereby maintaining contaminant containment.

Moreover, the selected remedy will achieve potential human health risk levels that attain the  $10^{-4}$  to  $10^{-6}$  incremental cancer risk range and a level protective of noncarcinogenic endpoints, and will comply with ARARs and other TBC criteria.

## **B. The Selected Remedy Attains ARARs**

The selected remedy will attain all of the substantive, non-procedural requirements of federal and state ARARs. ARARs for LF-5 are set forth in Table 20 contained in Appendix E of this document, which contains a complete list of ARARs including the regulatory citation, and a brief summary of the requirement, and the action to be taken to attain the requirement.

The ARARs identified for LF-5 include:

### Chemical-Specific ARARs

There were no chemical specific ARARs identified for the LF-5 selected remedy.

### Location-Specific ARARs

- Fish and Wildlife Coordination Act (FWCA)
- Executive Order 11990 (40 CFR 6, Appendix A), Protection of Wetlands
- Floodplains Executive Order 11888 Minimization Of Flood Impacts And Protection of Beneficial Value of Floodplains
- Clean Water Act, Section 404 (40 CFR 230; 33 CFR 320-330), Prohibition of Wetland Filling
- State of New Hampshire Administrative Code Env-Ws 415 - Rules To Prevent Pollution From Activities In Or Near State Surface Waters
- State of New Hampshire Administrative Code Env-Wt 300, 400, 600 - Criteria And Conditions For Fill And Dredging In Wetlands

### Action-Specific ARARs

- RCRA - Releases From solid Waste Management Units
- RCRA - Closure and Post Closure
- RCRA - Preparedness and Prevention
- RCRA - Contingency Plan and Emergency Procedures

- RCRA - Requirements for Tank Systems
- RCRA - Use and Management of Containers
- RCRA - Temporary Storage of Hazardous Soils
- RCRA - Requirements for Equipment Leaks At TSDFs
- RCRA - Design and Operating Requirements for Waste Piles and Landfills
- CWA - Pretreatment Standards for POTW Discharge
- New Hampshire Rules for Identification and Listing of Hazardous Waste
- New Hampshire Standards for Owners and Operators of Hazardous Waste Facilities
- New Hampshire Pretreatment Standards
- New Hampshire Terrain Alteration Requirements
- New Hampshire Ambient Air Limits for Toxic Air Pollutants
- New Hampshire Fugitive Dust Control Requirements

#### Policies, Guidelines and Criteria To Be Considered

In addition, the following policies, criteria, and guidelines (to be considered, or "TBCs") will be considered during the implementation of the remedial action:

- EPA Risk Reference Doses
- NOAA Technical Memorandum NOS OMA 52
- EPA Carcinogen Assessment Group Potency Factors
- Federal Groundwater Protection Strategy
- RCRA - Proposed Air Pollutant Emission Standards For Owners and Operators of TSDFs
- CAA - Proposed Performance Standards for NMOC Emissions at New and Existing Municipal Solid Waste Landfill

- **CERCLA Off-Site Disposal Policy**

Table 20 included in Appendix A provides a complete listing of the ARARs and TBCs for Alternative SC-2A, including regulatory citations, requirement synopsis, actions to be taken to attain the requirements, and determinations as to whether the requirements represent ARARs or TBCs.

The following narrative presents a summary of some of the key ARARs and their applicability to the selected remedy.

#### **Federal and State Water Quality Criteria**

The preferred option for discharge of treated groundwater collected during construction dewatering is to the base wastewater treatment plant. Under this option, discharge limits would be based on factors regulated by the POTW's NPDES permit, pretreatment regulations, and water pollution control laws, which are discussed under action-specific ARARs. Because final discharge from the POTW would be to Great Bay, federal and New Hampshire Water Quality Criteria are ultimately applicable to this discharge option.

Pretreatment standards are being developed with the City of Portsmouth who is the current operator of the plant. Both the Pretreatment Standards and CWA NPDES will be attained upon successful establishment of pretreatment standards for discharge from the on-site mobile groundwater treatment system.

#### **Federal and State Air Quality Regulations**

The technologies proposed in the selected remedy will not create any new sources of air emissions. Therefore, many federal and state regulations governing air quality do not apply to the selected remedy. The only air quality standards that are applicable are particulate standards promulgated under the Clean Air Act and New Hampshire Ambient Air Quality Standards. The particulate standard would apply to remedial construction activities

associated with cap installation. These standards would be attained through monitoring and, if necessary, use of dust suppression techniques or engineering controls. Potential emissions from the closed landfill would be in compliance with Performance Standards for Nonmethane Organic Compounds for new and existing municipal landfills as specified under the Clean Air Act.

### **State Location-Specific Regulations**

All of the location-specific ARARs that apply to the selected remedy are based on the close proximity of the site to Flagstone Brook and Railway Ditch. New Hampshire Environmental Regulations provides that removal of soils or other activities conducted adjacent to streams must not cause unreasonable soil erosion, cause unreasonable harm to significant wildlife habitats, unreasonably interfere with natural water flow, lower water quality, or unreasonably cause or increase flooding. Additionally, NHDES regulations provides standards for erosion control and soil excavation. Implementation of the selected remedy would not impact the drainage or natural flow of Flagstone Brook and Railway Ditch. Erosion control measures will be employed during construction to minimize soil/sediment from entering Flagstone Brook or Railway Ditch.

### **Federal and State Hazardous Waste Regulations**

The applicability of RCRA and New Hampshire Hazardous Waste Regulations depends on whether the wastes are RCRA hazardous wastes as defined under these regulations. To date, there is no information available (i.e., manifests) to indicate that RCRA-regulated materials were disposed of at LF-5. However, because toxic constituents are present in the waste materials and groundwater at LF-5 many portions of the federal and state hazardous waste regulations are relevant and appropriate to the selected remedy.

RCRA General Facility Standards, Preparedness and Prevention, and Contingency Plan and Emergency Procedures will be attained during operation of the mobile groundwater treatment system. The facility will be designed, maintained, constructed, and operated to



minimize the possibility of an unplanned release that could threaten human health or the environment. During remedial construction, safety and communication equipment will be installed at the site, and local authorities will be familiarized with site operations. Contingency plans will be developed and implemented during site work and treatment system operation. A program will be developed for handling storage, and recordkeeping in accordance with New Hampshire Hazardous Management Rules.

A post closure monitoring program will be developed for LF-5 in accordance with RCRA Releases from Solid Waste Management Units and Closure and Post-Closure regulations.

During treatment of contaminated groundwater collected during construction dewatering, sludges containing some toxic constituents will be produced. A component of groundwater treatment includes laboratory analysis of this sludge, including Toxicity Characteristic Leachate Procedure (TCLP) testing. If the sludge fails TCLP testing, this material will be considered hazardous. As a characteristic hazardous waste, RCRA regulations including Land Disposal Restrictions, will apply and the sludge will be treated and disposed of in a RCRA Subtitle C facility.

Because toxic constituents are present on site, OSHA regulations protecting worker health and safety at hazardous waste sites are applicable to the implementation and long-term operation of the selected remedy. Site workers will have completed training requirements and will have appropriate health and safety equipment on site. Contractors and subcontractors working on site will follow health and safety procedures.

Although LF-5 may take material from LF-2 and LF-4 as subgrade fill, it is not necessary for LF-5 to obtain a permit under the New Hampshire Hazardous Waste Rules or other New Hampshire regulations. Landfills 2, 4, and 5 are all part of a single National Priorities List site, Pease Air Force Base, (55 Federal Register 6154, February 21, 1990), and therefore the activities can be viewed as taking place on site. Moreover, if Landfills 2, 4, and 6 are viewed as separate facilities, CERCLA § 104(d)(4) allows the lead agency broad discretion to treat non-contiguous facilities as one site for the purpose of taking response

action, including where the sites, as here, are related based on geography or on the basis of waste treatment compatibility. See 55 Federal Register 8690 (March 8, 1990).

**C. The Selected Remedial Action is Cost-Effective**

In the judgment of the Air Force, the selected remedy is cost effective (i.e., the remedy affords overall effectiveness proportional to its costs). Once alternatives that were protective of human health and the environment and that either attain, or, as appropriate, waive ARARs were identified, the overall effectiveness of each alternative was evaluated by assessing the relevant three criteria—long-term effectiveness and permanence; reduction in TMV through treatment; and short-term effectiveness. The relationship of the overall effectiveness of these remedial alternatives was determined to be proportional to their costs.

A summary of the costs associated with each of the source control remedies follows. All costs are presented in net present worth costs.

Alternative	Capital Costs	O&M	Present Worth
SC-1 No action, institutional controls.	\$174,000	\$2,948,315	\$3,123,000
SC-2A Sediment/landfill consolidation, capping, on-site groundwater treatment and disposal for dewatering.	\$17,362,700	\$6,629,721	\$23,992,000
SC-3A Sediment consolidation, landfill capping, on-site groundwater treatment and disposal to lower water table below solid waste.	\$13,084,000	\$10,916,337	\$24,000,000
SC-4D Sediment/landfill consolidation, hot spot thermal treatment, landfill capping, on-site groundwater treatment and disposal for construction dewatering.	\$23,526,400	\$6,605,687	\$30,132,000
SC-5D Sediment/landfill waste on-site RCRA landfilling, on-site groundwater treatment and disposal for construction.	\$28,813,600	\$11,461,724	\$40,275,000

Four of the alternatives are protective and attain ARARs: SC-2A, SC-3A, SC-4D, and SC-5A. Comparing these alternatives, the selected alternative, SC-2A, combines the most cost-effective remedial alternative components that were evaluated. The remedy provides

a degree of protectiveness proportional to its costs. Alternative SC-5A is 40% more costly than Alternative SC-2A, without providing a commensurate increase in protectiveness. While Alternative SC-4D considers the EPA preference for a treatment component via thermal treatment of hot spot soils, it is 20% more costly and does not provide an increased degree of protectiveness over Alternative SC-2A, since Alternative SC-2A prevents receptor access to and migration of hot spot contaminants. Alternative SC-3A, like Alternative SC-2A involves the construction of a cap over the landfill and landfill debris dewatering. However, Alternative SC-3A would provide for reduction of contaminant migration via artificial lowering of the water table to a level below in-site debris. In contrast, Alternative SC-2A would reduce migration of contaminants by placing landfill debris on top of the landfill at least 2 feet above the water table. Each would achieve the same degree of protectiveness, but Alternative SC-2A would do so at a slightly lower cost. Additionally, while the costs for Alternative SC-2A and Alternative SC-3A are very nearly the same, it must be remembered that all present worth costs were calculated assuming a 30-year project life. In reality, the pump-and-treat component of SC-3A would have to continue indefinitely to provide long-term effectiveness. In addition, continuous pumping of the aquifer beneath LF-5 could adversely affect wetlands in the area by removing an important source of recharge. Additionally, contaminant migration mitigation is addressed in the Zone 1 Draft FS, which was completed in August 1993. Alternative SC-1 (no-action) does not meet all ARARs and is not sufficiently protective of human health and the environment.

A summary of costs for key elements of the selected source control remedy follows. All costs are net present worth.

<u>Component of Remedy</u>	<u>Present Worth (\$)</u>
Landfill excavation/consolidation	\$4,334,050
Sediment excavation/consolidation	539,175
Groundwater dewatering system	651,000
Mobile groundwater treatment system	332,610
Composite barrier cap installation	6,215,160
O&M	5,290,669
Miscellaneous	<u>6,629,721</u>
TOTAL	\$23,992,000 (rounded)

O&M includes groundwater, surface water, sediment and air monitoring, 5-year SARA review, surveying and subsidence monitoring, replacement costs for fencing and monitor wells, and access restrictions. Miscellaneous includes mobilization and health and safety costs, contingency costs, and additions and modifications to monitoring systems.

**D. The Selected Remedy Utilizes Permanent Solutions and Alternative Treatment or Resource Recovery Technologies to the Maximum Extent Practicable**

Once those alternatives that attain or, as appropriate, waive ARARs and that are protective of human health and the environment were identified, the Air Force identified which alternative utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. This determination was made by deciding which one of the identified alternatives provides the best balance of trade-offs among alternatives in terms of: 1) long-term effectiveness and permanence; 2) reduction of toxicity, mobility, or volume through treatment; 3) short-term effectiveness; 4) implementability; and 5) cost. The balancing test emphasized long-term effectiveness and permanence and the reduction of TMV through treatment; and considered the preference for treatment as a principal element, the bias against off-site land disposal of untreated waste, and community and state acceptance. The selected remedy provides the best balance of trade-offs among the alternatives.

Alternatives SC-3A, SC-4D, and SC-5A all out rank Alternative SC-2A based on emphasis on reduction of TMV through treatment. In addition, both Alternatives SC-3A and SC-4D place greater emphasis on the preference for treatment as a principal element. However, the costs for Alternatives SC-4D and SC-5A exceed those for Alternative SC-2A by 20 and 40%, respectively. As described, implementation of the treatment portion of Alternative SC-3A extends the remedial action beyond the 30-year time frame allotted for costing purposes, and may adversely impact wetlands at LF-5 via dewatering of a wetland recharge area. In addition, implementation of remediation will further address the reduction of TMV and EPA preference for treatment. Alternative SC-1 contains no provision for reduction in TMV or for consideration of the statutory preference for treatment as a component of remediation.

**E. The Selected Remedy Does Not Satisfy the Preference for Treatment which Permanently and Significantly Reduces the Toxicity, Mobility, or Volume of the Hazardous Substances as a Principal Element**

The principal element of the selected source control remedy is the containment of waste in LF-5. The principal element of the Zone 1 remedial alternative is management of contaminant migration via groundwater and surface waters. Together, these elements address the primary threat at the site, namely, direct contact with contaminants in landfill soil and debris and migration of this contamination to groundwater and surface waters.

Treatment is not the principal element of the selected source control alternative because treatment of landfill debris is not practical or cost-effective given the size and heterogeneity of the landfill contents. The selected source control remedy may, however, involve treatment of groundwater extracted during construction dewatering, which should remove much of the contaminants currently present in groundwater.

## **XII. DOCUMENTATION OF SIGNIFICANT CHANGES**

The LF-5 Draft Final FS (F-494) was completed in August 1992. The original Proposed Plan for LF-5 was completed in January 1993. This Proposed Plan documented the U.S. Air Force's selected remedy for source control at LF-5. During the public comment period (14 January through 13 February 1993) and public hearing (27 January 1993) that followed the public expressed a preference for consolidating as many Pease landfills as possible in one area, so as to minimize the total acreage of land that would be designated as having restricted use. In addition, several other concerns were raised regarding the selected remedy, such as disposal of treated groundwater from construction dewatering in Flagstone Brook.

In response to public input, the U.S Air Force completed a revised Proposed Plan for LF-5 source control, which included as a remedial component, the potential consolidation of LF-2 and LF-4 onto LF-5. This revised Proposed Plan for LF-5 was completed in July 1993 and public comment period for the Revised Proposed Plan was held from 20 July to 19 August 1993. The following paragraphs describe changes to the selected remedy and other minor changes that occurred following issuance of the original Proposed Plan for LF-5.

One modification involves the potential consolidation of materials from two other Zone 1 landfills (LF-2 and LF-4) onto LF-5. The change would result in: 1) an increase in the total volume of landfill soil and debris to be consolidated (an additional 76,320 yd<sup>3</sup>), 2) possible changes in the final height and grading of the landfill prior to capping, 3) possible impacts to additional Zone 1 wetlands already expected to be impacted, and 4) increased short-term risks associated with soil inhalation, due to the increased time for and extent of excavation. These changes would be expected to be small in comparison with the entire scope of LF-5 remedial actions and are not expected to significantly alter the cap design criteria presented in the LF-5 FS. These changes would not be expected to adversely impact the overall ranking of Alternative SC-2A as the preferred alternative. Sections VIII, IX, and X provide further detail on the potential impacts of adding LF-2 and LF-4 remediation to the scope of Alternative SC-2A.

Consolidation of LF-2 and LF-4 onto LF-5 is the preferred alternative in part due to public comments on the original Proposed Plan for LF-5. These comments expressed a desire for consolidation of as many landfills as possible in order to retain more land at Pease AFB for unrestricted development. The remedial action was also selected due to its relative ease of implementation, and due to the resulting closure of both LF-2 and LF-4 that would result. Excavation and consolidation of LF-2 and LF-4 onto LF-5 is not evaluated in an FS as is the typical practice. Instead, the Air Force's plans to implement this remedy will be outlined in the Proposed Plan and Record of Decision for Zone 1. A final decision under CERCLA will be required prior to implementation of the proposed excavation and consolidation plan for LF-2 and LF-4.

A second modification involves disposal of treated groundwater from construction dewatering. Based on public comments received on the original Proposed Plan, discharge of treated groundwater extracted during construction dewatering will be to the sanitary sewer rather than Flagstone Brook.

Since issuance of the revised Proposed Plan for Landfill-5, there have been no significant modifications to the LF-5 selected remedy. Public comments and comments from EPA and NHDES pertaining to the specifics of the LF-2/LF-4 remedy are addressed in this ROD.

### **XIII. STATE ROLE**

The NHDES reviewed the various alternatives and has indicated its support for portions of the selected remedy. The state has also reviewed the RI, RA, and FS to determine if the selected remedy is in compliance with applicable or relevant and appropriate state environmental laws and regulations. The NHDES, as a party to the FFA, concurs with the selected remedy for the Pease AFB site. A copy of the declaration of concurrence is attached as Appendix B.



## XIV. ACRONYMS/REFERENCES

### LIST OF ACRONYMS

AALs	Ambient Air Limits
AFB	Pease Air Force Base
AFCEE/ESB	Air Force Center for Environmental Excellence
ANOVA	analysis of variance
ARARs	Applicable or Relevant and Appropriate Requirements
AWQC	Ambient Water Quality Criteria
BAT	Best Available Technology
BCT	Best Conventional Technology
BFSA	Bulk Fuel Storage Area
BMP	Best Management Practices
CAA	Clean Air Act
CAMU	Corrective Action Management Unit
c-1,2-DCE	cis-1,2-dichloroethylene
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	carbon monoxide
COD	chemical oxygen demand
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DCA	1,1-dichloroethane
DCB	1,4-dichlorobenzene
DCE	1,2-dichloroethylene
DEHP	bis(2-ethylhexyl) phthalate
DOD	Department of Defense
DOT	Department of Transportation
DRE	destruction and removal efficiency
DRED	Department of Resources and Development
EP	equilibrium partitioning
EPA	U.S. Environmental Protection Agency
ER-L	Effect Range-Low
ER-M	Effect Range-Medium
ESA	Endangered Species Act
FFA	Federal Facilities Agreement
FR	Federal Registry
FWCA	Fish and Wildlife Coordination Act
gpd	gallons per day
gpm	gallons per minute
GPR	ground penetrating radar
GWTP	groundwater treatment plant
HCl	hydrochloric acid
HI	hazard index
HMTA	Hazardous Materials Transportation Act
HQ AFBDA	Headquarters Air Force Base Disposal Agency

**LIST OF ACRONYMS**  
**(Continued)**

IRM	Interim Remedial Measures
IRP	Installation Restoration Program
LDRs	Land Disposal Restrictions
LT <sup>3</sup>	Low Temperature Thermal Treatment
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
NCP	National Contingency Plan
NESHAP	National Emission Standards for Hazardous Air Pollution
NHANG	New Hampshire Air National Guard
NHCAR	New Hampshire Code of Administrative Rules
NHDES	New Hampshire State Department of Environmental Services
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NSPS	New Source Performance Standards
NSDWS	National Secondary Drinking Water Standards
O&G	oil and grease
O&M	operation and maintenance
OSHA	Occupational Safety and Health Act
PAHs	polynuclear aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PCDA	Paint Can Disposal Area
PCE	tetrachloroethene
PCSs	potential (groundwater) contaminant sources
PDA	Pease Development Authority
POHC	principal organic hazardous constituent
POTW	publicly owned treatment works
PPE	personal protective equipment
RA	Risk Assessment
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
RfD	reference dose
RI/FS	Remedial Investigation/Feasibility Study
RI	Remedial Investigation
ROD	Record of Decision
RSA	Revised Statute Annotated
SARA	Superfund Amendments and Reauthorization Act
SCOPE	Seacoast Citizens Overseeing Pease Environment

**LIST OF ACRONYMS**  
**(Continued)**

SDWA	Safe Drinking Water Act
SMCL	Secondary Maximum Contaminant Level
SVOCs	semivolatile organic compounds
TBC	treated as to be considered
TCE	trichloroethylene
TCLP	Toxicity Characteristic Leaching Procedure
TMB	trimethyl benzene
TMV	toxicity, mobility, or volume
TPHs	total petroleum hydrocarbons
TRC	Technical Review Committee
TSCA	Toxic Substances Control Act
TSD	treatment, storage, and disposal (facility)
$\mu\text{g}/\text{kg}$	micrograms per kilogram
$\mu\text{g}/\text{L}$	micrograms per liter
UIC	underground injection control
USC	United States Code
USCA	United States Code Annotated
UST	underground storage tank
VLDPE	very low density polyethylene
VOCs	volatile organic compounds
WHPA	Wellhead Protection Area

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**APPENDIX A**

**ARARS FOR THE LANDFILL 5 SELECTED  
REMEDY (ALTERNATIVE SC-2A)**

Table 20

ARARs for Alternative SC-2A - Sediment and Landfill Consolidation; Landfill Capping; On-Site Groundwater Treatment and Disposal for Construction Dewatering LF-5, Pease AFB, NH

Media	Requirement	Requirement Synopsis	Action To Be Taken To Meet Requirements	Status
Groundwater, surface water, sediment, soil	<b>CHEMICAL SPECIFIC</b>			
	FEDERAL EPA Risk Remediation Criteria	RfDs are dose rates level based on noncarcinogenic effects and are used to develop hazard index. A hazard index of one that is equal to or less than is acceptable.	EPA RfDs for carcinogens do not characterize risks due to exposure to contaminants in groundwater, surface water, sediment, and soils. See Subsection 1.5 and 2.3(C) 4(F)	100
	FEDERAL SOVA Executive Memorandum SOVA 000476	Reference doses for various contaminants in sediments and their potential effects are also exposed to the contaminants.	Were considered when selecting treatment clean up levels. See Table 2.4.1.1.19(F)	100
Surface soil	FEDERAL EPA Carcinogenicity Assessment Group Executive Memorandum	Priority factors are developed by the EPA from Health Effects Assessments of contamination by the Carcinogenic Assessment Group and are used to develop screening risks. A risk of 10 <sup>-6</sup> per year is considered acceptable.	EPA Carcinogenic Priority Factors based on any 146 compounds that are listed in the Carcinogenicity Assessment Group are used in calculating the risk of carcinogens in soil. See Subsection 1.5 and 2.3(C) 4(F)	100

**LOW ARIQS SPECIFIC**

Groundwater, surface water, sediment, soil	FEDERAL EPA Risk Remediation Criteria	RfDs are dose rates level based on noncarcinogenic effects and are used to develop hazard index. A hazard index of one that is equal to or less than is acceptable.	EPA RfDs for carcinogens do not characterize risks due to exposure to contaminants in groundwater, surface water, sediment, and soils. See Subsection 1.5 and 2.3(C) 4(F)	100
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Groundwater, surface water, sediment, soil	FEDERAL SOVA Executive Memorandum SOVA 000476	Reference doses for various contaminants in sediments and their potential effects are also exposed to the contaminants.	Were considered when selecting treatment clean up levels. See Table 2.4.1.1.19(F)	100
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Table 20

**ARARs for Alternative SC-2A - Sediment and Landfill Consolidation; Landfill Capping;  
On-Site Groundwater Treatment and Disposal for Construction Dewatering  
LF-5, Pease AFB, NH  
(Continued)**

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Status
Wetlands	FEDERAL CWA 404, Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material 40 CFR Part 230	Contains requirements for discharge of dredge or fill material, including that no discharge is permitted if there is a practicable alternative to the proposed discharge which would have a less adverse impact on the aquatic ecosystem, and that no discharge permitted unless appropriate and practicable steps are taken to minimize potential adverse impacts on the aquatic ecosystem.	The range of alternatives evaluated were those which best meet the project purpose of minimizing leaching of contaminants from source area soils into groundwater and surface water. All of the alternatives have similar adverse impacts on the Landfill 5 wetlands. However, the selected alternative had the least adverse impact. Remedial activities will be designed to minimize potential adverse effects on the aquatic ecosystem. Any wetlands adversely affected will be restored or replaced.	Applicable
Soil	FEDERAL Groundwater Protection Strategy	EPA's strategy for protecting groundwater in the 1990's outlines policy and implementation principles intended to protect the nation's groundwater resources.	EPA's general policy for protecting groundwater has been taken into consideration when selecting soil clean-up goals. See Table 2.4.4 and Table 5.2.3 (F-494)	IBC
Wetlands, Rivers	FEDERAL 16 USC 661 et seq., Fish and Wildlife Coordination Act	Requires Federal agencies to take into consideration the effect that water-related projects will have upon fish and wildlife. Requires consultation with Fish and Wildlife Service and the State to develop measures to prevent, mitigate, or compensate for project related losses to fish and wildlife.	Relevant federal agencies will be contacted to help analyze impacts of remedial action on fish and wildlife in Flagstone Brook, and in the wetlands in and around Flagstone Brook and the Railway Ditch and to develop measures to prevent, mitigate, and compensate for adverse impacts.	Applicable



Table 20

ARARs for Alternative SC-2A - Sediment and Landfill Consolidation; Landfill Capping;  
On-Site Groundwater Treatment and Disposal for Construction Dewatering  
LF-5, Pease AFB, NH  
(Continued)

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Status
Wetlands, Rivers	STATE-RSA 485-A-17 NH Admin. Code Env-Ws 415, Rules Relative to Prevention of Pollution from Dredging, Filling, Mining, Transporting, Construction	Establish criteria for conducting any activity in or near state surface waters which significantly alters terrain or may otherwise adversely affect water quality, impede natural runoff or create unnatural runoff. Activities within the scope of these provisions include excavation, dredging, filling, mining and grading of topsoil in or near wetland areas.	Sediment excavation plans and cap installation will meet substantive requirements of these NHDES rules prior to initiation.	Applicable
Wetlands, Rivers	STATE-RSA 482-A, NH Admin. Code Env-W1 300, 400, 600, New Hampshire Criteria and Conditions for Fill and Dredging in Wetlands	Regulate filling and other activities in or adjacent to wetlands, and establish criteria for the protection of wetlands from adverse impacts on fish, wildlife, commerce and public recreation.	Proposed work in the wetlands in and adjacent to the Site 5 Landfill will be reviewed by the Wetlands Board and will comply with state wetland protection requirements.	Applicable
Groundwater	<u>ACTION SPECIFIC</u> FEDERAL-RCRA 40 CFR Sections 264.90 - 264.101 (Subpart F). Releases from Solid Waste Management Units. Identifies procedures to be followed to ensure that groundwater standards are met.	General facility requirements for groundwater monitoring at affected facilities and general requirements for corrective action programs if required at regulated facilities.	(Groundwater monitoring will be conducted in accordance with these requirements. See Appendix F (17-94).	Relevant & Appropriate
	FEDERAL-RCRA 40 CFR Sections 264.110-264.120 (Subpart G) Closure and Post Closure Disposal Units - Requirements for closing the landfill and routine monitoring of the groundwater around the landfill for a period of up to 30 years after closure of the landfill.	Owners or operators of a landfill must develop and submit plans which identify the activities which will be performed to close (i.e., cap) the landfill and the activities which will be conducted during the post closure period.	The landfill will be closed in manner consistent with these regulations.	Relevant & Appropriate

Table 20

**ARARs for Alternative SC-2A - Sediment and Landfill Consolidation; Landfill Capping; On-Site Groundwater Treatment and Disposal for Construction Dewatering LF-5, Pease AFB, NH (Continued)**

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Status
	FEDERAL-RCRA 40 CFR Part 264.30-37 (Subpart C) Preparedness and Prevention	Identifies requirements which must be met during design, construction, and operation of TSD facilities to minimize possibility of fires, explosions or unplanned releases of waste.	Activities such as on-site recontouring, cap construction and design, construction, and operation of an on-site groundwater treatment system will comply with all portions of this requirement.	Relevant & Appropriate
	FEDERAL-RCRA 40 CFR Part 264.50-264.56 (Subpart D) Contingency Plan and Emergency Procedures	Identifies the requirements which must be addressed in a contingency plan. Each TSD facility must have a contingency plan which identifies all procedures to be followed in the event of fire, explosion or a planned release from a facility.	Construction and operation of an on-site groundwater treatment system will comply with all portions of this requirement.	Relevant & Appropriate
Hazardous Waste	FEDERAL-RCRA 40 CFR Sections 264.190-198 (Subpart J) Requirements for the design, installation and operation of any tanks or tank systems which are used to store or treat hazardous liquids or sludges.	Tanks or tank systems which are to be used to temporarily store hazardous liquids or as part of a treatment system for hazardous liquids or sludges must be designed, installed and operated in accordance with the RCRA standards.	Tanks used in the on-site groundwater treatment system will comply with these regulations.	Applicable
Hazardous Waste	FEDERAL-RCRA 40 CFR 264.170-178 (Subpart I), Use and Management of Containers	Contains requirements for use and management of containers holding hazardous substances.	Any containers which are uncovered by recontouring will meet the requirements of this regulation. Any containers used to store treatment sludges, "hot spot" waste, or treatment filters will also meet these requirements.	Applicable
Soils, Sediments	FEDERAL-RCRA 40 CFR Sections 264.250-264.259 (Subpart L)	General design and operation requirements for temporary storage of hazardous soils. Locations must have an impermeable liner and materials stored in piles must be free of standing liquid.	Waste piles used for temporary storage of excavated landfill debris or sediment that are not located on the existing landfill will comply with these requirements.	Applicable

Table 20

ARARs for Alternative SC-2A - Sediment and Landfill Consolidation; Landfill Capping;  
On-Site Groundwater Treatment and Disposal for Construction Dewatering  
LF-5, Pease AFB, NH  
(Continued)

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Status
Air	FEDERAL-RCRA 40 CFR Part 264, Appendix BB	Contains air pollutant emission standards for equipment leaks at hazardous waste treatment, storage and disposal facilities (TSDFs). Contains design specifications and requirements for monitoring for leak detection. It is applicable to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 per cent by weight, and relevant and appropriate if less than 10 percent.	Equipment used in remedial activities will meet the design specifications, and will be monitored for leaks.	Applicable, or relevant and appropriate depending on total organics concentration
Air	FEDERAL-RCRA 40 CFR Part 264, Appendix CC--proposed	Contains proposed air pollutant emission standards for owners and operators of TSDFs using tanks, surface impoundments and containers to manage hazardous wastes. Specific organic emissions controls would have to be installed if volatile organic concentrations equal or are greater than 500 ppmw.	Required emissions controls will be installed.	TBC
Air	FEDERAL-RCRA 40 CFR 264.251(j) (Subparts L) and 40 CFR 264.301(j) (Subpart N)	Contains design and operating requirements for waste piles and landfills.	If waste piles or the landfill contains particulate matter that may be subject to wind dispersal, it will be covered or otherwise managed to control wind dispersal.	Applicable
Air	FEDERAL-Clean Air Act 40 CFR Part 60, (Subpart WWW---proposed), Performance Standards for nonmethane organic compounds (NMOCs) emissions.	Contains proposed performance standard for NMOC emissions from landfill gases at new municipal solid waste landfills. A control device would be used to reduce the NMOCs in the collected gas by 98 weight percent.	The requirements of this proposed regulation will be met for NMOCs at Landfill 5.	TBC

Table 20

ARARs for Alternative SC-2A - Sediment and Landfill Consolidation; Landfill Capping;  
On-Site Groundwater Treatment and Disposal for Construction Dewatering  
LF-5, Pease AFB, NH  
(Continued)

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Status
Water	FEDERAL-CWA 40 CFR Part 403 EPA Pretreatment Standards	Standards to be followed in establishing pretreatment effluent discharge limits for pollutants which will be discharged to a publicly owned treatment works.	Discharge to wastewater treatment plant will meet the pretreatment requirements of the Clean Water Act.	Applicable
Hazardous Waste	CERCLA Off-Site Disposal Policy - OSWER Directive 9834.11, 11/13/87	This policy requires off-site receiving facility to be in compliance with all permits and with applicable state and federal requirements.	The off-site receiving facility will have to be licensed and in compliance with permits and with applicable state and federal requirements before any material from Landfill 5 is taken off-site.	TBC
Hazardous Waste	STATE-NH Admin. Code Env-Wm 400-404 Identification and Listing of Hazardous Waste	Requirements for the identification and listing of hazardous waste.	Residue from groundwater treatment will be analyzed and identified to determine if it is hazardous prior to any action that involves treatment or disposal.	Applicable
Hazardous Waste	STATE-NH Admin. Code Env 353, 701-705, 707, 708, 709 Standards for Owners and Operators of Hazardous Waste Facilities	General requirements for owners or operators of hazardous waste sites or treatment facilities, including closure of hazardous waste facilities.	All remedial activities will comply with the substantive provision of state hazardous waste regulations. If any state standard under these regulations is more stringent than RCRA standard, then the more stringent state standard will control. Since these state regulations address and incorporate by reference many of the RCRA hazardous waste regulations, see the actions to be taken under specific RCRA regulations listed above.	Relevant & Applicable

Table 20

ARARs for Alternative SC-2A - Sediment and Landfill Consolidation; Landfill Capping; On-Site Groundwater Treatment and Disposal for Construction Dewatering LF-5, Pease AFB, NH (Continued)

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Status
Water	STATE-NH Admin. Code Env-Ws 900 Part 904.07 Pretreatment Standards	This regulation establishes guidelines for those wastes which are prohibited from being introduced to a publicly owned treatment works (POTW). Sewer use ordinances passed by the town owning the POTW may contain standards equal to or more stringent than Env-Ws 904.07. RSA 485-A:5, IV authorizes the state to enforce local pretreatment standards which have been previously approved by the state.	Remedial activities discharging to wastewater treatment plant must comply with pretreatment standards.	Applicable
	STATE-RSA 495-A:17 and NH Admin. Code Env-Ws 415 Terrain Alteration	Establishes criteria to control erosion and runoff for any activity that significantly alters the terrain.	Sediment excavation and cap installation will comply with these requirements. Such actions will be coordinated with the NHDES.	Applicable
Air	STATE-NH Admin. Code Env-A 1300 Toxic Air Pollutants	Established Ambient Air Limits (AALs) to protect the public from concentrations of pollutants in ambient air that may cause adverse health effects.	Release of contaminants to the air from any on-site remedial activities will not result in exceedence of the respective AAL, if one exists. Emissions from the landfills passive gas collection system are not expected to result in exceedence of these standards. Proposed air emissions will be coordinated with the Air Resources Division.	Applicable

Table 20

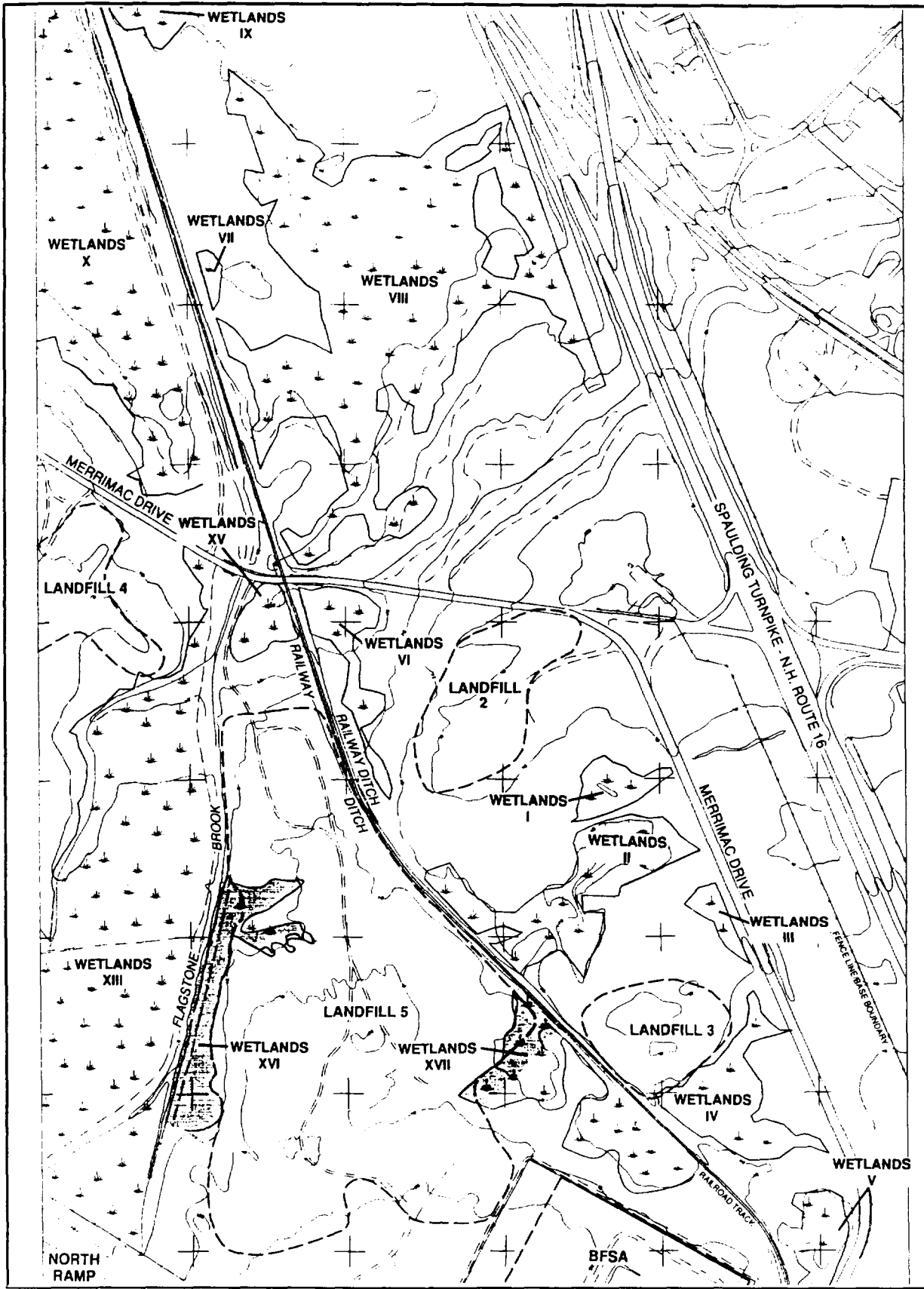
ARARs for Alternative SC-2A - Sediment and Landfill Consolidation; Landfill Capping;  
On-Site Groundwater Treatment and Disposal for Construction Dewatering  
LF-5, Pease AFB, NH  
(Continued)

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Status
Air	STATE-NH Admin. Code Env-A 300 Ambient Air Quality Standards	Establishes primary and secondary levels for eight air contaminants (particulate matter, sulfur dioxide, carbon monoxide, nitrogen dioxide, ozone, hydrocarbons, fluorides, and lead).	These ambient air levels will be incorporated with Federal NAAQs to establish target levels which may not be exceeded due to air emissions from on-site activities, including excavation and groundwater treatment. Proposed air emissions will be coordinated with Air Resources Division.	Applicable
Air	STATE-NH Admin. Code Env-1002 Fugitive Dust Control	Requires precautions to prevent, abate, and control fugitive dust during specified activities, including excavation, construction, and bulk hauling.	Precautions to control fugitive dust emissions will be required during sediment excavation, and cap installation activities. These precautions will be included in the remedial design.	Applicable

**APPENDIX B**  
**DECLARATION OF CONCURRENCE**

**TO BE PROVIDED**





LEGEND:			
	Preliminary wetlands delineation line August - September 1991		Wetlands area potentially impacted by landfill barrier cap.
	Wetlands area		50 Existing surface contour/elevation (FT. MSL) 10 foot interval
			Roads (asphalt/paved)
			Other roads and trails
			Buildings
			Fence (existing)

NORTH

0 50 100 200 400

SCALE IN FEET

Map Area

Pease AFB

Base Map Source  
Detail area of photogrammetric compilation of PAFB from aerial photography dated 11/23/87

Landfill 5 (LF-5) Area  
Stage 4, Record of Decision  
Pease Air Force Base, New Hampshire

**FIGURE 12**  
**WETLANDS POTENTIALLY IMPACTED BY**  
**LANDFILL BARRIER CAP**



State of New Hampshire  
DEPARTMENT OF ENVIRONMENTAL SERVICES

6 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095

603-271-3503 FAX 603-271-7867

TDD Access: Relay NH 1-800-735-2964



September 16, 1993

Mr. Alan P. Babbitt  
Deputy for Hazardous Materials and Waste;  
Deputy Assistant Secretary of the Air Force  
(Environment, Safety and Occupational Health)  
Suite 5C866, Pentagon  
Washington, D.C. 20330-1660

**RE: Site 5 Source Area Record of Decision  
Pease Air Force Base Superfund Site  
Pease Air Force Base, New Hampshire**

**Subject: Declaration of Concurrence**

Dear Mr. Babbitt:

The New Hampshire Department of Environmental Services (NHDES) has reviewed the September 1993 Record of Decision (ROD) regarding source control remedial actions at Site 5 - Landfill 5 at the Pease Air Force Base Superfund Site located in Newington and Portsmouth, New Hampshire. Management of contaminant migration will be addressed in the Zone 1 ROD. The source control action consists of a multi-component approach for the containment of contaminant source materials as outlined in the following:

- I. Excavation and consolidation of selected Railway Ditch sediments on the existing landfill.
- II. Excavation of soil and solid wastes in Landfills 2 and 4 and consolidation on Landfill 5.
- III. Excavation of soil and solid wastes predicted to be below the water table after capping and placement of excavated material on the existing landfill. Dewatering of areas requiring excavation, on-site treatment of the extracted groundwater and discharge to the local wastewater treatment plant may be necessary. Treated effluent will also be used for site dust control.
- IV. Regrading and capping of the landfill with a composite cap. The cap will consist of the following (from top to bottom):

AIR RESOURCES DIV.  
64 No. Main Street  
Callier Box 2033  
Concord, N.H. 03302-2033  
Tel. 603-271-4370  
Fax 603-271-4381

WASTE MANAGEMENT DIV.  
6 Hazen Drive  
Concord, N.H. 03301  
Tel. 603-271-2900  
Fax 603-271-2456

WATER RESOURCES DIV.  
64 No. Main Street  
P.O. Box 2008  
Concord, N.H. 03302-2008  
Tel. 603-271-3406  
Fax 603-271-1581

WATER SUPPLY & POLLUTION CONTROL DIV.  
P.O. Box 95  
Concord, N.H. 03302-0095  
Tel. 603-271-3503  
Fax 603-271-2181

**Letter to Alan P. Babbitt**  
**Re: Site 5 ROD Declaration of Concurrence**  
**September 16, 1993**  
**Page 2**

- A protective cover layer, comprised of a minimum of 36 inches of drainage sand and 6 inches of mulched, seeded topsoil.
  - A drainage composite layer, composed of a single-layer high-density polyethylene (HDPE) drainage net with a nonwoven needle-punched geotextile. The drainage composite layer and the underlying geomembrane will be terminated in a perimeter anchor trench fitted with a subdrain of perforated plastic pipe embedded in crushed stone.
  - A composite barrier layer, consisting of a clay mat overlain by a 40-mil, very low density polyethylene (VLDPE) geomembrane. The clay mat will be composed of bentonite clay bonded to geomembrane or a geotextile.
  - A 12-inch subbase gas ventilation layer with gas vents overlain with a geotextile to serve as a bedding layer for the overlying composite barrier.
- V. Destruction of wetlands will require the construction of appropriate wetlands, based on a functional evaluation and assessment of wetlands prior to commencement of construction activities, in non-wetland areas.
- VI. Placement of institutional controls. Deed restrictions will be imposed to restrict future activities that could violate the integrity of the cap.
- VII. Conducting long-term environmental monitoring to ensure the integrity of the cap is maintained and ensure the waste material remains dry.

Based upon its review, NHDES has determined the source area remedial action is consistent with, or exceeds, applicable or relevant and appropriate state standards. NHDES, as a party to the Pease Air Force Base Federal Facility Agreement and acting as agent for the State of New Hampshire, concurs with the selected remedial action. This concurrence is based upon the State's understanding that:

- A. NHDES will continue to participate in the Pease Air Force Base Federal Facility Agreement and in the review and approval of the Zone 1 ROD, remedial design and action documents, and the following Landfill 5 operational designs and monitoring plans:
- The capping system;
  - The gas management system and post-closure landfill gas monitoring plan;
  - The landfill settlement monitoring system and monitoring plan;

- The stormwater management (drainage) system as typically incorporated into landfill closure plans through issuance of a Significant Alteration-of-Terrain Permit;
- The groundwater and surface water monitoring system;
- Long-term operation and maintenance plan; and
- Post closure access control systems.

- B. The purpose of the NHDES' closure standards is to ensure, "...all facilities shall be closed in a manner that does not endanger public health or adversely affect the environment and which minimizes the potential for accidents that could lead to personal injury or property damage" (Env-Wm 312.01). NHDES' Landfill Capping System Standards (Env-Wm 2505.10) require landfill capping systems be designed to, "...reduce leachate generation by limiting to the extent practicable precipitation and surface water infiltration of the waste, through placement of low-permeability cover materials over the landfilled areas". The low permeability barrier shall, "minimize the infiltration of water into underlying wastes so as to limit continued leachate production and the associated adverse impacts to the quality of groundwater and surface waters; and consist of a geomembrane with a minimum thickness of 40 mils or a low permeability soil, or admixture". NHDES' solid waste closure requirements are primarily performance based and as such, provide a degree of flexibility in allowing capping systems which will provide functionally equivalent protection of human health and the environment.

The composite cap, specified by the USEPA, is a RCRA Subtitle C (hazardous waste) type closure cap which exceeds the specifications used at most municipal solid waste landfills (RCRA Subtitle D) in New Hampshire. Although RCRA C type wastes were found within a portion of the landfill during Stage 2 investigations, a drum removal action was completed in January of 1990. Subsequent test pit excavations indicate Landfill 5 is primarily a solid waste landfill which contains some hazardous waste constituents typically found in a municipal solid waste landfill.

The environmental impact from Landfill 5 wastes is similar to the impact associated with a typical municipal solid waste landfill and would otherwise be closed under the NHDES' solid waste regulations.

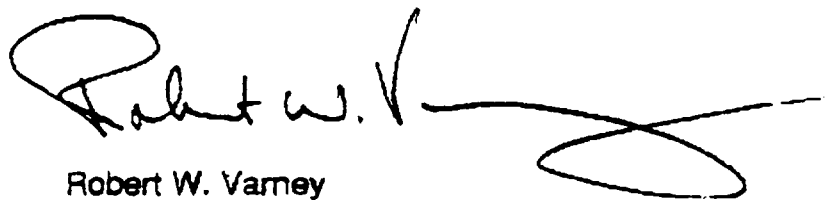
- C. The excavation and subsequent consolidation of soil and solid waste, in order to remove waste from contact with groundwater, is an accepted source control action. The discharge of treated groundwater, extracted during excavation dewatering activities, from a mobile on-site treatment unit to the base sewer will require the development of discharge limits in coordination with the City of Portsmouth (operator of the base wastewater treatment plant) in order to ensure

**Letter to Alan P. Babbitt**  
**Re: Site 5 ROD Declaration of Concurrence**  
**September 16, 1993**  
**Page 4**

compliance with the existing National Pollution Discharge Elimination System permit, pretreatment regulations and water pollution control laws.

- D. Any wetlands adversely impacted by the source control action will be restored, subject to the provisions of RSA 482-A and Env-Wt 100 through Wt 800.
- E. The Pease Development Authority (PDA) plans to construct an access road to the North Ramp, adjacent to Landfill 5. The Air Force and the PDA will coordinate the consolidation and the design and construction of the landfill cap and access road to ensure the integrity of the cap and capping systems.
- F. Long-term monitoring will be necessary in order to determine the effectiveness of the source control action. Long-term monitoring of the management of contaminants in groundwater will be addressed in the Zone 1 ROD. The frequency and location of water quality monitoring is determined on a site specific basis and is typically required tri-annually until a baseline condition is established. A comprehensive, detailed review will be conducted by the Air Force, the USEPA and the NHDES within five years after remediation to ensure the remedy provided adequate protection of human health and the environment.

Sincerely,



Robert W. Varney  
Commissioner

cc: Philip J. O'Brien, Ph.D., Director, NHDES-WMD  
Carl W. Baxter, P.E., NHDES-WMEB  
Richard H. Pease, P.E., NHDES-WMEB  
Martha A. Moore, Esq., NHDQJ-PDA  
Michael J. Daly, EPA  
Arthur L. Ditto, P.E., AFBDA  
James Snyder, AFCEE

**APPENDIX C**  
**RESPONSIVENESS SUMMARY**

**FIRST COMMENT PERIOD**

## **RESPONSIVENESS SUMMARY**

### **OVERVIEW**

At the time of the public comment period, the U.S. Air Force had selected a preferred alternative for a resource area action at Landfill 5 at Pease AFB. This preferred alternative selection was made in conjunction with USEPA Region 1 and NHDES. The preferred alternative involves the excavation and consolidation of sediments adjacent to LF-5 that contain contaminants and concentrations exceeding clean-up goals, excavation of landfill debris that still would be in contact with groundwater after capping, and capping the landfill with a composite barrier cap.

The sections below describe the background of community involvement with Landfill 5 activities and the U. S. Air Force's response to both written and verbal comments received during the Landfill 5 Proposed Plan Public Comment Period of January 14, 1993 to February 14, 1993.

### **BACKGROUND ON COMMUNITY INVOLVEMENT**

Prior to the public comment period for the Landfill 5 Proposed Plan, there were two presentations to the public, one on November 14, 1991, and one on January 12, 1993, regarding RI/FS activities at Pease AFB. Additionally, a presentation of the Landfill 5 Proposed Plan was made to the Pease AFB Technical Review Committee (TRC) on October 27, 1992. Comments and suggestions made by the TRC members were incorporated into the Landfill 5 Proposed Plan prior to issuance to the public. In January 1993 a Landfill Proposed Plan Fact Sheet was mailed to the general public, using the Pease Community Relations Plan mailing list. Newspaper announcements were placed in two local newspapers in January 1993 prior to the beginning of the public comment period and additional announcements were published prior to the public hearing date of January 27, 1993.

### **SUMMARY OF COMMENTS RECEIVED DURING THE COMMENT PERIOD AND AIR FORCE RESPONSES**

During the public comment period, written comments were received from two citizen groups. The majority of the comments on the Landfill 5 Proposed Plan were received at the public hearing held on January 27, 1993. Comments received during the comment period are summarized below along with the Air Force response to each comment. A copy of the public hearing transcript is available for viewing, along with the written comment received on the Landfill 5 Proposed Plan at the Pease AFB Information Repository located at Building 43 on Pease AFB.



1. Comment (written): SCOPE concurs with the Air Force's selection of Alternative 2A for source control at Landfill 5.

Response: The Air Force acknowledges SCOPE's concurrence.

2. Comment (written): SCOPE views the preferred alternative as a containment of sediment and landfill debris and not necessarily a cleanup of this material.

Response: The Air Force agrees that capping a landfill is not a "cleanup" in the true sense of the term. However, the Air Force considers the remedial action to be taken to be consistent with EPA guidelines for landfills. Reference EPA guidance document, EPA/540/P-91/001, "Conducting Remedial Investigations/Feasibility Studies for CERCLA Municipal Landfill Sites." In the future the Air Force will be more sensitive to the terminology it uses in labelling remedial activities.

3. Comment (written): Because of the magnitude of the cap, 23 acres, SCOPE wishes to voice its concerns as to the amount of land being rendered unusable with the capping of the site. Before the capping of Landfill 5, SCOPE strongly urges the Air Force, EPA, and NHDES to consider consolidating other landfills into Landfill 5.

Response: In response to this comment and other comments of similar nature, the Air Force has initiated action to consolidate Landfills 2 and 4 into Landfill 5 prior to the capping of Landfill 5. This proposed action is part of the Landfill 5 Record of Decision (ROD). Interim decision documents will be issued for Landfills 2 and 4 prior to actually initiating the consolidation activities.

4. Comment (written) SCOPE feels that the containment of Landfill 5 should be done in such a way that the capping will contain the site's contaminated material, yet do so in such a way as to take out of service as little land as possible.

Response: As part of the design process, the Air Force will take measures to ensure the cap will contain all of the contaminated material, but be done in such a way as to minimize the surface area needing to be capped. To facilitate this, the Air Force has already performed additional test pits to exactly pinpoint the current landfill edges. This information will also be used to determine if it is practicable to pull the landfill edges in, thereby reducing the surface area to be capped.

5. Comment (written) Sufficient safeguards should be instituted to ensure that the cap will be protective over the long haul (30 years plus), and that conditions monitored appropriately so that any migration of contaminants can be detected.

Response: As part of the remedial action for the capping of Landfill 5, the Air Force must develop a long term monitoring (LTM) plan. This is done as part of the cap design process. This LTM plan will be structured to provide monitoring points that will measure the cap's performance and protectiveness for the life of the cap (30 years plus). Additionally, the parties to the Pease Federal Facilities Agreement (Air Force, EPA and NHDES) will review the Landfill 5 remedial action every five years to ensure that human health and the environment are being protected. Reference Section 28 of the Pease Federal Facilities Agreement.

6. Comment (written): In general, the Sierra Club considers the proposed remediation effort at the site 5 location Pease Air Force Base to be an acceptable solution. However, there are several aspects of the remediation effort that we believe need to be addressed.

Response: The Air Force acknowledges Sierra Club, NH Chapter's, concurrence. Responses to items raised by the Sierra Club are made further on in this Responsiveness Summary.

7. Comment (written): It shall be pointed out that this is not a cleanup, but a containment plan.

Response: The Air Force agrees with this statement. Refer to response to Comment #2 for additional information.

8. Comment (written): The plan calls for monitoring of the site for 30 years by the Air Force. Who will become responsible for the site after this period?

Response: The Air Force will retain responsibility for the monitoring after 30 years. The 30-year period is a standard timeframe used for computing the long term maintenance cost associated with the remedial action.

9. Comment (written): What will be the effects of lowering the water table during excavation of the landfill on the local wetlands and any flora/fauna that depend on them.

**Response:** Preliminary data indicates that the impact during construction will be minimal. However, during the design of the landfill cap, the Air Force will be required to do a functional use evaluation of the wetlands around Landfill 5 and determine what impact might occur at these wetlands. The design will include the appropriate mitigation measures necessary to protect these wetlands during construction of the LF-5 cap.

**10. Comment (written):** One of the most crucial aspects of this remediation is the determination of the local water table. Any waste that comes into contact with groundwater will become mobilized. While a two-foot layer of fill will be placed above the maximum level attained during this time, the probability that this level will not be exceeded during the lifetime of this landfill has not been determined as far as we know. We feel that a more thorough study of this variable is warranted.

**Response:** This is a valid concern. The information presented in the Feasibility Study on this subject is based upon preliminary calculations. As part of the design process, more detailed studies in this area will be conducted. EPA and NHDES will provide oversight in the design process. This issue will be a priority item, as it has already been with EPA and NHDES during the conceptual design process.

**11. Comment (written):** We are genuinely concerned with the independent manner with which each site on the former air base is being treated. Consolidation of various sites might prove to be a better method of containing the contamination since it would allow more economical use of the available land.

**Response:** The Air Force is also concerned with this issue and is planning to coordinate remedial action between sites to the maximum extent possible. This fact is evidenced by the recent grouping of sites into zones, where a remedial action for a zone would cover numerous sites within the zone. More closely related to the proposed remedial actions at Landfill 5, the Air Force is initiating steps to consolidate Landfills 2 and 4 into Landfill 5. See response to Comment #3 for additional information.

**12. Comment (written):** We would like to request that a hearing be held once a final decision is made on the remediation plan for site 5.

**Response:** The next step in the Landfill 5 process is for the Air Force to issue

its Record of Decision or ROD, after acceptance by EPA and NHDES. The ROD will lay out the final decision as to the action to be taken at Landfill 5. A public meeting can be scheduled at that time to review the decision made in the Landfill 5 ROD.

13. Comment (written): We would also hope that as the other sites on the base are cleaned up, the public will be informed and allowed to be heard.

Response: The Air Force is committed to a pro-active community relations program. The Air Force will hold public meetings and hearings at important stages in the process and at other time periods as requested by the public. Additionally, the Air Force will continue to issue "Fact Sheets" providing the general public with timely information about the status and upcoming activities in the Air Force's Installation Restoration Program.

14. Comment (Verbal): I still have some very grave concerns on Flagstone's Ditch, Brook. You say you're going to be discharging this water, correct? Now, will this be going, this supposedly clean discharge water, going into Flagstone Brook? And I don't want to see the water going in there.

Response: The LF-5 Proposed Plan states that groundwater pumping may be required during the process of excavation of refuse below the water table. The Proposed Plan also states that any groundwater pumped from LF-5 during excavation would first be treated to meet site-specific groundwater treatment objectives, then discharged to Flagstone's Brook. The NHDES, in their review of the LF-5 Proposed Plan, raised similar concerns about discharge to surface water bodies, i.e., Flagstone's Brook. Although the discharge of treated water to Flagstone's Brook is an option, the Air Force has decided that if it becomes necessary to pump groundwater during the excavation, groundwater will be discharged to the sanitary sewer after treatment.

15. Comment (Verbal): SCOPE wishes to voice its concerns as to the amount of land being rendered unusable with the capping of this site. SCOPE strongly urges the Air Force, the EPA, and NHDES to consider consolidating other landfills into Landfill 5.

Response: The Air Force has taken this request into consideration and, as a result, will be including the consolidation of Landfills 2 and 4 into Landfill 5 as part of the Record of Decision for Landfill 5. Also see response to Comment #3 for additional information.

16. Comment (Verbal): SCOPE feels that containment of LF-5 be done in such a way that capping will contain the site's contaminated material, yet do so in such a way as to take out of service as little land as possible.

Response: See response to Comment #4.

17. Comment (Verbal): Sufficient safeguards should be instituted to ensure that the cap will be protective over the long run, 30 years plus, and that conditions are monitored appropriately so that any migration of contaminants can be detected.

Response: See response to Comment #5.

18. Comment (Verbal): One concern that I would like to reinforce from a previous comment is the concern I have about the cleanup being done in stages. I think we have to take a look at the big picture; we don't want a lot of capped, 23-acre grassy areas on the base.

Response: As part of the zone concept for grouping sites by areas, the Air Force will be able to implement more area-wide efficient remedial actions. Landfills 2 and 4, which are in the same Zone as LF-5 (Zone 1), will be consolidated into LF-5. This consolidation will result in approximately 12 acres being made available for future use. This "big picture" look will continue throughout the remedial action decision-making process. Public input will play a continued role in this decision making process.

19. Comment (Verbal): I'd like to take you 30 years from now. We will still have all of this hazardous waste. I would like to pose the question, what then? I'd like to know, 30 years from now, do we do this all again; do we say, now, what do we do with this pile of waste.

Response: The 30-year time period referenced in the Proposed Plan is a standard time period used for computing the long term cost associated with the remedial action. In reality, under today's requirements, the Air Force will remain responsible for management of the waste for as long as it remains in place, which could be well past the 30-year period mentioned in the Proposed Plan.

20. Comment (Verbal): I would like to ask if this area can ever be used for any type of recreational area?

- Response: The capped area can be used for open space type activities. These may include a wildlife area, park, running course, or a possible lay down storage area. The activity type must be such that it doesn't compromise the cap's integrity.
21. Comment (Verbal): I'd like to know what will happen if we have settling within the landfill. And, can it be possible that the cap could be damaged by that type of settling, and how will that be addressed over the long haul?
- Response: One aspect of the capping process is to compact the refuse and fill material used to shape the landfill shape as much as possible to minimize the potential for settlement. The landfill monitoring program requires that the cap's integrity be monitored once it is in place. Any areas that fail or become damaged as a result of settlement will have to be repaired by the Air Force.
22. Comment (Verbal): If you say you're going to clean it up, you should clean it up. If you have no intention to clean it up, you shouldn't tell people that you are going to clean it up.
- Response: The term "clean up" as it applies to landfills is a misnomer. The correct term for actions typically taken at landfills is containment. See response to Comment #2 for additional information.
23. Comment (Verbal): Certainly there must be other actions that can be contemplated that would be clean-up actions. I don't know how everything got limited to the point that all that can happen is consolidate the waste in one spot and then leave it there.
- Response: The feasibility study process requires that a screening process be used to develop a list of remedial action alternatives to be considered for a site. This screening process occurs many months before a Proposed Plan is issued and may initially start with 15 to 20 various combinations of potential remedial action options. Landfills present a unique issue for the alternative selection process in that there are only so many things that can be done with them. This fact is reflected in EPA guidance document for "Conducting Remedial Investigations/Feasibility Studies for CERCLA Municipal Landfill Sites." The end result for landfills is usually two options, dig it up or leave in place. Depending on the size, digging it up usually is cost prohibitive.

24. Comment (Verbal): What is meant by potential on-site dewatering treatments? Other alternatives they'd leave out the word "potential," as if it would be on-site cleanup. So what is the difference between the two?

Response: LF-5 currently has refuse that is below the existing water table. After capping there will still be refuse below the groundwater table. One of the State requirements for landfill closure is that refuse not remain in contact with groundwater. This requirement can be met in one of two ways: excavation of refuse that would be below the groundwater table, or lowering the groundwater table by continuous pumping. Alternative 4D for LF-5 proposes to remove refuse in contact with groundwater by excavation. As part of the excavation process it may become necessary to dewater during the excavation process. This is where the "potential" for dewatering occurs. Alternative 3A for LF-5 proposes to remove refuse in contact with groundwater by lowering the groundwater table by continuous pumping; this is a long term action. For Alternative 3A, dewatering is a reality; for Alternative 4D, dewatering may only need to occur for a short period to time during the excavation process. This explains why in one place in the LF-5 Proposed Plan it talks about potential dewatering, and in another place states dewatering will occur.

25. Comment (Verbal): There's no indication, after 30 years, what's going to happen, who owns the mess, what's the liability for the mess.

Response: Under today's regulations, as long as the waste remains in place, the Air Force will be responsible for managing it, regardless of the time period involved.

26. Comment (Verbal): The base has been careful to say that there might not be any town liability or Pease Authority liability for cleanup, but what about the private citizens and the businesses that built around these different sites? Does any of that liability carry on to them?

Response: The Air Force remains liable for the waste problems it generated. This applies to known waste problems, or any future problems that may be discovered that are attributable to Air Force activities.

27. Comment (Verbal): The format that you have here tonight is kind of depressing, because I can bitch and complain at you but no one is going to talk back to me.

- Response: Typically, public hearings are a one-way communication process. However, the Pease AFB environmental coordinator decided to include some general verbal response to comments at the end of the formal comment period and open the hearing up for general discussion. For the LF-5 hearing; EPA and NHDES personnel also participated in this discussion period, as documented in the hearing transcript. This format will continue in future public hearings.
28. Comment (Verbal): I'm concerned about potential damage to nearby wetlands.
- Response: The Air Force must take into account the impacts or potential impacts to wetlands as part of the Remedial Action process and implement appropriate mitigation measures. See response to Comment #9 for additional information.
29. Comment (Verbal): I'd like to request a public hearing be given to discuss those plans (LF-5 Cap Design) and give opportunity to comment on those.
- Response: A public meeting can be held to discuss the design plans for LF-5 as part of the design evaluation process. See response to Comment #12 for additional information.
30. Comment (Verbal): The Air Force has made a statement saying that capping the landfill will permanently immobilize the waste underneath it, and I have some concerns on what happens if the landfill does leak and what will be the time between detection and further containment.
- Response: Part of the remedial action is to develop and implement a monitoring program to continuously check the status of the landfills. In the unlikely event of a leak occurring, the Air Force will be responsible for taking immediate corrective action. To define "immediate" is not possible as the type of corrective action that may be necessary will govern the response time. However, timely actions will be taken to protect human health and the environment in all cases.
31. Comment (Verbal): I believe the Air Force should make a clarification that this is a containment plan and not a clean-up plan.
- Response: The Air Force agrees that this remedial action is a containment. See responses to Comments 2 and 22 for additional information.



32. Comment (Verbal): I want to know if the proposed plan is going to protect human health and the environment.
- Response: The proposed remedial action for LF-5 will be protective of human health and the environment. The Feasibility Study report for LF-5 contains information and data that support this statement.
33. Comment (Verbal): Why does this have to be such a large area. Is there so much contamination in there that you have to spread it over a 23-acre lot? Can't you bring that any closer together?
- Response: The 23-acre area represents the area where activities occurred while the landfill was operational. It is necessary to cap the total area where landfill activities occurred, otherwise the cap would not preclude water infiltration into the buried refuse. As part of the design process, the Air Force will look into the possibility of pulling the edges of the landfill in as much as practicable. See response to Comment #4 for additional information.
34. Comment (Verbal): I can't comprehend how there can be a viable plan where you just let it go 30 years and then it's somebody else's problem, and that you don't know what will happen or the EPA doesn't know what will happen (at the end of 30 years).
- Response: The 30-year period referenced in the Proposed Plan is a time used for computing the long-term cost associated with maintenance and monitoring of the landfill and cap. As the regulations are currently structured, the Air Force will still have the responsibility for maintenance and monitoring after 30 years. See response to Comments 5, 8, 19, and 25 for additional information.
35. Comment (Verbal): Thirty years from now, is the air base going to continue to have responsibility of those 23 acres? Can the PDA say no, we don't want those 23 acres?
- Response: The Air Force will continue to have the responsibility for its waste left in place. The Air Force cannot force property on anybody; there would have to be a mutual agreement between parties if land transfer were to occur.
36. Comment (Verbal): If you consolidate these landfills, I certainly wouldn't want them all consolidated in the Newington side of what will be this development area over there. So I don't necessarily favor

consolidating everything into Landfill 5.

Response:

There are two other landfills adjacent to Landfill 5--Landfills 2 and 4. Landfill 2 basically abuts LF-5, and Landfill 4 is within 200-300 feet of LF-5. Actions are being initiated to consolidate Landfills 2 and 4 into LF-5. See responses to Comments 3, 11, and 15 for additional information.

37. Comment (Verbal):

Clearly, that land is going to have very little value. If somebody wants to develop there and they go to the bank, who's going to lend them money? I mean, the value of that with landfills pock-marked over there goes down drastically. Can you say you don't want the land, that the air base can keep it, so 30 years from now it's not our responsibility or it's not whoever's responsibility?

Response:

As stated in response to Comment #35, the Air Force cannot force property onto somebody. It is correct to say that landfills will have a negative impact on property value, unless the landfill areas can serve as an open space credit for land development. The concept of landfill consolidating will support land value enhancement. See response to Comments 5, 8, 19, and 25 on the 30-year issue.

38. Comment (Verbal):

Does the area have to be fenced to preclude anybody from going on it? And one suggestion I would have is to be a little bit more creative with the grading so it doesn't look engineered.

Response:

It may not be necessary to fence the landfill after capping as long as it can be shown the remedial action will remain protective of human health and the environment. The Air Force is taking steps to design the cap such that it will blend with the surrounding area as much as possible.

39. Comment (Verbal):

The basic plan of the whole cleanup is based on determination of groundwater level. You said that's based on four years of data; what are the odds that your determination is wrong over, say, a 50- or 100-year period.

Response:

As part of the design process, the groundwater level will be thoroughly reviewed. This issue will also have strong EPA and NHDES oversight in a design review process. See response to Comment #10 for additional information.

**SECOND COMMENT PERIOD**

## **SUMMARY OF COMMENTS RECEIVED DURING THE SECOND COMMENT PERIOD AND AIR FORCE RESPONSES**

The Air Force held a second comment period for a revised Landfill 5 Proposed Plan. This comment period went from July 22 to August 23, 1993. A public hearing was held on August 5, 1993. The most significant change to the Landfill 5 Proposed Plan from the original was the addition of the concept to consolidate Landfills 2 and 4 into Landfill 5 area prior to the capping of Landfill 5. Comments received during the comment period are summarized below along with Air Force responses to each comment. A copy of the public hearing transcript is available for viewing at the Pease AFB Information Repository located at 61 International Drive, Building 43 on Pease AFB.

1. **Comment (written):** I have a question about the decision-making process. At some time during the last four years, a decision was made that the contents of Landfill 5 were going to stay in the Town of Newington, they were going to stay on Pease. And I'm not clear at all how you all came to that decision. I'd be interested to know the process, who made the decision, when it was made, what the criteria were.

**Response:**

The process used to make the decision on the preferred alternative is the standard process used for Superfund sites. That includes the Remedial Investigation which determines and defines the problem that needs to be corrected. Next is the Feasibility Study which develops and evaluates potential alternatives that may be used to correct the problem identified in the Remedial Investigation Report. The various alternatives evaluated in the Feasibility Study are put forth in a Proposed Plan which also identifies that Preferred Alternative to be used to correct the problem. The Proposed Plan is not the final decision point, that comes later in the process. The Proposed Plan is presented to the public for comment, for the preferred alternative and all of the alternatives evaluated in the Feasibility Study. Comments received during the public comment period are evaluated and then the final decision is finalized in the Record of Decision. The Air Force, as lead agency, selects the remedial action and the US EPA and State of NH DES concur on the selected remedy. The criteria used to make the selection is what is referred to as the "nine criteria." Seven of them are used during the Feasibility Study evaluation and the last two are used at the time of the Record of Decision. The nine criteria consist of the following:

1. Overall protection of human health and the environment.
2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs).
3. Long-term effectiveness and permanence.
4. Reduction of toxicity, mobility, or volume.

5. Short-term effectiveness.
6. Implementability.
7. Cost.
8. State acceptance.
9. Community acceptance.

As stated, above criteria 1 through 7 are evaluated in the Feasibility Study and criteria 8 and 9 are taken into account during the Record of Decision process.

2. Comment (verbal): The Federal Government came here 40 years ago, they deposited a lot of hazardous waste, and they're leaving. And I had always assumed and hoped that they would take their waste with them and put it somewhere else. So, I was a little surprised to find out that we have at least 23 acres worth that are going to sit there in perpetuity.

Response: The landfilling activities conducted by the Air Force were no different than those used by surrounding communities and practices were those consistent with typical landfilling practices for the time period for which they were conducted. The methods to be used to correct problems at Pease will be consistent with those used by the private sector and municipalities. For landfill, this typically consists of capping and long-term monitoring. For the various landfill sites surrounding Pease AFB there is not discussion of excavation and removal to somewhere else. For Landfills 2 and 4 the Air Force has concluded it to be beneficial to excavate these two landfills and consolidate them into one area, in this case Landfill 5. This reduces the amount of area (approximately 12 acres) that would otherwise have been capped. Additionally, this action is in direct response to public inputs during the initial comment period for the Landfill 5 Proposed Plan in January 1993.

3. Comment (verbal): I'd like to know what the consequences are of disturbing Landfills 2 and 4, and if we are, indeed, able to excavate Landfills 2 and 4.

Response: Excavation of Landfills 2 and 4 is possible without causing any further environmental related problems. As the refuse placed in Landfills 2 and 4 was mixed with earth fill during placement, the excavation process would be similar to a gravel borrow pit operation. During the excavation and transportation process dust control and spillage control measures will be implemented.

4. Comment (verbal): I have some concern about disturbing existing landfills, because it seems to me that it might be better to do nothing at all rather than to cause all of the disruption of the ground in doing that.

**Response:** As stated in response to comment number three above, the Air Force does not expect the excavation of Landfills 2 and 4 to be disruptive or a problem. Additionally, the long-term benefit to excavating Landfills 2 and 4, i.e., opening up 12 acres of land to unrestricted use, outweighs any minor short-term disruptions that might develop.

5. **Comment (verbal):** Many of the residents have come to me and have been very, very concerned about the fact that why can't they just lift this all up and take it away.

**Response:** The Air Force agrees it would be nice if all of the Landfill 5 wastes could just be picked up and made to go away, but that is not practical, realistic, or cost effective. As stated in response to comment number 2, the actions proposed by the Air Force are consistent with remedial action conducted at other landfills with similar problems to that at Landfill 5. Additionally, the actions of the Air Force are consistent to those applied to landfill closures within the State of NH.

6. **Comment (verbal):** Many of the residents want to know what the cost would be to just pick all this mess up, as they have stated in layman's terms to me, pick it up, take it away, and put it someplace else so the land could be clean for them so there could be redevelopment at Pease.

**Response:** The Air Force evaluated, as part of the feasibility study process, the alternative of excavation and incineration of the Landfill 5 waste. The cost of this alternative was estimated at 250 million dollars. Comparing this cost to the construction cost of 14 million dollars for capping Landfill 5 it is quite clear that the excavation and incineration alternative is not reasonable, nor the best expenditure of our tax dollars.

7. **Comment (verbal):** I would like to know, with the consolidation of the two landfills and moving in of the boundaries of Landfill 5, what is the intended height that the cap will be, and how much of a monument to a stock pile of hazardous waste this is going to be above the current drain level, if any.

**Response:** The final shape of the Landfill 5 area after capping will appear as a gentle hill with a slope similar to that of handicap ramps. At its highest point the Landfill 5 cap will be approximately 15 feet above the current highest elevation at Landfill 5. The capped area will not stick out

like a sore thumb, but rather will blend in with the surrounding areas.

**APPENDIX D**

**ADMINISTRATIVE RECORD FILE INDEX**



12.1 Privileged Documents - Extracts

• NOTE: NO SERIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER

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### 11.5 Technical Sources

DOCUMENT NUMBER: PEA (11.5) #1 001-022  
LONG TITLE: Trichloroethylene in the Groundwater Supply of Pease Air Force Base Portsmouth, NH  
AUTHOR: U.S. Geological Survey  
RECIPIENT: USAF  
DATE: 1982  
TYPE: Technical Source  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.5) #2 001-080  
LONG TITLE: Geology and Groundwater Resources of Southeastern New Hampshire  
AUTHOR: U.S. Geological Survey  
RECIPIENT: USAF  
DATE: 1964  
TYPE: Technical Source  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.5) #3 001-010  
LONG TITLE: Preliminary Wetland Delineation and Evaluation Report for Pease Air Force Base, NH -- Draft  
AUTHOR: The Smart Associates, Environmental Consultants, Inc.  
RECIPIENT: USAF  
DATE: April 1990  
TYPE: Technical Source  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.5) #4 001-222  
LONG TITLE: The Ecology of the Great Bay Estuary, New Hampshire and Maine: An Estuarine Profile and Bibliography  
AUTHOR: Jackson Estuarine Laboratory, Durham, NH  
RECIPIENT: USAF  
DATE: October 1992  
TYPE: Technical Source  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.4) #13 001-J.2  
LONG TITLE: Report of the Defense Environmental Response Task Force  
AUTHOR: Department of Defense  
RECIPIENT: Pease AFB  
DATE: October 1991  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.4) #14 001-1.5  
LONG TITLE: Initiatives for Accelerating Cleanup at BRAC Installations  
AUTHOR: Department of Defense  
RECIPIENT: Pease AFB  
DATE: June 1992  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.4) #15 001-2.9  
LONG TITLE: CERCLA IAG Workshops  
AUTHOR: USAF  
RECIPIENT: Pease AFB  
DATE: 1992  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

## 11.7 Correspondence

DOCUMENT NUMBER: PEA (11.7) #1 001-006  
LONG TITLE: "Letter to EPA requesting review and concurrence of risk assessment data and sampling procedure letter report"  
AUTHOR: Department of the Air Force  
RECIPIENT: State of New Hampshire  
DATE: 20 March 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.7) #2 001-002  
LONG TITLE: "Letter concerning use of drilling mud"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 26 December 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA(11.7) #3 001-002  
LONG TITLE: "Analytical Methods for Pease AFB"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 23 April 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.7) #4 001-001  
LONG TITLE: Consolidated Background Values Letter Report  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
Johanna Hunter, EPA  
DATE: March 9, 1993  
TYPE: Letter Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

11.6 Proposed Procedures / Procedures

DOCUMENT NUMBER: PEA (11.6) #1 001-005  
LONG TITLE: "Risk Assessment Data Needs and Sampling Procedures Letter Report"  
AUTHOR: Roy F. Weston, Inc  
RECIPIENT: EPA, NHDES  
DATE: 8 March 1991  
TYPE: Letter Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.6) #2 001-051  
LONG TITLE: "Analytical Methods Letter Report" – Supplemental Information to Stage 4 Sampling and Analysis Plan  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: 23 April 1991  
TYPE: Letter Report  
SECOND REFERENCE: PEA (3.1)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.6) #3 001-055  
LONG TITLE: "Protocols for Generation of Baseline Risk Assessments for the Pease AFB Sites – Revised"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: July 1991  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.6) #4 001-002  
LONG TITLE: "Procedures for handling solids and liquids produced during well construction and soil borings at Site 8 investigations"  
AUTHOR: Department of the Air Force  
RECIPIENT: NHDES  
DATE: 21 August 1990  
TYPE: Procedures  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.6) #5 001-002  
LONG TITLE: "Disposal of Drill Cuttings From Stage 2 and 3 Investigations"  
AUTHOR: Department of the Air Force  
RECIPIENT: NHDES  
DATE: 14 August 1990  
TYPE: Procedures  
SECOND REFERENCE: None  
LOCATION: ARF

#

LOCATION: ARF #

DOCUMENT NUMBER: PEA (11.4) #7 001-003  
LONG TITLE: "RCRA Facility Assessment Guidance to Installation"  
AUTHOR: Department of the Air Force"  
RECIPIENT: See Distribution List  
DATE: 3 August 1988  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.4) #8 001-003  
LONG TITLE: "Guidance on base map construction and digitization D.O. 006 Pease AFB"  
AUTHOR: Department of the Air Force"  
RECIPIENT: Roy F. Weston, Inc.  
DATE: 6 March 1989  
TYPE: Guidance Document  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.4) #9 001-13  
LONG TITLE: Handbook to Support the Installation Restoration Program Statements of Work for Remedial Investigation/Feasibility Studies Version 3.0  
AUTHOR: Air Force Occupational and Environmental Health Laboratory Technical Services Division  
RECIPIENT: Pease AFB  
DATE: May 1989  
TYPE: Handbook  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.4) #10 001-BL3  
LONG TITLE: United States Air Force Environmental Restoration Program NFRAP Guide: Making, Documenting and Evacuating No Further Response Action Planned Decisions -- Final Draft  
AUTHOR: USAF  
RECIPIENT: Pease AFB  
DATE: February 1993  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.4) #11 001-087  
LONG TITLE: Air Force Logistics Command Public Affairs Environmental Guidance  
AUTHOR: USAF  
RECIPIENT: Pease AFB  
DATE: March 31, 1989  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.4) #12 001-DXA13  
LONG TITLE: Recommended Sampling Procedures  
AUTHOR: Air Force Occupational and Environmental Health Laboratory  
RECIPIENT: Pease AFB  
DATE: March 1989

11.4 Air Force Guidance

DOCUMENT NUMBER: PEA (11.4) #1 001-024  
LONG TITLE: "Ecological Risk Assessment Guidance for Pease AFB, New Hampshire"  
AUTHOR: Mitre Corporation. Civil Systems Division  
RECIPIENT: Air Force  
DATE: 20 June 1990  
TYPE: Letter Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.4) #2 001-016  
LONG TITLE: "Implementation of Department of Defense (DOD) policy guidance on IRP Policy No. 1"  
AUTHOR: Department of the Air Force  
RECIPIENT: See Distribution List  
DATE: 11 December 1981  
TYPE: Policy/Guidance Document  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.4) #3 001-002  
LONG TITLE: "Implementation of DOD policy guidance on Installation Restoration Plan (IRP), Policy No. 1"  
AUTHOR: Department of the Air Force  
RECIPIENT: See Distribution List  
DATE: 5 March 1982  
TYPE: Policy/Guidance Document  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.4) #4 001-003  
LONG TITLE: "Relationship of the IRP to RCRA enforcement actions  
AUTHOR: Department of the Air Force"  
RECIPIENT: See Distribution List  
DATE: 26 December 1985  
TYPE: Policy Document  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.4) #5 001-002  
LONG TITLE: "Guidance for Air Force Installation Compliance with Volatile Organic Compound Regulations"  
AUTHOR: Department of the Air Force"  
RECIPIENT: See Distribution List  
DATE: 8 October 1986  
TYPE: Guidance Document  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.4) #6 001-003  
LONG TITLE: "IRP Decision Documentation Policy"  
AUTHOR: Department of the Air Force"  
RECIPIENT: See Distribution List  
DATE: 25 May 1988  
TYPE: Policy Letter  
SECOND REFERENCE: None

**TYPE:** Guidance  
**SECOND REFERENCE:** None  
**LOCATION:** Art's Office

#



### 11.3 State Guidance

\* **NOTE:** Guidance documents listed as bibliographic sources for a document already included in the Administrative Record are not listed separately in this index.

DOCUMENT NUMBER: PEA (11.3) #1 001-001  
LONG TITLE: ENC-WS 410 Groundwater Protection Rules  
AUTHOR: NHDES  
RECIPIENT: Art Ditto, AFBDA  
DATE: February 18, 1993  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.3) #2 001-B.8  
LONG TITLE: Interim Policy for the Management of Soils Contaminated from Spills/Releases of Virgin Petroleum Products  
AUTHOR: NHDES  
RECIPIENT: USAF  
DATE: September 1991  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.3) #3 001-048  
LONG TITLE: Groundwater Protection Rules  
AUTHOR: NHDES  
RECIPIENT: USAF  
DATE: February 1993  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.3) #4 001-37.3  
LONG TITLE: New Hampshire Rules for the Control of Radiation  
AUTHOR: NHDES  
RECIPIENT: USAF  
DATE: April 1983  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.3) #5 001-C.15  
LONG TITLE: Guidance Document for the Closure of Solid Waste Landfills in New Hampshire  
AUTHOR: NHDES  
RECIPIENT: USAF  
DATE: May 1990  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.3) #6 001-D.7  
LONG TITLE: Guidebook for Environmental Permits in New Hampshire  
AUTHOR: NHDES  
RECIPIENT: USAF  
DATE: 1992

## 11.2 EPA Regional Guidance

\* **NOTE:** Guidance documents listed as bibliographic sources for a document already included in the Administrative Record are not listed separately in this index.

DOCUMENT NUMBER: PEA (11.2) #1 001-C.1  
LONG TITLE: Land Disposal Restrictions Summary of Requirements  
AUTHOR: EPA, Region 1  
RECIPIENT: USAF  
DATE: August 1990  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.2) #2 001-107  
LONG TITLE: Supplemental Risk Assessment Guidance for the Superfund Program  
AUTHOR: EPA, Region 1  
RECIPIENT: USAF  
DATE: June 1989  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #24 001-111  
LONG TITLE: Synopses of Federal Demonstrations of Innovative Site Remediation Technologies  
AUTHOR: EPA  
RECIPIENT: USAF  
DATE: May 1991  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #18 001-021  
LONG TITLE: Documenting No Action, Interim Action, and Contingency Remedy Decisions, OSWER Directive 9355.3-02  
AUTHOR: EPA  
RECIPIENT: USAF  
DATE: Undated  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #19 001-B.2  
LONG TITLE: Superfund Removal Procedures Action Memorandum Guidance  
AUTHOR: EPA  
RECIPIENT: USAF  
DATE: December 1990  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #20 001-G  
LONG TITLE: RCRA Orientation Manual  
AUTHOR: EPA  
RECIPIENT: USAF  
DATE: 1990  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #21 001-295  
LONG TITLE: The Superfund Innovative Technology Evaluation Program: Technology Profiles  
AUTHOR: EPA  
RECIPIENT: USAF  
DATE: November 1991  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #22 001-017  
LONG TITLE: Accessing Federal Data Bases for Contaminated Site Clean-Up Technologies  
AUTHOR: EPA  
RECIPIENT: USAF  
DATE: May 1991  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #23 001-023  
LONG TITLE: Bibliography of Federal Reports and Publications Describing Alternatives and Innovative Treatment Technologies for Corrective Action and Site Remediation  
AUTHOR: EPA  
RECIPIENT: USAF  
DATE: May 1991  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

LONG TITLE: Implementing EPA's Groundwater Protection Strategy for the 1990's: Draft Comprehensive State Groundwater Protection Program Guidance  
AUTHOR: EPA  
RECIPIENT: USAF  
DATE: 1992  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #13 001-021  
LONG TITLE: A Handbook for State Groundwater Managers  
AUTHOR: Office of Water, EPA, Washington, DC  
RECIPIENT: USAF  
DATE: May 1992  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #14 001-3.40  
LONG TITLE: Conducting Remedial Investigations/Feasibility Studies for CERCLA Municipal Landfill Sites  
AUTHOR: Office of Emergency and Remedial Response, EPA, Washington, DC  
RECIPIENT: USAF  
DATE: February 1991  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #15 001-F.2  
LONG TITLE: Guidance on Preparing Superfund Decision Documents: The Proposed Plan, The Record of Decision, and Explanation of Significant Differences, The Record of Decision Amendment  
AUTHOR: Office of Emergency and Remedial Response, EPA, Washington, DC  
RECIPIENT: USAF  
DATE: July 1989  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #16 001-B.12  
LONG TITLE: Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part A) Interim Final  
AUTHOR: Office of Emergency and Remedial Response, EPA, Washington, DC  
RECIPIENT: USAF  
DATE: December 1989  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #17 001-057  
LONG TITLE: Risk Assessment Guidance for Superfund Volume II: Environmental Evaluation Manual Interim Final  
AUTHOR: Office of Emergency and Remedial Response, EPA, Washington, DC  
RECIPIENT: USAF  
DATE: March 1989  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

LONG TITLE: Preliminary Assessment Guidance Fiscal Year 1988  
AUTHOR: Office of Emergency and Remedial Response, EPA, Washington, DC  
RECIPIENT: USAF  
DATE: January 1988  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #7 001-G.1  
LONG TITLE: Community Relations in Superfund: A Handbook (Interim Version)  
AUTHOR: Office of Emergency and Remedial Response, EPA, Washington, DC  
RECIPIENT: USAF  
DATE: 1988  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #8 001-H.6  
LONG TITLE: Summary Report on Issues in Ecological Risk Assessment  
AUTHOR: EPA  
RECIPIENT: USAF  
DATE: February 1991  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #9 001-127  
LONG TITLE: Technology Screening Guide for Treatment of CERCLA Soils and Sludges  
AUTHOR: EPA  
RECIPIENT: USAF  
DATE: September 1988  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #10 001-F.19  
LONG TITLE: Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA – Interim Final  
AUTHOR: Office of Emergency and Remedial Response, EPA, Washington, DC  
RECIPIENT: USAF  
DATE: October 1988  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #11 001-103  
LONG TITLE: Final Guidance on Administrative Records for Selecting CERCLA Response Actions  
AUTHOR: Office of Solid Waste and Emergency Response, EPA, Washington, DC  
RECIPIENT: USAF  
DATE: 11/90/91  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #12 001-B.2

## 11.1 EPA Headquarters Guidance

\* NOTE: Guidance documents listed as bibliographic sources for a document already included in the Administrative Record are not listed separately in this index.

DOCUMENT NUMBER: PEA (11.1) #1 001-003  
LONG TITLE: Risk Assessment Issue Paper for Carcinogenicity Characterization for Trichloroethylene (CASRN 79-01-6), Tetrachloroethylene (CASRN 127-18-4), and Styrene (CASRN 100-42-5)  
AUTHOR: USEPA  
RECIPIENT: USAF  
DATE: 14 July 1992  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (11.1) #2 001-G.2  
LONG TITLE: Draft Guidance on Preparing Superfund Decision Documents: The Proposed Plan and Record of Decision  
AUTHOR: Office of Emergency & Remedial Response, EPA, Washington, DC  
RECIPIENT: USAF  
DATE: March 1988  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #3 001-B.9  
LONG TITLE: The RPM Primer: An Introductory Guide to the Role and Responsibilities of the Superfund Remedial Project Manager  
AUTHOR: Office of Emergency and Remedial Response, EPA, Washington, DC  
RECIPIENT: USAF  
DATE: September 1987  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #4 001-11.1  
LONG TITLE: CERCLA Site Discrepancies to POTWs Guidance Manual  
AUTHOR: Office of Emergency and Remedial Response, EPA, Washington, DC  
RECIPIENT: USAF  
DATE: August 1990  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #5 001-041  
LONG TITLE: Framework for Ecological Risk Assessment  
AUTHOR: EPA  
RECIPIENT: USAF  
DATE: February 1992  
TYPE: Guidance  
SECOND REFERENCE: None  
LOCATION: Art's Office

#

DOCUMENT NUMBER: PEA (11.1) #6 001-E.1

RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 24 May 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #25 001-004  
LONG TITLE: Review of the Air Force Installation Restoration Program. Draft Remedial Investigation Report, Zone 4, Pease AFB, March 1993  
AUTHOR: Mike Daly, EPA Region 1  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 25 May 1993  
TYPE: Faxed Letter  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #26 001-006  
LONG TITLE: Review of the Air Force Installation Restoration Program. Initial Screening of Alternatives (ISA) Report, Zone 4, Pease AFB, April 1993  
AUTHOR: Mike Daly, EPA Region 1  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 25 May 1993  
TYPE: Faxed Letter  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #27 001-015  
LONG TITLE: Review of the Air Force Installation Restoration Program. Draft Remedial Investigation Report, Zone 3, Pease AFB, April 1993  
AUTHOR: Mike Daly, EPA Region 1  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 26 May 1993  
TYPE: Faxed Letter  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #28 001-004  
LONG TITLE: Review of the Air Force Installation Restoration Program. Draft McIntyre Brook/Lower Newfields Ditch Remedial Investigation/Feasibility Study, April 1993  
AUTHOR: Mike Daly, EPA Region 1  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 26 May 1993  
TYPE: Faxed Letter  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#



RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 29 April 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #19 001-005  
LONG TITLE: Draft Record of Decision for Landfill 5 Source Area Remedial Action, April 1993 – Review Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 11 May 1993  
TYPE: Letter  
SECOND REFERENCE: LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #20 001-002  
LONG TITLE: Pease AFB Review of Landfill 5 Draft Record of Decision  
AUTHOR: Johanna Hunter, EPA Region 1  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 13 May 1993  
TYPE: Faxed Letter  
SECOND REFERENCE: LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #21 001-012  
LONG TITLE: Proposed Plan for IRP Site 8, Fire Department Training Area 2, March 1993, DRAFT – Review Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 14 May 1993  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #22 001-011  
LONG TITLE: Pease AFB Zone 3 Remedial Investigation Report DRAFT, April 1993 – Review Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 20 May 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #23 001-008  
LONG TITLE: McIntyre Brook/Lower Newfields Ditch RI/FS DRAFT, April 1993 – Review Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 24 May 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #24 001-013  
LONG TITLE: Zone 4 Initial Screening of Alternatives Report, DRAFT 1993 – Review Comments  
AUTHOR: Richard Pease, NHDES

DATE: 5 February 1991  
TYPE: Letter  
SECOND REFERENCE: PEA (3.1); PEA (3.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #13 001-001  
LONG TITLE: Community Relations Plan  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 12 April 1991  
TYPE: Letter  
SECOND REFERENCE: PEA (10.2)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #14 001-004  
LONG TITLE: Basewide ARARs Pease AFB, NH 03803, January 1993, DRAFT - Review Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 1 April 1993  
TYPE: Letter  
SECOND REFERENCE: PEA (4.1)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #15 001-002  
LONG TITLE: Installation Restoration Program, Stage 4, No Further Action Decision Document for IRP Site 11, February 1993 - Review Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 2 April 1993  
TYPE: Letter  
SECOND REFERENCE: Site 11  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #16 001-005  
LONG TITLE: Zone 4 Draft Remedial Investigation Review Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 16 April 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #17 001-010  
LONG TITLE: Zone 5 Initial Screening of Alternatives Report DRAFT March 1993 - Review Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 23 April 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #18 001-003  
LONG TITLE: Zone 4 Draft Remedial Investigation - Review Comments  
AUTHOR: Richard Pease, NHDES

DATE: 11 October 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #7 001-001  
LONG TITLE: Submittal of Primary Documents (Community Relations Plan)  
AUTHOR: USAF  
RECIPIENT: Jim Brown, USEPA  
DATE: 24 October 1990  
TYPE: Letter  
SECOND REFERENCE: PEA (10.2)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #8 001-001  
LONG TITLE: Submittal of Primary Documents (Community Relations Plan)  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 24 October 1990  
TYPE: Letter  
SECOND REFERENCE: PEA (10.2)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #9 001-001  
LONG TITLE: Community Relations Plan Development Extension  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 17 January 1991  
TYPE: Letter  
SECOND REFERENCE: PEA (10.2)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #10 001-001  
LONG TITLE: Community Relations Plan Development Extension  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 17 January 1991  
TYPE: Letter  
SECOND REFERENCE: PEA (10.2)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #11 001-001  
LONG TITLE: Submittal of Draft Final Primary Documents  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 5 February 1991  
TYPE: Letter  
SECOND REFERENCE: PEA (3.1); PEA (3.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #12 001-001  
LONG TITLE: Submittal of Draft Final Primary Documents  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA

10.10 Correspondence

DOCUMENT NUMBER: PEA (10.10) #1 001-001  
LONG TITLE: "Letter regarding concern about the hazardous waste sites at Pease AFB"  
AUTHOR: Gordon J. Humphrey, U.S. Senate  
RECIPIENT: James F. McGovern, Acting Secretary of the Air Force  
DATE: 24 March 1989  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #2 001-002  
LONG TITLE: "Letter regarding the migration of Air Force hazardous waste beyond the Pease AFB perimeter"  
AUTHOR: Town of Newington  
RECIPIENT: Robert Field, Environmental Cleanup Advisory Committee, Portsmouth, NH  
DATE: 11 May 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #3 001-008  
LONG TITLE: "Letter regarding groundwater sampling conducted on private property"  
AUTHOR: Department of the Air Force  
RECIPIENT: Will Gilbert, Newington, NH  
DATE: 6 June 1989  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #4 001-001  
LONG TITLE: Submittal Letter for Draft Community Relations Plan for the Massachusetts Military Reservation (MMR) on Cape Cod, Massachusetts  
AUTHOR: Douglas S. Gutro, USEPA  
RECIPIENT: Karen Cowden,  
Roy F. Weston, Inc.  
DATE: 19 June 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #5 001-002  
LONG TITLE: Impact of Base Closure on Personnel Responsible for the Installation Restoration Program and Public Affairs  
AUTHOR: Merrill S. Hohman, USEPA  
RECIPIENT: Col. James R. Wilson  
Pease AFB, NH  
DATE: 27 August 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.10) #6 001-001  
LONG TITLE: Impact of Base Closure on Personnel Responsible for the Installation Restoration Program and Public Affairs (Your Letter, August 27, 1990)  
AUTHOR: USAF  
RECIPIENT: Merrill S. Hohman, USEPA

10.9 Technical Review Committee Charter

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

10.8 Late Comments

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

10.7 Responsiveness Summary

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

LOCATION:

ARF

#



LOCATION: ARF  
#  
DOCUMENT NUMBER: PEA (10.6) #13 001-006  
LONG TITLE: Pease Air Force Base Installation Restoration Program Update: Preliminary Assessment/Site Investigation  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: January 1993  
TYPE: Fact Sheet  
SECOND REFERENCE: None  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (10.6) #14 001-002  
LONG TITLE: News Release 93-01- Comment Period Opens for Proposed Plan on Landfill 5 Source Area  
AUTHOR: USAF  
RECIPIENT: All Local News Media - Radio, Press, TV  
DATE: 15 January 1993  
TYPE: News Release  
SECOND REFERENCE: PEA (4.3)  
LOCATION: ARF, IR

#  
DOCUMENT NUMBER: PEA (10.6) #15 001-009  
LONG TITLE: Proposed Plan for IRP Site 34 (Bldg. 222) Fact Sheet  
AUTHOR: USAF  
RECIPIENT: See Mailing List  
DATE: March 1993  
TYPE: Fact Sheet  
SECOND REFERENCE: Site 32/36; Site 34  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (10.6) #16 001-011  
LONG TITLE: Proposed Plan for IRP Site 32/36 (Bldgs. 113/119) Fact Sheet  
AUTHOR: USAF  
RECIPIENT: See Mailing List  
DATE: March 1993  
TYPE: Fact Sheet  
SECOND REFERENCE: Site 34; Site 32/36  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (10.6) #17 001-001  
LONG TITLE: News Release, Comment Period Opens for IRP Sites 32/36 and 34  
AUTHOR: USAF  
RECIPIENT: Media  
DATE: 16 March 1993  
TYPE: News Release  
SECOND REFERENCE: Site 32/36; Site 34  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (10.6) #18 001-008  
LONG TITLE: Revised Proposed Plan for Landfill 5 Source Area and the Plan to Consolidate Landfills 2 and 4 Within Landfill 5  
AUTHOR: USAF  
RECIPIENT: See Mailing List  
DATE: July 1993  
TYPE: Fact Sheet  
SECOND REFERENCE: LF-2, LF-4, LF-5

LOCATION: ARF  
#  
DOCUMENT NUMBER: PEA (10.6) #7 001-003  
LONG TITLE: "Superfund Program Draft Interagency Agreement Fact Sheet"  
AUTHOR: U.S. EPA. Region I  
RECIPIENT: See Mailing List  
DATE: December 1990  
TYPE: Fact Sheet  
SECOND REFERENCE: None  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (10.6) #8 001-008  
LONG TITLE: Pease Air Force Base Installation Restoration Program Update: Remedial Investigation/Feasibility Study  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: October 1991  
TYPE: Fact Sheet  
SECOND REFERENCE: None  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (10.6) #9 001-011  
LONG TITLE: Pease Air Force Base Installation Restoration Program Update: Information Update  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: December 1992  
TYPE: Fact Sheet  
SECOND REFERENCE: None  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (10.6) #10 001-004  
LONG TITLE: Pease Air Force Base Installation Restoration Program Update: Interim Groundwater Treatment - Sites 8, 32/36 and 34  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: January 1993  
TYPE: Fact Sheet  
SECOND REFERENCE: Sites 8, 34, 32/36  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (10.6) #11 001-005  
LONG TITLE: Pease Air Force Base Installation Restoration Program Update: Underground Storage Tank Program Overview  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: January 1993  
TYPE: Fact Sheet  
SECOND REFERENCE: None  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (10.6) #12 001-008  
LONG TITLE: Pease Air Force Base Installation Restoration Program Update: Proposed Plan for Landfill 5 Source Area  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: January 1993  
TYPE: Fact Sheet  
SECOND REFERENCE: LF-5

10.6 Fact Sheets, Press Advisories, and News Releases

DOCUMENT NUMBER: PEA (10.6) #1 001-003  
LONG TITLE: "News release regarding the investigation of 22 sites on Pease AFB"  
AUTHOR: U.S. Air Force  
RECIPIENT: Media  
DATE: 30 September 1987  
TYPE: News Release  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.6) #2 001-002  
LONG TITLE: "News release regarding presentation of the second interim technical report"  
AUTHOR: U.S. Air Force  
RECIPIENT: Media  
DATE: 21 September 1988  
TYPE: News Release  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.6) #3 001-003  
LONG TITLE: "News release regarding the underground water sampling program"  
AUTHOR: U.S. Air Force  
RECIPIENT: Media  
DATE: 29 November 1988  
TYPE: News Release  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.6) #4 001-002  
LONG TITLE: "News release regarding the release of the third interim technical report"  
AUTHOR: U.S. Air Force  
RECIPIENT: Media  
DATE: 22 March 1989  
TYPE: News Release  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.6) #5 001-004  
LONG TITLE: "News release regarding off-base well water sampling results"  
AUTHOR: U.S. Air Force  
RECIPIENT: Media  
DATE: 7 June 1989  
TYPE: News Release  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.6) #6 001-002  
LONG TITLE: "News release regarding drum removal at Landfill 5"  
AUTHOR: U.S. Air Force  
RECIPIENT: Media  
DATE: 1989  
TYPE: News Release  
SECOND REFERENCE: None

LOCATION:

ARF

\*

LOCATION: ARF  
#  
DOCUMENT NUMBER: PEA (10.5) #7 001-003  
LONG TITLE: Meeting Minutes of Technical Review Committee  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: 31 March 1992  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (10.5) #8 001-002  
LONG TITLE: Meeting Minutes of Technical Review Committee  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: 28 April 1992  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (10.5) #9 001-003  
LONG TITLE: Meeting Minutes of Technical Review Committee  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: 20 May 1992  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (10.5) #10 001-005  
LONG TITLE: Meeting Minutes of Technical Review Committee  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: 29 September 1992  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (10.5) #11 001-013  
LONG TITLE: Meeting Minutes of Technical Review Committee  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: 27 October 1992  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (10.5) #12 001-004  
LONG TITLE: Meeting Minutes of Technical Review Committee  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: 16 December 1992  
TYPE: Meeting Minutes  
SECOND REFERENCE: None

## 10.5 Documentation of Other Public Meetings

DOCUMENT NUMBER: PEA (10.5) #1 001-007  
LONG TITLE: Meeting Minutes of Technical Review Committee  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: 30 July 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.5) #2 001-007  
LONG TITLE: Meeting Minutes of Technical Review Committee  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: 27 August 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.5) #3 001-010  
LONG TITLE: Meeting Minutes of Technical Review Committee  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: 01 October 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.5) #4 001-003  
LONG TITLE: Meeting Minutes of Technical Review Committee  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: 29 October 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.5) #5 001-013  
LONG TITLE: Meeting Minutes of Technical Review Committee  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: 26 November 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.5) #6 001-005  
LONG TITLE: Meeting Minutes of Technical Review Committee  
AUTHOR: USAF  
RECIPIENT: See Distribution List  
DATE: 07 January 1992  
TYPE: Meeting Minutes  
SECOND REFERENCE: None

LOCATION:

ARF

#

LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.4) #12 001-003  
LONG TITLE: "Meeting minutes of the Technical Review Committee"  
AUTHOR: Department of the Air Force  
RECIPIENT: See Distribution List  
DATE: 27 March 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.4) #13 001-006  
LONG TITLE: "Meeting minutes of the Technical Review Committee"  
AUTHOR: Department of the Air Force  
RECIPIENT: See Distribution List  
DATE: 24 April 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.4) #14 001-003  
LONG TITLE: "Meeting minutes of the Technical Review Committee"  
AUTHOR: Department of the Air Force  
RECIPIENT: See Distribution List  
DATE: 28 May 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.4) #15 001-006  
LONG TITLE: "Meeting minutes of the Technical Review Committee"  
AUTHOR: Department of the Air Force  
RECIPIENT: See Distribution List  
DATE: 25 June 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.4) #16 001-038  
LONG TITLE: Pease AFB Official Transcript of Public Hearing for Proposed Plan for IRP Sites 332/36 and 34  
AUTHOR: R&R Associates, Inc.  
RECIPIENT: USAF  
DATE: 30 March 1993  
TYPE: Transcript  
SECOND REFERENCE: Sites 32/34 and 36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.4) #17 001-7.4  
LONG TITLE: Summary of Pease AFB Public Hearing on the Proposed Plans for IRP Sites 32/36 and 34  
AUTHOR: Dynamac Corporation  
RECIPIENT: USAF  
DATE: 30 March 1993  
TYPE: Hearing Summary  
SECOND REFERENCE: Sites 32/34 and 36



#

DOCUMENT NUMBER: PEA (10.4) #6 001-005  
LONG TITLE: "Meeting minutes of the Technical Review Committee"  
AUTHOR: Department of the Air Force  
RECIPIENT: See Distribution List  
DATE: 25 July 1990  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.4) #7 001-005  
LONG TITLE: "Meeting minutes of the Technical Review Committee"  
AUTHOR: Department of the Air Force  
RECIPIENT: See Distribution List  
DATE: 29 August 1990  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.4) #8 001-012  
LONG TITLE: "Meeting minutes of the Technical Review Committee"  
AUTHOR: Department of the Air Force  
RECIPIENT: See Distribution List  
DATE: 26 September 1990  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.4) #9 001-008  
LONG TITLE: "Meeting minutes of the Technical Review Committee"  
AUTHOR: Department of the Air Force  
RECIPIENT: See Distribution List  
DATE: 31 October 1990  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.4) #10 001-004  
LONG TITLE: "Meeting minutes of the Technical Review Committee"  
AUTHOR: Department of the Air Force  
RECIPIENT: See Distribution List  
DATE: 29 November 1990  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.4) #11 001-003  
LONG TITLE: "Meeting minutes of the Technical Review Committee"  
AUTHOR: Department of the Air Force  
RECIPIENT: See Distribution List  
DATE: 31 January 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None

#### 10.4 Public Meeting Transcripts

DOCUMENT NUMBER: PEA (10.4) #1 001-052  
LONG TITLE: Pease Air Force Base, New Hampshire Official Transcript of Public Hearing for Proposed Plan for Landfill 5 Source Area  
AUTHOR: R & R Associates  
P.O. Box 863  
Exter, NH 03833  
RECIPIENT: USAF  
DATE: 27 January 1993  
TYPE: Transcript  
SECOND REFERENCE: Landfill 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.4) #2 001-7.4  
LONG TITLE: Public Hearing Summary of Pease Air Force Base Public hearing on Landfill 5 Source Area Proposed Plan  
AUTHOR: Dynamac Corporation  
230 Peachtree St., N.W.  
Suite 500  
Atlanta, Georgia 30303  
RECIPIENT: USAF  
DATE: 27 January 1993  
TYPE: Hearing Summary  
SECOND REFERENCE: Landfill 5  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (10.4) #3 001-025  
LONG TITLE: Pease Air Force Base Public Workshop and Information Meeting: Installation Restoration Program  
AUTHOR: Dynamac Corporation  
230 Peachtree St., N.W.  
Suite 500  
Atlanta, Georgia 30303  
RECIPIENT: USAF  
DATE: 12 January 1993  
TYPE: Meeting Summary  
SECOND REFERENCE: None  
LOCATION: IR

#

DOCUMENT NUMBER: PEA (10.4) #4 001-010  
LONG TITLE: "Meeting minutes of the Technical Review Committee"  
AUTHOR: Department of the Air Force  
RECIPIENT: See Distribution List  
DATE: 30 May 1990  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.4) #5 001-008  
LONG TITLE: "Meeting minutes of the Technical Review Committee"  
AUTHOR: Department of the Air Force  
RECIPIENT: See Distribution List  
DATE: 27 June 1990  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

TYPE: Public Notice  
SECOND REFERENCE: LF-2, LF-4, LF-5  
LOCATION: ARF

#

### 10.3 Public Notices

DOCUMENT NUMBER: PEA (10.3) #1 001-001  
LONG TITLE: Paid Advertisement of January 27, 1993 Public Hearing on Proposed Plan for Landfill 5 Source Area  
AUTHOR: USAF  
RECIPIENT: *Foster's Daily Democrat*; Public  
DATE: 23 January 1993  
TYPE: Public Notice  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (10.3) #2 001-001  
LONG TITLE: Paid Advertisement of January 27, 1993 Public Hearing for Proposed Plan for Landfill 5 Source Area  
AUTHOR: USAF  
RECIPIENT: *Portsmouth Herald*; Public  
DATE: 24 January 1993  
TYPE: Public Notice  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (10.3) #3 001-001  
LONG TITLE: Paid Advertisement in Portsmouth Herald, for Sites 32/36 and 34 Proposed Plan Public Hearing and Comment Period.  
AUTHOR: USAF  
RECIPIENT: *Portsmouth Herald*; Public  
DATE: 28 March 1993  
TYPE: Public Notice  
SECOND REFERENCE: Site 32/36; Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.3) #4 001-001  
LONG TITLE: Paid Advertisement in *Foster's Daily Democrat* for Sites 32/36 and 34 Proposed Plan Public hearing and Comment Period  
AUTHOR: USAF  
RECIPIENT: *Foster's Daily Democrat* Public  
DATE: 27 March 1993  
TYPE: Public Notice  
SECOND REFERENCE: Site 32/36; Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.3) #5 001-001  
LONG TITLE: Paid Advertisement in *Foster's Daily Democrat* for Landfill 5 Revised Proposed Plan Public Comment Period and Public Hearing  
AUTHOR: USAF  
RECIPIENT: *Foster's Daily Democrat*, Public  
DATE: 31 July 1993  
TYPE: Public Notice  
SECOND REFERENCE: LF-2, LF-4, LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.3) #6 001-001  
LONG TITLE: Paid Advertisement in *Portsmouth Herald* for Landfill 5 Revised Proposed Plan Public Comment Period and Public Hearing  
AUTHOR: USAF  
RECIPIENT: *Portsmouth Herald*, Public  
DATE: 1 August 1993

10.2 Community Relations Plan

DOCUMENT NUMBER: PEA (10.2) #1 001-040  
LONG TITLE: "Installation Restoration Program Community Relations Plan"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES, USAF  
DATE: January 1991  
TYPE: Community Relations Plan  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (10.2) #2 001-080  
LONG TITLE: U.S. Air Force Installation Restoration Program Community Relations Plan for Pease AFB, NH Interim Final  
AUTHOR: Dynamac Corporation  
230 Peachtree St., N.W., Ste. 500  
Atlanta, GA 30303  
RECIPIENT: USAF  
DATE: July 1993  
TYPE: CRP  
SECOND REFERENCE: None  
LOCATION: ARF

#

AUTHOR: Robert J. Mack, Director  
Office of Real Property Management  
U.S. Department of State  
RECIPIENT: Art Ditto, AFBDA  
DATE: 29 March 1993  
TYPE: Letter with attachment  
SECOND REFERENCE: Sites 32/36 and 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #79 001-003  
LONG TITLE: Proposed Plans for IRP Sites 32/36 and 34, March 1993, Draft Final  
AUTHOR: George C. Jones, Executive Director PDA  
RECIPIENT: Art Ditto, AFBDA  
DATE: 15 April 1993  
TYPE: Comments  
SECOND REFERENCE: Sites 32/36 and 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #80 001-003  
LONG TITLE: SCOPE Comments on Proposed Plans for Sites 32/36 and 34  
AUTHOR: Bradley M. Lown, Chairman, SCOPE  
RECIPIENT: Art Ditto, AFBDA  
DATE: 26 April 1993  
TYPE: Comments  
SECOND REFERENCE: Sites 32/36 and 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #81 001-005  
LONG TITLE: Response to EPA Comments on the Draft Zone 5 ISA  
AUTHOR: USAF  
RECIPIENT: EPA Region 1  
DATE: 14 June 1993  
TYPE: Response to Comments  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #82 001-025  
LONG TITLE: Response to NHDES Comments on the Draft Zone 5 ISA  
AUTHOR: USAF  
RECIPIENT: NHDES  
DATE: 14 June 1993  
TYPE: Response to Comments  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

#

DOCUMENT NUMBER: PEA (10.1) #72 001-009  
LONG TITLE: Response to EPA Comments on Site 8 Draft FS  
AUTHOR: USAF  
RECIPIENT: EPA  
DATE: 11 January 1993  
TYPE: Response to Comments  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #73 001-001  
LONG TITLE: Sierra Club Comments on Cleanup of Site 5 at Pease Air Force Base  
AUTHOR: Scott Drummey, Sierra Club  
RECIPIENT: USAF  
DATE: 15 February 1993  
TYPE: Comments  
SECOND REFERENCE: Landfills  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #74 001-002  
LONG TITLE: Proposed Plan for IPR Site 5, Landfill 5, Source Area  
AUTHOR: Seacoast Citizens Overseeing Pease Environment (SCOPE)  
RECIPIENT: USAF  
DATE: 22 January 1993  
TYPE: Comments  
SECOND REFERENCE: Landfills  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #75 001-002  
LONG TITLE: DES Review of Site 8 Draft Final Feasibility Study, January 1993 and Air Force's Response to Comments to DES Review Comments to Site 8 Draft Feasibility Study  
AUTHOR: NHDES  
RECIPIENT: Art Ditto, AFBDA  
DATE: 01 March 1993  
TYPE: Comments  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #76 001-009  
LONG TITLE: EPA Review of Air Force Installation Restoration Program, Draft Remedial Investigation Report, Zone 5, Pease Air Force Base - February 1993  
AUTHOR: EPA  
RECIPIENT: Art Ditto, AFBDA  
DATE: 26 March 1993  
TYPE: Comments  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #77 001-011  
LONG TITLE: IRP Stage 4 Zone 5 Remedial Investigation, February 1993 - Draft  
AUTHOR: NHDES  
RECIPIENT: Art Ditto, AFBDA  
DATE: 26 March 1993  
TYPE: Comments  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #78 001-002  
LONG TITLE: Comments on Proposed Plan for IRP Sites 32/36 and 34

RECIPIENT: Johanna Hunter, EPA  
 Richard Pease, NHDES  
 DATE: February 1993  
 TYPE: Letter  
 SECOND REFERENCE: Zone 2  
 LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #66 001-012  
 LONG TITLE: Response to Comments, Zone 2 SCS - EPA Comments  
 AUTHOR: USAF  
 RECIPIENT: EPA  
 DATE: 2 February 1993  
 TYPE: Response to Comments  
 SECOND REFERENCE: Zone 2  
 LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #67 001-009  
 LONG TITLE: Response to Comments, Zone 2 SCS - NHDES Comments  
 AUTHOR: USAF  
 RECIPIENT: NHDES  
 DATE: 2 February 1993  
 TYPE: Response to Comments  
 SECOND REFERENCE: Zone 2  
 LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #68 001-004  
 LONG TITLE: Stage 3B IRP Site 34 Groundwater Treatment Plant ITIR Draft, November 1992  
 AUTHOR: NHDES  
 RECIPIENT: Art Ditto, AFBDA  
 DATE: 25 January 1993  
 TYPE: Comments  
 SECOND REFERENCE: Site 34  
 LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #69 001-018  
 LONG TITLE: Response to EPA Comments on Site 8 Draft FS  
 AUTHOR: USAF  
 RECIPIENT: EPA  
 DATE: 27 January 1993  
 TYPE: Response to Comments  
 SECOND REFERENCE: Site 8  
 LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #70 001-021  
 LONG TITLE: Response to NHDES Comments on Site 8 Draft FS  
 AUTHOR: USAF  
 RECIPIENT: NHDES  
 DATE: 28 January 1993  
 TYPE: Response to Comments  
 SECOND REFERENCE: Site 8  
 LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #71 001-006  
 LONG TITLE: Response to NHDES Comments on Zone 5 FS  
 AUTHOR: USAF  
 RECIPIENT: NHDES  
 DATE: 07 January 1993  
 TYPE: Response to Comments  
 SECOND REFERENCE: Zone 5  
 LOCATION: ARF



AUTHOR: Johanna Hunter, RPM, USEPA Region 1  
RECIPIENT: Arthur Ditto, RPM, USAF, Pease AFB  
DATE: 21 January 1993  
TYPE: Letter  
SECOND REFERENCE: Sites 34, 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #60 001-004  
LONG TITLE: Additional Review Comments on Draft Proposed Plans for IRP Sites 32/36, Draft Final Feasibility Study for IRP Site 34, Draft Final Feasibility Study for IRP Site 32/36  
AUTHOR: Richard Pease, RPM, NHDES  
RECIPIENT: Arthur Ditto, RPM, USAF, Pease AFB  
DATE: 25 January 1993  
TYPE: Letter  
SECOND REFERENCE: Sites 34, 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #61 001-002  
LONG TITLE: Review Comments of Pease AFB Preliminary Findings - Fish and Shellfish Tissue Analysis  
AUTHOR: Richard Pease, RPM, NHDES  
RECIPIENT: Arthur Ditto, RPM, USAF, Pease AFB  
DATE: 21 January 1993  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #62 001-002  
LONG TITLE: Review of the Air Force Selection of Remedial Action Alternative Letter for Site 8, FDTA #2, dated January 8, 1993  
AUTHOR: EPA, Region 1  
RECIPIENT: Arthur Ditto, AFBDA  
DATE: 26 February 1993  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #63 001-004  
LONG TITLE: Review of Site 8 Draft Final Feasibility Study IRP Pease Air Force Base, NH 03801, Draft January 1993  
AUTHOR: EPA, Region 1  
RECIPIENT: Arthur Ditto, AFBDA  
DATE: 26 February 1993  
TYPE: Letter and Comments  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #64 001-003  
LONG TITLE: EPA Review of the Air Force Installation Restoration Program, Revised Draft Final Proposed Plans for IRP Sites 32/36 and 34, Pease Air Force Base - March 1993  
AUTHOR: EPA, Region 1  
RECIPIENT: Arthur Ditto, AFBDA  
DATE: 10 February 1993  
TYPE: Letter and Comments  
SECOND REFERENCE: Sites 32/36; Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #65 001-001  
LONG TITLE: Submittal of Responses to Comments for the Zone 2 Site Characterization Summary  
AUTHOR: USAF

LONG TITLE: Review Comments/Pease AFB Railroad Track (Site 46) Site Investigation Letter Report  
AUTHOR: Richard H. Pease, P.E.  
RPM, NHDES  
RECIPIENT: Arthur Ditto, P.E.  
RPM, U.S. Air Force  
Pease AFB  
DATE: 4 January 1993  
TYPE: Letter Report  
SECOND REFERENCE: Site 46  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #55 001-002  
LONG TITLE: Response to Comments, LF-5 Draft Proposed Plan and Fact Sheet  
AUTHOR: Arthur Ditto, RPM  
U.S. Air Force  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
DATE: 5 January 1993  
TYPE: Letter  
SECOND REFERENCE: LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #56 001-004  
LONG TITLE: Comments on Stage 3C Feasibility Study for Site 32/36 Draft Final December 1992  
AUTHOR: Richard H. Pease, P.E.  
NHDES  
RECIPIENT: Arthur Ditto, P.E.  
RPM, USAF  
DATE: 11 January 1993  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #57 001-004  
LONG TITLE: Review Comments for Draft Proposed Plans for IRP Sites 32/36 and 34, December 1992  
AUTHOR: Richard H. Pease, P.E.  
NHDES  
RECIPIENT: Arthur Ditto, P.E.  
RPM, USAF  
DATE: 14 January 1993  
TYPE: Letter  
SECOND REFERENCE: Sites 34, 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #58 001-006  
LONG TITLE: EPA Review of Draft Final Feasibility Study for IRP Site 32/36 - December 1992  
AUTHOR: Johanna Hunter, RPM, USEPA Region 1  
RECIPIENT: Arthur Ditto, RPM, USAF, Pease AFB  
DATE: 19 January 1993  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #59 001-005  
LONG TITLE: EPA Review of USAF IRP, Draft Proposed Plans for IRP Sites 32/36 and 34 - December 1992

DATE: 4 December 1992  
TYPE: Letter with Comment Reports  
SECOND REFERENCE: Zone 2; Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #50 001-004  
LONG TITLE: Review of Zone 1, Site Characterization Summary for Pease AFB, October 1992  
AUTHOR: Michael J. Daly  
U.S. EPA, Region 1  
Federal Facilities Superfund Section  
RECIPIENT: Arthur Ditto, P.E.  
RPM, USAF  
Pease AFB

DATE: 9 December 1992  
TYPE: Letter  
SECOND REFERENCE: Zone 1; PEA (3.5)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #51 001-004  
LONG TITLE: Review of the Zone 1 Site Characterization Summary for Pease AFB  
AUTHOR: Michael J. Daly  
U.S. EPA, Region 1  
Federal Facilities Superfund Section  
RECIPIENT: Arthur Ditto, RPM  
U.S. Air Force  
Pease AFB

DATE: 9 December 1992  
TYPE: Letter with Comment Report  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #52 001-001  
LONG TITLE: Comments on Zone 2 Pumping Test Letter Report  
AUTHOR: Michael J. Daly  
U.S. EPA, Region 1  
Federal Facilities Section  
RECIPIENT: Arthur Ditto, RPM  
USAF/Pease AFB  
DATE: 10 December 1992  
TYPE: Fax  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #53 001-004  
LONG TITLE: EPA Review of IRP LF-5, Draft Proposed Plan, November 1992  
AUTHOR: Johanna Hunter, RPM  
U.S. EPA, Region 1  
RECIPIENT: Arthur Ditto, RPM  
USAF, Pease AFB  
DATE: 17 December 1992  
TYPE: Letter  
SECOND REFERENCE: LF-5; PEA (4.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #54 001-002

LONG TITLE: Comments on Zone 2 Site Characterization Study  
AUTHOR: Michael J. Daly  
U.S. EPA, Region 1  
Federal Facilities Section  
RECIPIENT: Mark McKenzie  
USAF  
Pease AFB  
DATE: 24 November 1992  
TYPE: Letter (Fax)  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #46 001-005  
LONG TITLE: Review Comments of Stage 4, Site Characterization Summary, IRP Zone 2  
AUTHOR: Richard H. Pease, P.E.  
RPM, NHDES  
RECIPIENT: Arthur Ditto, P.E.  
RPM, U.S. Air Force  
Pease AFB  
DATE: 30 November 1992  
TYPE: Letter  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #47 001-002  
LONG TITLE: Review Comments of Stage 4, Site Characterization Summary, IRP Zone 5  
AUTHOR: Richard H. Pease, P.E.  
RPM, NHDES  
RECIPIENT: Arthur Ditto, P.E.  
RPM, U.S. Air Force  
Pease AFB  
DATE: 1 December 1992  
TYPE: Letter  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #48 001-003  
LONG TITLE: Review Comments of Stage 4, Site Characterization Summary, IRP Zone 1  
AUTHOR: Richard H. Pease, P.E.  
RPM, NHDES  
RECIPIENT: Arthur Ditto, P.E.  
RPM, U.S. Air Force  
Pease AFB  
DATE: 1 December 1992  
TYPE: Letter Comment Report  
SECOND REFERENCE: LF-4; Zone 1; LF-2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #49 001-008  
LONG TITLE: Review of Zone 2 and Zone 5, Site Characterization Summaries for Pease AFB  
AUTHOR: Michael J. Daly  
U.S. EPA, Region 1  
Federal Facilities Superfund Section  
RECIPIENT: Arthur Ditto, P.E.  
U.S. Air Force  
Pease AFB

DATE: 3 November 1992  
TYPE: Letter  
SECOND REFERENCE: PEA (3.3); PEA (3.1)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #41 001-002  
LONG TITLE: EPA Review of IRP Stage 4, No Further Action Decision Document (NFADD) for Site 3  
AUTHOR: Johanna Hunter, RPM  
U.S. EPA Region 1  
RECIPIENT: Arthur Ditto, RPM  
U.S. Air Force  
Pease AFB

DATE: 5 November 1992  
TYPE: Letter  
SECOND REFERENCE: Site 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #42 001-003  
LONG TITLE: Comments on Pease Off-Base Well Inventory Letter Report  
AUTHOR: Richard H. Pease, P.E.  
RPM, NHDES  
RECIPIENT: Arthur Ditto, P.E.  
RPM, U.S. Air Force  
Pease AFB

DATE: 12 November 1992  
TYPE: Letter  
SECOND REFERENCE: Zone 2; Zone 5; Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #43 001-003  
LONG TITLE: Review Comments for Stage 3B, Informal Technical Information Report for IRP Site 32/36  
AUTHOR: Richard H. Pease, P.E.  
RPM, NHDES  
RECIPIENT: Arthur Ditto, P.E.  
RPM, U.S. Air Force  
Pease AFB

DATE: 13 November 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #44 001-002  
LONG TITLE: Review of Stage 4 Sampling and Analysis Plan Addendum 3, Pease AFB  
AUTHOR: Michael J. Daly  
U.S. EPA, Region 1  
Federal Facilities Superfund Section  
RECIPIENT: Arthur Ditto, P.E.  
RPM, U.S. Air Force  
Pease AFB

DATE: 23 November 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #45 001-001

RECIPIENT: Arthur Ditto, P.E.  
RPM, NHDES  
Pease AFB  
DATE: 2 October 1992  
TYPE: Letter  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #37 001-002  
LONG TITLE: Proposed Locations for Additional Monitoring Wells at Site 8  
AUTHOR: Scott Doane, Hydrogeologist NHDES  
and  
John Regan, Supervisor NHDES  
RECIPIENT: Arthur Ditto, RPM, USAF  
Pease AFB  
DATE: 9 October 1992  
TYPE: Letter  
SECOND REFERENCE: Site 8; PEA (3.1)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #38 001-032  
LONG TITLE: Response to Comments: Site 8 Initial Screening of Alternatives  
AUTHOR: Roy F. Weston, Inc.  
through U.S. Air Force (Arthur Ditto)  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
and  
Richard Pease  
RPM, NHDES  
DATE: 13 October 1992  
TYPE: Transmittal Letters with 2 Attachments  
SECOND REFERENCE: Site 8; PEA (3.5)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #39 001-003  
LONG TITLE: NHDES Response to Comments to Site 42 Final Site Inspection Report, ICF Kaiser Engineers Portsmouth Waste  
to Energy Plant, dated July 1992  
AUTHOR: Richard H. Pease, P.E.  
RPM, NHDES  
RECIPIENT: Arthur Ditto, P.E.  
RPM, USAF  
DATE: 22 October 1992  
TYPE: Letter  
SECOND REFERENCE: Site 42; PEA (1.4)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #40 001-006  
LONG TITLE: Response to Comments, Stage 4 Work Plan and Sampling and Analysis Plan Addendum 2  
AUTHOR: Arthur Ditto, RPM  
U.S. Air Force  
Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
and  
Richard Pease, RPM  
NHDES

#

DOCUMENT NUMBER: PEA (10.1) #32 001-023  
LONG TITLE: Response to Comments on Zone 4 Site Characterization Summary  
AUTHOR: Roy F. Weston, Inc.  
Through U.S. Air Force (Art Ditto)  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
and  
Richard Pease, RPM  
NHDES  
DATE: 30 September 1992  
TYPE: Transmittal Letters with Letter Report  
SECOND REFERENCE: Zone 4; PEA (3.5)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #33 001-006  
LONG TITLE: Review of Stage 3C Soil Vapor Extraction Treatability Study Work Plan for IP Site 8 - September 1992  
AUTHOR: Michael J. Daly  
U.S. EPA Region 1  
Federal Facilities Superfund Section  
RECIPIENT: Arthur Ditto  
RPM, USAF  
Pease AFB  
DATE: 30 September 1992  
TYPE: Letter with 2 Attachments  
SECOND REFERENCE: Site 8; PEA (2.0)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #34 001-002  
LONG TITLE: Review Comments on Stage 3C, Letter Report for IRP Site 34 Groundwater Remediation System  
AUTHOR: Richard H. Pease, P.E.  
RPM, NHDES  
RECIPIENT: Arthur Ditto, P.E.  
RPM, USAF  
Pease AFB  
DATE: 1 October 1992  
TYPE: Letter  
SECOND REFERENCE: Site 34; PEA (2.7)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #35 001-001  
LONG TITLE: Review Comments for Landfill 3 - No Further Action Decision Document  
AUTHOR: Richard H. Pease, P.E.  
RPM, NHDES  
RECIPIENT: Arthur Ditto, P.E.  
RPM, USAF  
Pease AFB  
DATE: 2 October 1992  
TYPE: Letter  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #36 001-001  
LONG TITLE: Review Comments for Landfill 3 (IRP Site 3)  
AUTHOR: Richard H. Pease, P.E.  
RPM, NHDES

#

DOCUMENT NUMBER: PEA (10.1) #27 001-002  
LONG TITLE: Stage 4 Work Plan Addendum 3 Review Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 14 August 1992  
TYPE: Comments  
SECOND REFERENCE: PEA (6.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #28 001-006  
LONG TITLE: Haven Well Test Response to Comments  
AUTHOR: James G. Spratt, Roy F. Weston, Inc.  
RECIPIENT: Mark McKenzie, Pease AFB  
DATE: 17 August 1992  
TYPE: Response to Comments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #29 001-026  
LONG TITLE: Response to Comments on Zone 3 Site Characterization Summary  
AUTHOR: Lee dePersia  
Task Manager  
Roy F. Weston, Inc.  
RECIPIENT: Capt. Carl Woerhle  
U.S. Air Force  
Base Closure Division  
Air Force Center for Environmental Excellence  
DATE: 1 September 1992  
TYPE: Letter with Comment Report  
SECOND REFERENCE: Zone 3; PEA (3.4)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #30 001-002  
LONG TITLE: Review Comments of Draft Landfill 5 Source Area Proposed Plan  
AUTHOR: Richard H. Pease, P.E.  
RPM, NHDES  
RECIPIENT: Arthur Ditto, P.E.  
RPM, USAF  
Pease AFB  
DATE: 10 September 1992  
TYPE: Letter  
SECOND REFERENCE: LF-5; PEA (4.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #31 001-003  
LONG TITLE: Review of Letter Report Re: Addition of Bedrock Wells to Groundwater Extraction System at Site 32/36  
AUTHOR: Johanna Hunter, RPM  
U.S. EPA, Region 1  
RECIPIENT: Arthur Ditto, RPM  
USAF/Pease AFB  
DATE: 22 September 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36; PEA (2.7)  
LOCATION: ARF



LONG TITLE: AOC 32/36 Draft Final Remedial Investigation June 1992, Review Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 08 July 1992  
TYPE: Comments  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #22 001-006  
LONG TITLE: Issues Needing Resolution for the Draft Final Remedial Investigation Report for Landfill 5, Dated April 1992  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 28 July 1992  
TYPE: Response to Comments  
SECOND REFERENCE: Landfill 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #23 001-011  
LONG TITLE: Review of Draft Zone 4 Site Characterization Summary Report  
AUTHOR: Johanna Hunter, RPM  
RECIPIENT: U.S. EPA, Region 1  
ARTHUR DITTO  
RPM, USAF  
PEASE AFB  
DATE: 1 August 1992  
TYPE: Transmittal Letter with Comment Report  
SECOND REFERENCE: Zone 4: PEA (3.5)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #24 001-003  
LONG TITLE: Comments on Haven Pump Test Design and Piezometer Installations  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 7 August 1992  
TYPE: Comments  
SECOND REFERENCE: PEA (6.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #25 001-007  
LONG TITLE: Stage 3C Review of Initial Screening of Alternatives for IRP Site 8 Fire Training Area, Pease Air Force Pease, NH -  
- Draft, June 1992  
AUTHOR: Johanna Hunter, USEPA  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 10 August 1992  
TYPE: Comments  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #26 001-002  
LONG TITLE: Haven Well Pump Test at Pease Air Force Base, NH  
AUTHOR: Johanna Hunter, USEPA  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 11 August 1992  
TYPE: Comments  
SECOND REFERENCE: None  
LOCATION: ARF

LONG TITLE: Zone 3 Site Characterization Summary, May 1992 Review Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 11 June 1992  
TYPE: Comments  
SECOND REFERENCE: PEA (6.3); Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #16 001-006  
LONG TITLE: Zone 3 Site Characterization Summary, May 1992 Review Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 11 June 1992  
TYPE: Comments  
SECOND REFERENCE: PEA (6.3); Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #17 001-009  
LONG TITLE: Review of the Zone 3 Site Characterization Summary for Pease Air Force Base, Portsmouth, NH - May 1992  
AUTHOR: Michael Daly, USEPA  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 11 June 1992  
TYPE: Comments  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #18 001-003  
LONG TITLE: Site 32/36 Letter Report Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 15 June 1992  
TYPE: Comments  
SECOND REFERENCE: PEA (6.3); Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #19 001-015  
LONG TITLE: Review of the Stage 3C Feasibility Study for IRP Site 34 Pease Air Force Base, Portsmouth, NH May 1992  
AUTHOR: Michael J. Daly, USEPA  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 18 June 1992  
TYPE: Comments  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #20 001-012  
LONG TITLE: Review of the Draft Stage 3C Feasibility Study for IRP Site 32/36, Pease AFB, Portsmouth, NH - May 1992  
AUTHOR: Johanna Hunter, USEPA  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 01 July 1992  
TYPE: Comments  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #21 001-003

AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
EPA  
DATE: May 1992  
TYPE: Response to Comments  
SECOND REFERENCE: PEA (3.6)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #12 001-003  
LONG TITLE: Review Comments for Stage 4 Work Plan Addendum Number 2  
AUTHOR: Richard H. Pease, P.E.  
RECIPIENT: RPM, NHDES  
Arthur Ditto, P.E.  
RPM, USAF  
Pease AFB  
DATE: 08 May 1992  
TYPE: Letter  
SECOND REFERENCE: PEA (3.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #13 001-014  
LONG TITLE: Review Comments for Stage 4 Work Plan and Sampling and Analysis Plan Addendum Number 2  
AUTHOR: Michael Daly  
U.S. EPA Region 1  
Federal Facilities Superfund Section  
RECIPIENT: Arthur Ditto, RPM  
U.S. Air Force  
Pease AFB  
DATE: 14 May 1992  
TYPE: Transmittal Sheet, Letter and Comment Report  
SECOND REFERENCE: PEA (3.1); PEA (3.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #14 001-013  
LONG TITLE: Review of Stage 4 Work Plan and Sampling and Analysis Plan Addendum Number 2 for Pease AFB  
AUTHOR: Michael J. Daly  
U.S. EPA Region 1  
Federal Facilities Superfund Section  
RECIPIENT: Arthur Ditto, RPM  
U.S. Air Force/Pease AFB  
DATE: 14 May 1992  
TYPE: Letter with Comment Report  
SECOND REFERENCE: PEA (3.1); PEA (3.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #15 001-006  
LONG TITLE: Zone 4 Site Characterization Summary, May 1992 Review Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 02 June 1992  
TYPE: Comments  
SECOND REFERENCE: PEA (6.3); Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #16 001-006

AUTHOR: Johanna Hunter, RPM  
U.S. EPA, Region 1  
RECIPIENT: Arthur Ditto, RPM  
U.S. Air Force  
Pease AFB  
DATE: 25 March 1991  
TYPE: Letter  
SECOND REFERENCE: Community Relations  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #7 001-003  
LONG TITLE: Comments Remaining Unresolved for Stage 4 Work Plan Analysis Method  
AUTHOR: Mark McKenzie, Pease AFB  
RECIPIENT: Lee dePersia, Roy F. Weston, Inc.  
DATE: 05 May 1991  
TYPE: Comments  
SECOND REFERENCE: PEA (3.1)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #8 001-002  
LONG TITLE: Oversight Comments on the Soil Boring/Piezometer Installation Program  
AUTHOR: Scott Doane  
John Regan  
NHDES  
RECIPIENT: Arthur Ditto, P.E.  
RPM, U.S. Air Force  
Pease AFB  
DATE: 13 April 1992  
TYPE: Letter  
SECOND REFERENCE: CRD-1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #9 001-002  
LONG TITLE: Preliminary Assessment/Site Inspection Draft Fact Sheet Comments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 17 April 1992  
TYPE: Comments  
SECOND REFERENCE: PEA (10.6); PEA (6.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #10 001-002  
LONG TITLE: Review of Zone 2 Monitoring Well Installation Modifications  
AUTHOR: Richard Pease  
RPM, NHDES  
RECIPIENT: Arthur Ditto  
RPM, U.S. Air Force  
Pease AFB  
DATE: 28 April 1992  
TYPE: Letter  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #11 001-021  
LONG TITLE: Response to Comments on Zone 4. Site Characterization for Pease AFB, Portsmouth, NH

## 10.1 Comments and Responses

DOCUMENT NUMBER: PEA (10.1) #1 001-005  
LONG TITLE: "Response to Comments - Draft Final Community Relations Plan"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 7 February 1991  
TYPE: Letter/Response to Comments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #2 001-003  
LONG TITLE: Draft Community Relations Plan Comments  
AUTHOR: Richard Pease, P.E.  
RECIPIENT: RPM, NHDES  
Arthur Ditto, P.E.  
RPM, U.S. Air Force  
DATE: 30 November 1990  
TYPE: Letter Comment Report  
SECOND REFERENCE: Community Relations  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #3 001-010  
LONG TITLE: EPA Region 1 Comments to IRP Draft Community Relations Plan: Pease AFB  
AUTHOR: Douglas S. Gutto  
U.S. EPA Region 1  
RECIPIENT: Superfund Community Relations  
Arthur Ditto, RPM  
U.S. Air Force  
Pease AFB  
DATE: 7 December 1990  
TYPE: Letter Comment Report  
SECOND REFERENCE: Community Relations  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #4 001-011  
LONG TITLE: EPA Comments on Pease AFB Community Relations Plan with Air Force's Responses  
AUTHOR: Individual Unknown (From Air Force)  
RECIPIENT: U.S. Air Force  
DATE: January 1991  
TYPE: Comment Report  
SECOND REFERENCE: Community Relations  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #5 001-004  
LONG TITLE: NHDES Comments on Pease AFB Community Relations Plan with Air Force Responses  
AUTHOR: Individual Unknown (Through Air Force)  
RECIPIENT: U.S. Air Force  
DATE: January 1991  
TYPE: Comment Report  
SECOND REFERENCE: Community Relations  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (10.1) #6 001-002  
LONG TITLE: Review of Draft (Revised) Final Report IRP Community Relations Plan

9.4 General Correspondence

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

9.3 Reports

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

9.2 Findings of Fact

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#



9.1 Notices Issued

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

### 8.3 General Correspondence

DOCUMENT NUMBER: PEA (8.3) #1 001-001  
LONG TITLE: Health Assessment Split Sample  
AUTHOR: NHDES  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 26 July 1991  
TYPE: Letter  
SECOND REFERENCE: PEA (6.4)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (8.3) #2 001-001  
LONG TITLE: Health Assessment Report for Pease AFB  
AUTHOR: USAF  
RECIPIENT: Leslie Campbell  
ATSDR  
Mail Stop E-32  
1600 Clifton Road  
Atlanta, GA. 30333  
DATE: 26 June 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

## 8.2 Toxicological Profiles

DOCUMENT NUMBER: PEA (8.2) #1 001-ZN4  
LONG TITLE: Installation Restoration Program Stage 4 Toxicity Profiles, Pease Air Force Base, NH 03803  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: January 1993  
TYPE: Toxicity Profiles  
SECOND REFERENCE: None  
LOCATION: ARF. IR

#

**8.1 ATSDR Health Assessments**

DOCUMENT NUMBER: PEA (8.1) #1 001-B1  
LONG TITLE: Installation Restoration Program. Stage 3C Health Assessment, Pease AFB, NH, Volume I Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: September 1991  
TYPE: Health Assessment  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

7.7 Notices, Letters, and Responses

• NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

7.6 Documentation of Technical Discussions / Response Actions

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

7.5 Affidavits

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

7.4 Consent Decrees

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#



7.3 Administrative Orders

DOCUMENT NUMBER: PEA (7.3) #1 001-IL3  
LONG TITLE: Pease AFB Federal Facilities Agreement Modification  
AUTHOR: USAF  
RECIPIENT: Pease AFB  
EPA Region 1  
NHDES  
NH Attorney General  
DATE: January 1993  
TYPE: FFA Modification  
SECOND REFERENCE: none  
LOCATION: ARF

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

7.2 Endangerment Assessments

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

7.1 Enforcement History

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

RECIPIENT: Concord, NH 03302-2008  
DATE: Art Ditto, Pease AFB  
TYPE: 26 May 1992  
SECOND REFERENCE: Letter  
LOCATION: None  
ARF

#

DOCUMENT NUMBER: PEA (6.4) #7 001-002  
LONG TITLE: State Review Comments to Site 8 Initial Screening of Alternatives: Clarification of TSCA Regulation of PCBs  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 11 August 1992  
TYPE: Letter  
SECOND REFERENCE: PEA (10.10); PEA (4.2)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.4) #8 001-019  
LONG TITLE: Lab results of groundwater samples from monitoring wells 05-5113, 05-6101, and 08-6024.  
AUTHOR: NHDES  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 11 February 1993  
TYPE: Letter w/ attachment  
SECOND REFERENCE: None  
LOCATION: ARF

#

#### 6.4 General Correspondence

DOCUMENT NUMBER: PEA (6.4) #1 001-003  
LONG TITLE: "Wetlands Application No. 89-1805"  
AUTHOR: State of New Hampshire, Department of Environmental Services, Water Supply and Pollution Control Division  
RECIPIENT: State of New Hampshire  
DATE: 14 September 1989  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.4) #2 001-001  
LONG TITLE: "Request for information for wetlands permit"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 18 September 1989  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.4) #3 001-001  
LONG TITLE: "Letter regarding the approval of permit No. WPP-3348 for Landfill 5 remediation"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 11 October 1989  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.4) #4 001-005  
LONG TITLE: "Air Force Letter to the Wetlands Board regarding a request for approval for a modification to the wetlands permitted scope of work"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Delbert Downing, Wetlands Board, Concord, NH  
DATE: 21 November 1989  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.4) #5 001-010  
LONG TITLE: "Letter to EPA regarding background information on Pease Air Force Base"  
AUTHOR: US Department of Commerce  
RECIPIENT: Air Force via US EPA  
DATE: 7 March 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.4) #6 001-001  
LONG TITLE: File # 92-679; CERCLA Related Temporary Fill of 2000 Square Feet for Wells at Pease AFB, NH  
AUTHOR: Kenneth N. Kettinging  
NHDES  
Wetlands Board  
P.O. Box 2008

DOCUMENT NUMBER: PEA (6.3) #39 001-020  
LONG TITLE: Quarterly Report, First Quarter 1992  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES, USAF  
DATE: 15 April 1992  
TYPE: Quarterly Report  
SECOND REFERENCE: None  
LOCATION: ARF, Art Ditto's office files

#

DOCUMENT NUMBER: PEA (6.3) #40 001-032  
LONG TITLE: Quarterly Report, Second Quarter 1992  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES, USAF  
DATE: 14 July 1992  
TYPE: Quarterly Report  
SECOND REFERENCE: None  
LOCATION: ARF, Art Ditto's office files

#

DOCUMENT NUMBER: PEA (6.3) #41 001-043  
LONG TITLE: Quarterly Report, Third Quarter 1992  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES, USAF  
DATE: 20 October 1992  
TYPE: Quarterly Report  
SECOND REFERENCE: None  
LOCATION: ARF, Art Ditto's office files

#

DOCUMENT NUMBER: PEA (6.3) #42 001-Q4  
LONG TITLE: Transmittal Letter for Quarterly Progress Report, Fourth Quarter 1992  
AUTHOR: Art Ditto, RPM, Pease AFB  
RECIPIENT: Johanna Hunter, RPM, USEPA Region 1  
Richard Pease, RPM, NHDES  
DATE: 19 January 1993  
TYPE: Transmittal Letter and Quarterly Report  
SECOND REFERENCE: None  
LOCATION: ARF, Art Ditto's office files

#

DOCUMENT NUMBER: PEA (6.3) #43 001-E.1  
LONG TITLE: Quarterly Progress Report for Pease AFB  
AUTHOR: Art Ditto, RPM, Pease AFB  
RECIPIENT: Johanna Hunter, RPM, USEPA Region 1  
Richard Pease, RPM, NHDES  
DATE: 26 April 1993  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DATE: 22 October 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #34 001-001  
LONG TITLE: Guidebook for Environmental Permits in New Hampshire  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Art Ditto, Pease AFB  
Johanna Hunter, USEPA  
DATE: 4 November 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #35 001-004  
LONG TITLE: Newington Water Quality Sampling on October 14, 1992 and Analysis Performed on October 28, 1992, NHDES  
Sample #220009  
AUTHOR: Scott Doane, NHDES  
RECIPIENT: Wayne Wood, Newington, NH  
Richard Pease, NHDES  
Mark McKenzie, Pease AFB  
DATE: 11 December 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #36 001-Attachment 6  
LONG TITLE: Quarterly Report, Second Quarter 1991  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES, USAF  
DATE: 19 July 1991  
TYPE: Quarterly Report  
SECOND REFERENCE: None  
LOCATION: ARF, Art Ditto's office files

#

DOCUMENT NUMBER: PEA (6.3) #37 001-034  
LONG TITLE: Quarterly Report, Third Quarter 1991  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES, USAF  
DATE: 24 October 1991  
TYPE: Quarterly Report, Transmittal Letters  
SECOND REFERENCE: None  
LOCATION: ARF, Art Ditto's office files

#

DOCUMENT NUMBER: PEA (6.3) #38 001-030  
LONG TITLE: Quarterly Report, Fourth Quarter 1991  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES, USAF  
DATE: 14 January 1992  
TYPE: Quarterly Report  
SECOND REFERENCE: None  
LOCATION: ARF, Art Ditto's office files

#

RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: 3 June 1992  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #29 001-003  
LONG TITLE: Remedial Project Managers' Meeting Minutes of August 21, 1991  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: Meeting Date: 21 August 1992  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #30 001-003  
LONG TITLE: Remedial Project Managers' Meeting Minutes - September 10, 1992  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: 10 September 1992  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #31 001-002  
LONG TITLE: New Hampshire Sites Where SVE is Used for NAPL Removal  
AUTHOR: John Regan, NHDES  
RECIPIENT: Art Ditto, Pease AFB  
Mike Daly, USEPA  
Richard Pease, NHDES  
Scott Doane, NHDES  
DATE: 30 September 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #32 001-002  
LONG TITLE: Remedial Project Managers' Meeting Minutes - October 20, 1992  
AUTHOR: Arthur Ditto, RPM  
RECIPIENT: EPA, NHDES, USAF  
Attendees  
DATE: 20 October 1992  
TYPE: Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #33 001-003  
LONG TITLE: Application of the Reasonable Maximum Exposure (RME) in Risk Assessments; Request for Site Specific Justification for Using the "Average Maximum"  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Art Ditto, Pease AFB  
Johanna Hunter, USEPA  
Capt. Woerhle, AFCEE



DOCUMENT NUMBER: PEA (6.3) #23 001-003  
LONG TITLE: Remedial Project Managers' Meeting Minutes  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: 27 January 1992  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #24 001-003  
LONG TITLE: Remedial Project Managers' Meeting Minutes  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: 25 February 1992  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #25 001-002  
LONG TITLE: Remedial Project Managers' Meeting Minutes  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: 07 April 1992  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #26 001-004  
LONG TITLE: NH Wetlands Permit for National Priorities List Related Work  
AUTHOR: USAF  
RECIPIENT: NHDES  
Wetlands Board  
P.O. Box 2008  
Concord, NH 03301-2008  
DATE: 24 April 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #27 001-002  
LONG TITLE: Remedial Project Managers' Meeting Minutes  
AUTHOR: USAF  
RECIPIENT: See Distribution  
DATE: 22 April 1992  
TYPE: Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #28 001-008  
LONG TITLE: Remedial Project Managers' Meeting Minutes, June 3, 1992  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB

DATE: 24 July 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #18 001-004  
LONG TITLE: Remedial Project Managers' Meeting Minutes of September 26, 1991  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: 21 August 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #19 001-004  
LONG TITLE: Remedial Project Managers' Meeting Minutes  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: 26 September 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #20 001-004  
LONG TITLE: Remedial Project Managers' Meeting Minutes  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: 27 October 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #21 001-003  
LONG TITLE: Remedial Project Managers' Meeting Minutes  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: 20 November 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #22 001-003  
LONG TITLE: Remedial Project Managers' Meeting Minutes of January 27, 1992  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: 19 December 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

LONG TITLE: Remedial Project Managers' Meeting Minutes  
AUTHOR: USAF  
RECIPIENT: See Distribution  
DATE: 20 March 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #13 001-004  
LONG TITLE: Remedial Project Managers' Meeting Minutes of April 17, 1991  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: 17 April 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #14 001-003  
LONG TITLE: Remedial Project Managers' Meeting Minutes of May 21, 1991  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: 21 May 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #15 001-004  
LONG TITLE: Notification of Additional Investigative Work in a Wetland  
AUTHOR: USAF  
RECIPIENT: NHDES  
Wetlands Board  
P.O. Box 2008  
Concord, NH 03301-3406  
DATE: 14 June 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #16 001-003  
LONG TITLE: Remedial Project Managers' Meeting Minutes of July 24, 1991  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: 24 June 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #17 001-003  
LONG TITLE: Remedial Project Managers' Meeting Minutes of August 26, 1991  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees

TYPE: Agenda and Meeting Notes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #7 001-025  
LONG TITLE: "Letter response to Air Force letter of 22 August 1990 regarding CERCLA remedial actions at Pease Air Force Base, 404 permit not required"  
AUTHOR: Department of the Army  
RECIPIENT: Air Force  
DATE: 3 October 1990  
TYPE: Response Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #8 001-033  
LONG TITLE: "Point Paper on Installation Restoration Program (Pease AFB) and Attachments (Prepared for a meeting of J. Coit and M. Aldrich, of Senator Humphrey's office, with Pease, NHDES, WESTON, and OEHL)"  
AUTHOR: Pease Air Force Base  
RECIPIENT: J. Coit & M. Aldrich of Senator Humphrey's Office  
DATE: 31 March 1989  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #9 001-003  
LONG TITLE: "Recommendation to Place Pease AFB on the National Priority List (NPL)"  
AUTHOR: Department of the Air Force  
RECIPIENT: US EPA  
DATE: 27 June 1989  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #10 001-004  
LONG TITLE: Remedial Project Managers' Meeting Minutes of January 16, 1991  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: Meeting Date: 16 January 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #11 001-004  
LONG TITLE: Remedial Project Managers' Meeting Minutes of February 20, 1991  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: U.S. EPA/NHDES/USAF Attendees  
DATE: Meeting Date: 20 February 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #12 001-004

6.3 Coordination - State / Federal

DOCUMENT NUMBER: PEA (6.3) #1 001-003  
LONG TITLE: "Meeting minutes from Air Force meeting with state officials concerning Pease Air Force Base IRP"  
AUTHOR: U.S. Air Force  
RECIPIENT: See Distribution List  
DATE: 11 March 1987  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #2 001-002  
LONG TITLE: "Agenda for Meeting with State DES, Air Force, and EPA Technical Team"  
AUTHOR: Pease Air Force Base  
RECIPIENT: See Distribution List  
DATE: 26 April 1990  
TYPE: Agenda  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #3 001-031  
LONG TITLE: "Completed Applications for Department of the Army Permit (ENG Form 435) and New Hampshire Wetlands Board Permit"  
AUTHOR: Department of the Air Force  
RECIPIENT: Army Corps of Engineers, New England Division  
DATE: 31 August 1989  
TYPE: Letter and Attachments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #4 001-002  
LONG TITLE: "Letter regarding emergency discharge exclusion from the requirement for a permit under the National Pollutant Discharge Elimination System (NPDES)"  
AUTHOR: US EPA  
RECIPIENT: Air Force  
DATE: 29 September 1989  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #5 001-002  
LONG TITLE: "Letter in response to Air Force question regarding necessity of a permit for the proposed landfill cleanup operation"  
AUTHOR: Department of the Army  
RECIPIENT: Air Force  
DATE: 17 October 1989  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.3) #6 001-001  
LONG TITLE: "Agenda and Notes for Working Meeting with U.S. EPA and State of New Hampshire"  
AUTHOR: US Air Force  
RECIPIENT: See Distribution List  
DATE: 21 November 1989

LOCATION: ARF, IR #

DOCUMENT NUMBER: PEA (6.2) #7 001-002  
LONG TITLE: "Remedial Project Managers Meeting Minutes"  
AUTHOR: Pease Air Force Base  
RECIPIENT: See Distribution List  
DATE: 24 June 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF, IR #

6.2 Federal Facility Agreement (FFA)

DOCUMENT NUMBER: PEA (6.2) #1 001-097  
LONG TITLE: "Federal Facility Agreement under CERCLA Section 120"  
AUTHOR: U.S. EPA, Region I, State of New Hampshire and the U.S. Department of the Air Force"  
RECIPIENT: EPA, NHDES, Air Force  
DATE: 24 April 1991  
TYPE: Federal Facility Agreement  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.2) #2 001-003  
LONG TITLE: "Remedial Project Managers Meeting Minutes"  
AUTHOR: Pease Air Force Base  
RECIPIENT: See Distribution List  
DATE: 16 January 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (6.2) #3 001-003  
LONG TITLE: "Remedial Project Managers Meeting Minutes"  
AUTHOR: Pease Air Force Base  
RECIPIENT: See Distribution List  
DATE: 20 February 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (6.2) #4 001-003  
LONG TITLE: "Remedial Project Managers Meeting Minutes"  
AUTHOR: Pease Air Force Base  
RECIPIENT: See Distribution List  
DATE: 20 March 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (6.2) #5 001-002  
LONG TITLE: "Remedial Project Managers Meeting Minutes"  
AUTHOR: Pease Air Force Base  
RECIPIENT: See Distribution List  
DATE: 17 April 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (6.2) #6 001-002  
LONG TITLE: "Remedial Project Managers Meeting Minutes"  
AUTHOR: Pease Air Force Base  
RECIPIENT: See Distribution List  
DATE: 21 May 1991  
TYPE: Meeting Minutes  
SECOND REFERENCE: None

6.1 Cooperative Agreements / SMOAs

DOCUMENT NUMBER: PEA (6.1) #1 001-013  
LONG TITLE: "Memorandum of Understanding Executed Between the Town of Newington, NH, and Pease Air Force Base, NH"  
AUTHOR: Town of Newington/Pease Air Force Base  
RECIPIENT: Air Force  
DATE: 22 August 1980  
TYPE: Memorandum of Understanding  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (6.1) #2 001-004  
LONG TITLE: "Memorandum of Understanding (MOU) between the U.S. Air Force Occupational and Environmental Health Laboratory (USAFOEHL) and Pease Air Force Base relating to procedures for conducting the IRP"  
AUTHOR: U.S. Department of the Air Force  
RECIPIENT: Air Force  
DATE: 31 July 1987  
TYPE: Memorandum of Understanding  
SECOND REFERENCE: None  
LOCATION: ARF

#



5.4 Correspondence

DOCUMENT NUMBER: PEA (5.4) #1 001-001  
LONG TITLE: Region 1 ROD Model Language  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: Unknown  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (5.4) #2 001-001  
LONG TITLE: Submittal of Draft Primary Document, Site 34 Record of Decision  
AUTHOR: Arthur Ditto, Pease AFB  
RECIPIENT: Mike Daly, EPA Region 1  
DATE: 17 June 1993  
TYPE: Letter  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (5.4) #3 001-001  
LONG TITLE: Submittal of Draft Primary Document, Site 34 Record of Decision  
AUTHOR: Arthur Ditto, Pease AFB  
RECIPIENT: Richard Pease, NHDES  
DATE: 17 June 1993  
TYPE: Letter  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

5.3 Explanations of Significant Differences

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

5.2 Amendments to ROD

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

5.1 ROD

DOCUMENT NUMBER: PEA (5.1) #1 001-D4  
LONG TITLE: Pease AFB Site 34 Record of Decision  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: June 1993  
TYPE: ROD  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (5.1) #2 001-C.11  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Landfill 5 Record of Decision Text DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: June 1993  
TYPE: ROD  
SECOND REFERENCE: LF-5  
LOCATION: ARF

#

#

DOCUMENT NUMBER: PEA (4.5) #53 001-001  
LONG TITLE: Submittal of Draft Secondary Document, Zone 1 Initial Screening of Alternatives  
AUTHOR: Arthur Ditto, Pease AFB  
RECIPIENT: Mike Daly, EPA Region 1  
DATE: 3 June 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #54 001-001  
LONG TITLE: Submittal of Proposed Plans for Landfills 2 and 4 and Landfill 5  
AUTHOR: Arthur Ditto, Pease AFB  
RECIPIENT: Mike Daly, EPA Region 1  
Richard Pease, NHDES  
DATE: 25 June 1993  
TYPE: Letter  
SECOND REFERENCE: LF-2, LF-4, LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #55 001-001  
LONG TITLE: Submittal of Draft Primary Document, Zone 5 Draft Feasibility Study  
AUTHOR: Arthur Ditto, Pease AFB  
RECIPIENT: Richard Pease, NHDES  
DATE: 14 July 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #56 001-001  
LONG TITLE: Submittal of Draft Primary Document, Zone 5 Draft Feasibility Study  
AUTHOR: Arthur Ditto, Pease AFB  
RECIPIENT: Mike Daly, EPA Region 1  
DATE: 14 July 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #57 001-002  
LONG TITLE: Submittal of the Revised Site 8 Proposed Plan  
AUTHOR: Arthur Ditto, Pease AFB  
RECIPIENT: Mike Daly, EPA Region 1  
Richard Pease, NHDES  
DATE: 28 July 1993  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

#

DOCUMENT NUMBER: PEA (4.5) #47 001-002  
LONG TITLE: Site 32/36 and Sit 34 Draft Final Proposed Plans  
AUTHOR: NHDES  
RECIPIENT: Art Ditto, AFBDA  
DATE: 12 February 1993  
TYPE: Letter  
SECOND REFERENCE: Sites 32/36; Site 34; Pea (4.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #48 001-001  
LONG TITLE: Submittal of Draft Secondary Document, Zone 4 Initial Screening of Alternatives  
AUTHOR: Arthur Ditto, Pease AFB  
RECIPIENT: Johanna Hunter, EPA Region 1  
DATE: 5 April 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #49 001-001  
LONG TITLE: Submittal of Draft Secondary Document, Zone 4 Initial Screening of Alternatives  
AUTHOR: Arthur Ditto, Pease AFB  
RECIPIENT: Richard Pease, NHDES  
DATE: 5 April 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #50 001-001  
LONG TITLE: Submittal of Draft Secondary Document, Zone 3 Initial Screening of Alternatives  
AUTHOR: Arthur Ditto, Pease AFB  
RECIPIENT: Johanna Hunter, EPA Region 1  
DATE: 17 May 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #51 001-001  
LONG TITLE: Submittal of Draft Secondary Document, Zone 3 Initial Screening of Alternatives  
AUTHOR: Arthur Ditto, Pease AFB  
RECIPIENT: Richard Pease, NHDES  
DATE: 17 May 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #52 001-001  
LONG TITLE: Submittal of Draft Secondary Document, Zone 1 Initial Screening of Alternatives  
AUTHOR: Arthur Ditto, Pease AFB  
RECIPIENT: Richard Pease, NHDES  
DATE: 3 June 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

TYPE: Letter  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #41 001-001  
LONG TITLE: Submittal of Draft Secondary Document, Zone 5 Initial Screening of Alternatives  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 12 March 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #42 001-001  
LONG TITLE: Submittal of the Sites 32/36 and 34 Draft Final Proposed Plan  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 9 March 1993  
TYPE: Letter  
SECOND REFERENCE: Site 32/36; Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #43 001-004  
LONG TITLE: Selection of Remedial Action Alternatives for Site 8, FDTA-2  
AUTHOR: NHDES  
RECIPIENT: Art Ditto, AFBDA  
DATE: 12 February 1993  
TYPE: Letter  
SECOND REFERENCE: PEA (6.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #44 001-002  
LONG TITLE: Submittal of the Sites 32/36 and 34 Draft Final Proposed Plan  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, EPA  
Richard Pease, NHDES  
DATE: 03 February 1993  
TYPE: Letter  
SECOND REFERENCE: PEA (6.3); Sites 32/36; Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #45 001-001  
LONG TITLE: Submittal of Draft Final Primary Document, Site 8 Feasibility Study Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, EPA  
DATE: 29 February 1993  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #46 001-001  
LONG TITLE: Submittal of Draft Final Primary Document, Site 8 Feasibility Study Report  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 29 January 1993  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

DATE: 10 December 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #35 001-001  
LONG TITLE: Submittal of Draft Final Primary Document, Site 32/36 Feasibility Study Report  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 14 December 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #36 001-001  
LONG TITLE: Submittal of Draft Final Primary Document, Site 32/36 Feasibility Study Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 14 December 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #37 001-001  
LONG TITLE: Submittal of Buildings 113/119 and Building 222 Draft Proposed Plan  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 16 December 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #38 001-001  
LONG TITLE: Submittal of Buildings 113/119 and Building 222 Draft Proposed Plan  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 16 December 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #39 001-001  
LONG TITLE: Submittal of the Draft Site 8 Proposed Plan  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
Johanna Hunter, USEPA  
DATE: 23 March 1993  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #40 001-001  
LONG TITLE: Submittal of Draft Secondary Document, Zone 5 Initial Screening of Alternatives  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 12 March 1993



LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #29 001-001  
LONG TITLE: Submittal of Draft Final Primary Document, Site 34 Feasibility Study Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 24 November 1992  
TYPE: Letter  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #30 001-001  
LONG TITLE: Submittal of Draft Final Primary Document, Site 34 Feasibility Study Report  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 24 November 1992  
TYPE: Letter  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #31 001-001  
LONG TITLE: Determination of Site Boundaries at the Time of Remedial Action Implementation (Will Migrate to Proposal)  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 2 December 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #32 001-002  
LONG TITLE: Request for Deadline Extension  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 4 December 1992  
TYPE: Letter  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #33 001-001  
LONG TITLE: Site 34 GWTP ITIR  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 9 December 1992  
TYPE: Letter  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #34 001-002  
LONG TITLE: Pease Air Force Base Draft Final IRP Site 32/36 FS Report  
AUTHOR: Lee dePersia, Roy F. Weston, Inc.  
RECIPIENT: Jim Snyder, USAF

AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 18 August 1992  
TYPE: Letter  
SECOND REFERENCE: Landfill 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #24 001-004  
LONG TITLE: Pease Air Force Base Site 8 Draft Feasibility Study  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
NHDES  
USEPA  
DATE: 29 October 1992  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #25 001-001  
LONG TITLE: Submittal of Draft Primary Document, Site 8 Feasibility Study Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 3 November 1992  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #26 001-001  
LONG TITLE: Submittal of Draft Primary Document, Site 8 Feasibility Study Report  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 3 November 1992  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #27 001-001  
LONG TITLE: Landfill 5 Draft Proposed Plan  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 17 November 1992  
TYPE: Letter  
SECOND REFERENCE: Landfill 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #28 001-002  
LONG TITLE: Pease Air Force Base Draft Final IRP Site 34 FS Report  
AUTHOR: Edward S. Barnes, Roy F. Weston, Inc.  
RECIPIENT: USAF  
Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 20 November 1992  
TYPE: Letter  
SECOND REFERENCE: Site 34

TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #18 001-002  
LONG TITLE: Feasibility Study Reports  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 10 August 1992  
TYPE: Letter  
SECOND REFERENCE: Sites 5, 34, and 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #19 001-001  
LONG TITLE: Submittal of Landfill 5 Draft Proposed Plan  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 12 August 1992  
TYPE: Letter  
SECOND REFERENCE: Landfill 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #20 001-001  
LONG TITLE: Submittal of Landfill 5 Draft Proposed Plan  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 12 August 1992  
TYPE: Letter  
SECOND REFERENCE: Landfill 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #21 001-003  
LONG TITLE: Landfill 5 Source Area Draft Final Feasibility Study Report  
AUTHOR: Edward S. Barnes, Roy F. Weston, Inc.  
RECIPIENT: USAF  
Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 14 August 1992  
TYPE: Letter  
SECOND REFERENCE: Landfill 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #22 001-001  
LONG TITLE: Submittal of Draft Final Primary Document, Landfill 5 Feasibility Study Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 18 August 1992  
TYPE: Letter  
SECOND REFERENCE: Landfill 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #23 001-001  
LONG TITLE: Submittal of Draft Final Primary Document, Landfill 5 Feasibility Study Report

LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #12 001-001  
LONG TITLE: Submittal of Draft Primary Document, Site 32/36 Feasibility Study Report  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 19 May 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #13 001-001  
LONG TITLE: Request for Deadline Extension for Review of the Draft IRP Site 5 Feasibility Report Dated April 1992  
AUTHOR: Johanna M. Hunter, USEPA  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 22 May 1992  
TYPE: Letter  
SECOND REFERENCE: Site 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #14 001-001  
LONG TITLE: Document Submittals  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 26 May 1992  
TYPE: Letter  
SECOND REFERENCE: Pea (10.1); Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #15 001-002  
LONG TITLE: Selection of Remedial Action Alternative for JETC, IRP Site 34  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 28 May 1992  
TYPE: Letter  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #16 001-001  
LONG TITLE: Submittal of Draft Secondary Document, Site 8 Initial Screening of Alternatives  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 24 June 1992  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #17 001-001  
LONG TITLE: Submittal of Draft Secondary Document, Site 8 Initial Screening of Alternatives  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 24 June 1992

DATE: 09 January 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36; Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #7 001-001  
LONG TITLE: Submittal of Secondary Document  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 09 January 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36; Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #8 001-001  
LONG TITLE: Landfill 3 Decision Document  
AUTHOR: USAF  
RECIPIENT: Edward S. Barnes  
Roy F. Weston, Inc.  
1 Weston Way  
West Chester, PA 19380  
DATE: 03 February 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #9 001-004  
LONG TITLE: Jet Engine Test Cell Source Area Feasibility Study Report  
AUTHOR: Edward S. Barnes, Roy F. Weston, Inc.  
RECIPIENT: USAF  
Johanna Hunter USEPA  
Richard Pease, NHDES  
DATE: 04 May 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #10 001-005  
LONG TITLE: Pease AFB Site 32/36 Feasibility Study Report  
AUTHOR: Edward S. Barnes, Roy F. Weston, Inc.  
RECIPIENT: USAF  
Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 15 May 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #11 001-001  
LONG TITLE: Submittal of Draft Primary Document, Site 32/36 Feasibility Study Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 19 May 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36

#### 4.5 Correspondence

DOCUMENT NUMBER: PEA (4.5) #1 001-006  
LONG TITLE: "IRP Proposed Plan for Landfill 3, Field Maintenance Squadron Equipment Cleaning Site, Fire Department Training Area 1 (October 1990, draft) Review Comments"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 27 November 1990  
TYPE: State of New Hampshire Review Comments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #2 001-016  
LONG TITLE: "EPA Region I comments on the IRP Proposed Plan for Landfill 3, Field Maintenance Squadron Equipment Cleaning Site, Fire Department Training Area 1 (October 1990, draft)"  
AUTHOR: U.S. EPA  
RECIPIENT: Air Force  
DATE: 28 November 1990  
TYPE: EPA Review Comments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #3 001-008  
LONG TITLE: "EPA Region I additional comments on the IRP proposed plan for Landfill 3, field maintenance squadron equipment cleaning site, Fire Department Training Area 1 (October 1990, draft); review comments"  
AUTHOR: U.S. EPA  
RECIPIENT: Air Force  
DATE: 3 December 1990  
TYPE: Review Comments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #4 001-001  
LONG TITLE: Submittal of Draft Final Primary Document, Landfill 5 Feasibility Study Report  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: Unknown  
TYPE: Letter  
SECOND REFERENCE: Landfill 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #5 001-002  
LONG TITLE: Applicable or Relevant and Appropriate Requirements (ARARs)  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 25 November 1991  
TYPE: Letter  
SECOND REFERENCE: Pea (6.4)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.5) #6 001-001  
LONG TITLE: Submittal of Secondary Document  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES

4.4 Supplements and Revisions to the Proposed Plan

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

### 4.3 Proposed Plan

DOCUMENT NUMBER: PEA (4.3) #1 001-220  
LONG TITLE: "Proposed Plan for Landfill 3. Field Maintenance Squadron Equipment Cleaning Site. Fire Department Training Area 1"  
AUTHOR: Roy F. Weston, Inc., Inc  
RECIPIENT: EPA, NHDES  
DATE: October 1990  
TYPE: Work Plan  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.3) #2 i-Figure 4  
LONG TITLE: Proposed Plan for IRP Site 5. Landfill 5 Source Area – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES, Public  
DATE: January 1993  
TYPE: Proposed Plan  
SECOND REFERENCE: Landfill 5  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (4.3) #3 001-Figure 5  
LONG TITLE: Installation Restoration Program, Proposed Plans for IRP Sites 32/36 and 34. Pease Air Force Base, NH 03803-0157 - Draft Final  
AUTHOR: USAF  
RECIPIENT: USAF, EPA, NHDES  
DATE: March 1993  
TYPE: Proposed Plan  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.3) #4 001-Figure 5  
LONG TITLE: Installation Restoration Program, Proposed Plans for IRP Sites 32/36 and 34. Pease Air Force Base, NH 03803-0157 - Draft Final  
AUTHOR: USAF  
RECIPIENT: USAF, EPA, NHDES  
DATE: March 1993  
TYPE: Proposed Plan  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#



LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 5 Draft Feasibility Study  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: July 1993  
TYPE: Feasibility Study  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #30 001-5.103  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 4 Feasibility Study Text DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: August 1993  
TYPE: Feasibility Study  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #31 001-L.20  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 4 Feasibility Study Appendices DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: August 1993  
TYPE: Appendices  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

RECIPIENT: USAF  
DATE: January 1993  
TYPE: Appendices  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #24 001-K.2  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB McIntyre Brook/Lower Newfields Ditch Remedial Investigation/Feasibility Study DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Feasibility Study  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #25 001-MM4B-7  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Initial Screening of Alternatives DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1993  
TYPE: Feasibility Study  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #26 001-MM3-9  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Initial Screening of Alternatives Report DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1993  
TYPE: Feasibility Study  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #27 001-BA1-4B-2  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Initial Screening of Alternatives (Preliminary Draft Feasibility Study) DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: June 1993  
TYPE: Feasibility Study  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #28 001-MM3B-3  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 4 Initial Screening of Alternatives Report DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Feasibility Study  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #29 001-A.8

TYPE: Report  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #18 001-J.140  
LONG TITLE: Installation Restoration Program, Stage 3C, Feasibility Study for IRP Site 32/36, Pease AFB, NH, – Appendices – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: December 1992  
TYPE: Appendices  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #19 001-Acr.1  
LONG TITLE: United States Air Force Installation Restoration Program, Pease AFB, Zone 5 Initial Screening of Alternatives Report – Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: March 1993  
TYPE: Report  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #20 001-E.4  
LONG TITLE: Installation Restoration Program, Stage 4 No Further Action Decision Document for IRP Site 11, Pease AFB, NH 03803  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: February 1993  
TYPE: Report  
SECOND REFERENCE: Site 11  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #21 001-Acr.3  
LONG TITLE: Installation Restoration Program, Stage 3C Feasibility Study for IRP Site 8, Pease AFB, NH 03803, Technical Report - Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: January 1993  
TYPE: Report  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #22 001-5.2-16  
LONG TITLE: Installation Restoration Program, Stage 3C Feasibility Study for IRP Site 8, Pease AFB, NH 03803. Figures – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: January 1993  
TYPE: Figures  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #23 001-L.6  
LONG TITLE: Installation Restoration Program, Stage 3C Feasibility Study for IRP Site 8, Pease AFB, NH 03803. Appendices A through L – Draft Final  
AUTHOR: Roy F. Weston, Inc.

LONG TITLE: Installation Restoration Program. Stage 3C. Feasibility Study for IRP Site 8, Pease AFB, NH. Technical Report – Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: October 1992  
TYPE: Report  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #13 001-5.2.9  
LONG TITLE: Installation Restoration Program. Stage 3C, Feasibility Study for IRP Site 34, Pease AFB, NH. – Figures – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: November 1992  
TYPE: Report  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #14 001-J  
LONG TITLE: Installation Restoration Program. Stage 3C, Feasibility Study for IRP Site 34, Pease AFB, NH. – Appendices – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: November 1992  
TYPE: Report  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #15 001-ACR3  
LONG TITLE: Installation Restoration Program. Stage 3C, Feasibility Study for IRP Site 34, Pease AFB, NH. – Technical Report - - Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: November 1992  
TYPE: Technical Report  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #16 001-5.2.7  
LONG TITLE: Installation Restoration Program. Stage 3C, Feasibility Study for IRP Site 32/36, Pease AFB, NH. – Figures – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: December 1992  
TYPE: Figures  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #17 001-ACR3  
LONG TITLE: Installation Restoration Program. Stage 3C, Feasibility Study for IRP Site 32/36, Pease AFB, NH. – Technical Report – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: December 1992

DATE: August 1992  
TYPE: Report  
SECOND REFERENCE: Site 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #7 001-5.2.14  
LONG TITLE: Installation Restoration Program, Stage 3C, Feasibility Study for IRP Site 5, Pease AFB, NH - Figures – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: August 1992  
TYPE: Figures  
SECOND REFERENCE: Site 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #8 001-L3  
LONG TITLE: Installation Restoration Program, Stage 3C, Feasibility Study for IRP Site 5, Pease AFB, NH - Appendices A-I, Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: August 1992  
TYPE: Appendices  
SECOND REFERENCE: Site 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #9 001-B21  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8, Soil Vapor Extraction Treatability Study Work Plan for Pease AFB, NH –Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: September 1992  
TYPE: Treatability Study Work Plan  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #10 001-L4  
LONG TITLE: Installation Restoration Program, Stage 3C, Feasibility Study for IRP Site 8, Pease AFB, NH – Appendices A-L – Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: October 1992  
TYPE: Appendices  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #11 001-5.2.16  
LONG TITLE: Installation Restoration Program, Stage 3C, Feasibility Study for IRP Site 8, Pease AFB, NH, Figures – Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: October 1992  
TYPE: Figures  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #12 001-5.126

## 4.2 Feasibility Reports

DOCUMENT NUMBER: PEA (4.2) #1 001-B.39  
LONG TITLE: Installation Restoration Program, Stage 3C, Initial Screening of Alternatives for IRP Site 5, Pease AFB, NH  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: October 1991  
TYPE: Report  
SECOND REFERENCE: Site 5  
LOCATION: ARF  
#

DOCUMENT NUMBER: PEA (4.2) #2 001-D.30  
LONG TITLE: Installation Restoration Program, Stage 3C, Initial Screening of Alternatives for IRP Site 34, Pease AFB, NH Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: January 1992  
TYPE: Report  
SECOND REFERENCE: Site 34  
LOCATION: ARF  
#

DOCUMENT NUMBER: PEA (4.2) #3 001-C.38  
LONG TITLE: Installation Restoration Program, Stage 3C, Initial Screening of Alternatives for IRP Site 32/36, Pease AFB, NH Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: January 1992  
TYPE: Report  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF  
#

DOCUMENT NUMBER: PEA (4.2) #4 001-D.45  
LONG TITLE: Installation Restoration Program, Stage 3C, Initial Screening of Alternatives for IRP Site 8, Pease AFB, NH Technical Report and Appendices - Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: June 1992  
TYPE: Report  
SECOND REFERENCE: Site 8  
LOCATION: ARF  
#

DOCUMENT NUMBER: PEA (4.2) #5 001-C.5  
LONG TITLE: Installation Restoration Program, Stage 3C, Initial Screening of Alternatives for IRP Site 8, Pease AFB, NH Figures - Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: June 1992  
TYPE: Figures  
SECOND REFERENCE: Site 8  
LOCATION: ARF  
#

DOCUMENT NUMBER: PEA (4.2) #6 001-ACR.3  
LONG TITLE: Installation Restoration Program, Stage 3C, Feasibility Study for IRP Site 5, Pease AFB, NH - Technical Report - Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF

#### 4.1 ARAR Determinations

DOCUMENT NUMBER: PEA (4.1) #1 001-024  
LONG TITLE: New Hampshire ARAR List Update  
AUTHOR: Richard H. Pease, P.E.  
NHDES  
RECIPIENT: Arthur Ditto, P.E.  
RPM, U.S. Air Force/Pease AFB  
DATE: 13 April 1992  
TYPE: Letter and Tables  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.1) #2 001-B.3  
LONG TITLE: Installation Restoration Program Stage 4, Basewide ARARs, Pease Air Force Base, NH 03803 -- Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: January 1993  
TYPE: ARARs  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

LONG TITLE: Submittal of Draft Primary Document, Zone 1 Remedial Investigation Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, EPA  
DATE: 28 April 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 1, PEA (3.5)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #166 001-001  
LONG TITLE: Submittal of Draft Primary Document, Zone 2 Remedial Investigation Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, EPA  
DATE: 21 May 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 2, PEA (3.5)  
LOCATION: ARF

#



LONG TITLE: Submittal of Draft Primary Document, Zone 5 Remedial Investigation Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, EPA  
DATE: Undated  
TYPE: Letter  
SECOND REFERENCE: PEA (3.5); Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #160 001-001  
LONG TITLE: Submittal of Draft Primary Document, Landfill 5 Record of Decision  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 21 April 1993  
TYPE: Letter  
SECOND REFERENCE: LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #161 001-001  
LONG TITLE: Submittal of Draft Documents  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 21 April 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 3, Zone 4, LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #162 001-001  
LONG TITLE: Submittal of Draft Documents  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 21 April 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 3, Zone 4, LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #163 001-001  
LONG TITLE: Submittal of Draft Primary Document, Landfill 5 Record of Decision  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, EPA  
DATE: 21 April 1993  
TYPE: Letter  
SECOND REFERENCE: LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #164 001-001  
LONG TITLE: Submittal of Draft Primary Document, Zone 1 Remedial Investigation Report  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 28 April 1993  
TYPE: Letter  
SECOND REFERENCE: Zone 1, PEA (3.5)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #165 001-001

SECOND REFERENCE: PEA (4.5)  
 LOCATION: ARF  
 #

DOCUMENT NUMBER: PEA (3.6) #153 001-001  
 LONG TITLE: Submittal of Draft Primary Document, Zone 4 Remedial Investigation Report  
 AUTHOR: USAF  
 RECIPIENT: Richard Pease, NHDES  
 DATE: 9 March 1993  
 TYPE: Letter  
 SECOND REFERENCE: PEA (3.5); Zone 4  
 LOCATION: ARF  
 #

DOCUMENT NUMBER: PEA (3.6) #154 001-001  
 LONG TITLE: Submittal of Draft Primary Document, Zone 4 Remedial Investigation Report  
 AUTHOR: USAF  
 RECIPIENT: Johanna Hunter, EPA  
 DATE: 9 March 1993  
 TYPE: Letter  
 SECOND REFERENCE: PEA (3.5); Zone 4  
 LOCATION: ARF  
 #

DOCUMENT NUMBER: PEA (3.6) #154 001-006  
 LONG TITLE: IRP Site 34 Contaminant Levels  
 AUTHOR: NHDES  
 RECIPIENT: Art Ditto, AFBDA  
 DATE: 3 March 1993  
 TYPE: Letter  
 SECOND REFERENCE: PEA (3.5); Site 34  
 LOCATION: ARF  
 #

DOCUMENT NUMBER: PEA (3.6) #156 001-002  
 LONG TITLE: Request for Deadline Extension  
 AUTHOR: USAF  
 RECIPIENT: Johanna Hunter, EPA  
 Richard Pease, NHDES  
 DATE: 19 March 1993  
 TYPE: Letter  
 SECOND REFERENCE: PEA (3.5)  
 LOCATION: ARF  
 #

DOCUMENT NUMBER: PEA (3.6) #157 001-001  
 LONG TITLE: Submittal of Responses to Comments of the Zone 4 Site Characterization Summary  
 AUTHOR: USAF  
 RECIPIENT: Johanna Hunter, EPA  
 Richard Pease, NHDES  
 DATE: 18 March 1993  
 TYPE: Letter  
 SECOND REFERENCE: Zone 4  
 LOCATION: ARF  
 #

DOCUMENT NUMBER: PEA (3.6) #158 001-001  
 LONG TITLE: Submittal of Draft Primary Document, Zone 5 Remedial Investigation Report  
 AUTHOR: USAF  
 RECIPIENT: Richard Pease, NHDES  
 DATE: 9 March 1993  
 TYPE: Letter  
 SECOND REFERENCE: PEA (3.5); Zone 5  
 LOCATION: ARF  
 #

DOCUMENT NUMBER: PEA (3.6) #159 001-001  
 #

AUTHOR: Analysis Plan (SAP) Number 3  
Arthur Ditto, RPM  
USAF, Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
and  
Richard Pease, RPM  
NHDES  
DATE: 11 December 1992  
TYPE: Letter  
SECOND REFERENCE: PEA (3.1)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #149 001-002  
LONG TITLE: Request for Deadline Extension  
AUTHOR: Arthur Ditto, RPM  
USAF, Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
and  
Richard Pease, RPM  
NHDES  
DATE: 23 December 1992  
TYPE: Letter  
SECOND REFERENCE: PEA (6.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #150 001-001  
LONG TITLE: Transmittal of EPA Maximum Risk Calculation Addenda to Site 5, 8, 32/36 and 34 Draft Final RI Reports  
AUTHOR: Arthur Ditto, RPM  
USAF, Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
and  
Richard Pease, RPM  
NHDES  
DATE: 29 December 1992  
TYPE: Letter  
SECOND REFERENCE: Sites 5, 8, 32/36 and 34: PEA (3.5)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #151 001-002  
LONG TITLE: Selection of Remediation Action Alternative for Site 8, FDTA #2  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 08 January 1993  
TYPE: Letter  
SECOND REFERENCE: Site 8; PEA (4.6)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #152 001-002  
LONG TITLE: MULTIMED as a Replacement for the Summers Model  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Art Ditto, AFBDA  
DATE: 11 March 1993  
TYPE: Letter

RECIPIENT: USAF, Pease AFB  
Richard Pease, RPM  
NHDES  
DATE: 17 November 1992  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #144 001-001  
LONG TITLE: Transmittal Letter for Submittal of Draft Final Primary Document. Site 8 RI Report  
AUTHOR: Arthur Ditto, RPM  
USAF, Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
DATE: 17 November 1992  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #145 001-004  
LONG TITLE: No Further Action Decision for Site 3  
AUTHOR: Arthur Ditto, RPM  
USAF, Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
DATE: 1 December 1992  
TYPE: Letter  
SECOND REFERENCE: Site 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #146 001-001  
LONG TITLE: Application of the Reasonable Maximum Exposure (RME) in Risk Assessments  
AUTHOR: Arthur Ditto, RPM  
USAF, Pease AFB  
RECIPIENT: Richard Pease, RPM  
NHDES  
DATE: 1 December 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #147 001-001  
LONG TITLE: Explanation of Off-Base Well Inventory Report  
AUTHOR: Arthur Ditto, RPM  
USAF, Pease AFB  
RECIPIENT: Richard Pease, RPM  
NHDES  
DATE: 4 December 1992  
TYPE: Letter  
SECOND REFERENCE: Off-Base Well Inventory Letter Report of 17 September 1992  
PEA (3.5)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #148 001-001  
LONG TITLE: Transmittal Letter for Submittal of Quality Assurance Project Plan (QAPP) Portion of the Stage 4 Sampling and

DOCUMENT NUMBER: PEA (3.6) #138 001-001  
LONG TITLE: Submittal of Draft Secondary Documents. Zones 1, 2, and 5 Site Characterization Summaries  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 26 October 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #139 001-001  
LONG TITLE: Submittal of Stage 4 Sampling and Analysis Plan Addendum 3  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 26 October 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #140 001-001  
LONG TITLE: Submittal of Stage 4 Sampling and Analysis Plan Addendum 3  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 26 October 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #141 001-002  
LONG TITLE: Pease Air Force Base Draft Final IRP Site 8 RI Report  
AUTHOR: Lee dePersia, Roy F. Weston, Inc.  
RECIPIENT: USAF  
Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 13 November 1992  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #142 001-001  
LONG TITLE: Transmittal Letter for Submittal of Stage 5 Health and Safety Plan  
AUTHOR: Arthur Ditto, RPM  
RECIPIENT: USAF/Pease AFB  
Johanna Hunter, RPM  
U.S. EPA, Region 1  
and  
Richard Pease, RPM  
NHDES  
DATE: 17 November 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #143 001-001  
LONG TITLE: Transmittal Letter for Submittal of Draft Final Primary Document, Site 8 RI Report  
AUTHOR: Arthur Ditto, RPM

RECIPIENT: Capt. Carl Woerhle  
U.S. Air Force Base Closure Division  
Air Force Center for Environmental Excellence  
DATE: 22 October 1992  
TYPE: Letter  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #134 001-001  
LONG TITLE: Transmittal Letter for Submittal of Zone 2 Site Characterization Summary Report  
AUTHOR: Lee dePersia

Task Manager  
Roy F. Weston, Inc.  
RECIPIENT: Richard Pease, RPM

NHDES  
DATE: 22 October 1992  
TYPE: Letter  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #135 001-001  
LONG TITLE: Transmittal Letter for Submittal of Zone 2 Site Characterization Summary Report  
AUTHOR: Lee dePersia

Task Manager  
Roy F. Weston, Inc.  
RECIPIENT: Johanna Hall  
TRC Member  
Boott Mills South of Foot Street  
Lowell, MA

DATE: 22 October 1992  
TYPE: Letter  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #136 001-001  
LONG TITLE: Transmittal Letter for Submittal of Zone 2 Site Characterization Summary Report  
AUTHOR: Lee dePersia

Task Manager  
Roy F. Weston, Inc.  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1

DATE: 22 October 1992  
TYPE: Letter  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #137 001-001  
LONG TITLE: Submittal of Draft Secondary Documents, Zones 1, 2, and 5 Site Characterization Summaries

AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 26 October 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DATE: USAF/Pease AFB  
16 September 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #129 001-001  
LONG TITLE: Extension of Draft Final Report Submittal Date, Site 8 Remedial Investigation Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 6 October 1992  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #130 001-002  
LONG TITLE: Field Oversight - Mid-August-Mid-September  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, RPM Pease AFB  
DATE: 7 October 1991  
TYPE: Letter  
SECOND REFERENCE: PEA (3.4)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #131 001-001  
LONG TITLE: Pease AFB Zone 1 Site Characterization Summary  
AUTHOR: Lee dePersia  
Task Manager  
Roy F. Weston, Inc.  
RECIPIENT: Capt. Carl Woerhle  
U.S. Air Force  
Base Closure Division  
Air Force Center for Environmental Excellence  
DATE: 21 October 1992  
TYPE: Transmittal Letter  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #132 001-001  
LONG TITLE: Pease AFB Zone 5 Site Characterization Summary  
AUTHOR: Lee dePersia, Roy F. Weston, Inc.  
RECIPIENT: USAF  
Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 22 October 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #133 001-001  
LONG TITLE: Transmittal Letter for Pease AFB Zone 2 Site Characterization Study  
AUTHOR: Lee dePersia  
Task Manager  
Roy F. Weston, Inc.

DOCUMENT NUMBER: PEA (3.6) #124 001-001  
LONG TITLE: Transmittal Letter for Submittal of Groundwater Background Letter Report  
AUTHOR: Mark McKenzie for Arthur Ditto  
USAF/Pease AFB  
RECIPIENT: Richard Pease, RPM  
NHDES  
and  
Johanna Hunter  
U.S. EPA, Region 1  
DATE: 1 September 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #125 001-002  
LONG TITLE: Policy on Data Transfer During Pumping Tests  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: Richard Pease, RPM  
NHDES  
and  
Johanna Hunter, RPM  
U.S. EPA, Region 1  
DATE: 9 September 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #126 001-001  
LONG TITLE: Transmittal Letter for Submittal of Draft Primary Document, Site 3 No Further Action Decision Document (NFADD)  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA/Region 1  
DATE: 9 September 1992  
TYPE: Letter  
SECOND REFERENCE: Site 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #127 001-001  
LONG TITLE: Transmittal Letter for Submittal of Draft Primary Document, Site 3 No Further Action Decision Document (NFADD)  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: Richard Pease, RPM  
NHDES  
DATE: 9 September 1992  
TYPE: Letter  
SECOND REFERENCE: Site 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #128 001-003  
LONG TITLE: Summary of Risk Issues Meeting of August 19, 1992  
AUTHOR: Johanna Hunter, RPM  
U.S. EPA, Region 1  
RECIPIENT: Arthur Ditto, RPM



DOCUMENT NUMBER: PEA (3.6) #119 001-001  
LONG TITLE: Transmittal Letter for Summary of Groundwater Treatment Plant Influent/Effluent Results  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
USEPA, Region 1  
and  
Richard Pease, RPM  
NHDES  
DATE: 11 August 1992  
TYPE: Letter  
SECOND REFERENCE: PEA (2.7)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #120 001-001  
LONG TITLE: Monitor Well Inventory and Inspection Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 18 August 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #121 001-002  
LONG TITLE: Base Support Requirements for Haven Well Pumping Test  
AUTHOR: USAF  
RECIPIENT: James Winder  
Pat Hamel  
E.L. Hamm  
DATE: 21 August 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #122 001-002  
LONG TITLE: Results of Background Surface Water Sediment Location Walkover  
AUTHOR: Richard Pease, RPM, NHDES  
RECIPIENT: Arthur Ditto, RPM, Pease AFB  
DATE: 27 August 1992  
TYPE: Letter  
SECOND REFERENCE: PEA (6.4)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #123 001-005  
LONG TITLE: Risk Assessment Issues for Pease AFB  
AUTHOR: Lee dePersia  
Task Manager  
Roy F. Weston, Inc.  
RECIPIENT: Arthur Ditto, RPM  
USAF/Pease AFB  
DATE: 28 August 1992  
TYPE: Letter Report  
SECOND REFERENCE: PEA (3.5)  
LOCATION: ARF

#

TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #114 001-001  
LONG TITLE: Submittal Letter for Draft Site Characterization Summary for IRP Site 32/36  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
USEPA, Region 1  
DATE: 18 July 1992  
TYPE: Transmittal Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #115 001-003  
LONG TITLE: Pease Air Force FDTA-2 Draft RI Report  
AUTHOR: Lee dePersia, Roy F. Weston, Inc.  
RECIPIENT: USAF  
Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 29 July 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #116 001-021  
LONG TITLE: Pease Air Force Base Groundwater Modeling Letter Report  
AUTHOR: Lee dePersia, Roy F. Weston, Inc.  
RECIPIENT: USAF  
Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 29 July 1992  
TYPE: Letter with Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #117 001-001  
LONG TITLE: Submittal of Draft Primary Document, Site 8 Remedial Investigation Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 30 July 1992  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #118 001-001  
LONG TITLE: Submittal of Draft Primary Document, Site 8 Remedial Investigation Report  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 30 July 1992  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #108 001-002  
LONG TITLE: Pease Air Force Base Site IRP 32/36 Source Area Draft Final RI Report and Response to Comments for the IRP  
Site 32/36 Draft RI Report  
AUTHOR: Lee dePersia, Roy F. Weston, Inc.  
RECIPIENT: USAF  
Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 05 June 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #109 001-001  
LONG TITLE: Submittal of Draft Primary Document, Site 32/36 Remedial Investigation Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 16 June 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #110 001-001  
LONG TITLE: Submittal of Draft Final Primary Document, Site 32/36 Remedial Investigation Report  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 16 June 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #111 001-001  
LONG TITLE: Submittal of Draft Secondary Documents, Stage 4 Work Plan Addendum 3 and Stage 4 Health and Safety Plan  
Addendum  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 24 June 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #112 001-001  
LONG TITLE: Submittal of Draft Secondary Documents, Stage 4 Work Plan Addendum 3 and Stage 4 Health and Safety Plan  
Addendum  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 24 June 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #113 001-002  
LONG TITLE: Additional Field Oversight  
AUTHOR: USAF  
RECIPIENT: Michael Daly, USEPA  
DATE: 8 July 1992

DATE: 26 May 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #103 001-022  
LONG TITLE: Evaluation of Air Pathway in Baseline Risk Assessments  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 13 April 1992  
TYPE: Letter with Attachments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #104 001-004  
LONG TITLE: Pease Air Force Base Site 34 Source Area Draft Final RI Report  
AUTHOR: Edward S. Barnes, Roy F. Weston, Inc.  
RECIPIENT: USAF  
Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 07 May 1992  
TYPE: Letter  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #105 001-003  
LONG TITLE: Pease Air Force Base Zone 4 Draft Site Characterization Summary  
AUTHOR: Edward S. Barnes, Roy F. Weston, Inc.  
RECIPIENT: USAF  
Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 08 May 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #106 001-002  
LONG TITLE: Oversight Role of Regulatory Agencies at Pease AFB  
AUTHOR: Michael Daly, USEPA  
RECIPIENT: Mark McKenzie, Pease AFB  
DATE: 26 May 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #107 001-003  
LONG TITLE: Submittal of Draft Secondary Document, Zone 3 Site Characterization Summary  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 26 May 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

LONG TITLE: Submittal of Draft Primary Document, Site 32/36 RI Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 25 February 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #98 001-003  
LONG TITLE: Request for EPA Split Sampling Results  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
DATE: 9 March 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #99 001-D1  
LONG TITLE: Letter Report of Results of Statistical Comparison of Stage 3C Samples to the 66 Other Background Samples  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: 9 March 1992  
TYPE: Letter Report  
SECOND REFERENCE: PEA (3.5)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #100 001-001  
LONG TITLE: Transmittal Letter for Submittal of Stage 4 Work Plan Addendum Number 2 on the Draft Stage 4 Sampling and Analysis Plan Addendum Number 2  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: Johanna Hunter  
U.S. EPA, Region 1  
DATE: 24 March 1992  
TYPE: Transmittal Letter  
SECOND REFERENCE: PEA (3.1), PEA (3.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #101 001-001  
LONG TITLE: Transmittal Letter for Submittal of Stage 4 Addendum Number 2 Work Plan and Sampling and Analysis Plan  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: Richard Pease, RPM  
NHDES  
DATE: 24 March 1992  
TYPE: Transmittal Letter  
SECOND REFERENCE: PEA (3.1), PEA (3.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #102 001-001  
LONG TITLE: Data You May Be Able to Provide  
AUTHOR: Thomas R. Marks, Roy F. Weston, Inc.  
RECIPIENT: Mark McKenzie, Pease AFB

TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #92 001-001  
LONG TITLE: IRP Site 32/36 Source Area Remedial Investigation Report  
AUTHOR: Edward S. Barnes, Roy F. Weston, Inc.  
RECIPIENT: Richard Pease, NHDES  
DATE: 14 February 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #93 001-001  
LONG TITLE: IRP Site 32/36 Source Area Remedial Investigation Report  
AUTHOR: Edward S. Barnes, Roy F. Weston, Inc.  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 14 February 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #94 001-001  
LONG TITLE: Submittal of Draft Primary Document, Site 32/36 RI Report  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 25 February 1992  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #95 001-001  
LONG TITLE: Transmittal Letter for Submittal of Baseline Risk Assessment Protocols  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: Richard Pease, RPM  
NHDES  
DATE: 25 February 1992  
TYPE: Transmittal Letter  
SECOND REFERENCE: Baseline Risk Assessment  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #96 001-001  
LONG TITLE: Transmittal Letter for Revised Baseline Risk Assessment Protocols  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
USEPA, Region 1  
DATE: 25 February 1992  
TYPE: Transmittal Letter  
SECOND REFERENCE: Revised Baseline Risk Assessment  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #97 001-001

RECIPIENT: U.S. EPA, Region 1  
Ed Barnes  
Project Manager  
Roy F. Weston, Inc.  
DATE: 2 December 1991  
TYPE: Transmittal Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #87 001-002  
LONG TITLE: Regional Literature Search to Assist Development of the Sediment and Surface Water Background Determination for Pease AFB, Portsmouth, NH  
AUTHOR: Johanna Hunter, USEPA  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 2 December 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #88 001-001  
LONG TITLE: Fugitive Dust Pathway in the Baseline Risk Assessment  
AUTHOR: Arthur Ditto, RPM, USAF  
Pease AFB  
RECIPIENT: Johanna Hunter RPM  
U.S. EPA Region 1  
DATE: 3 January 1992  
TYPE: Letter  
SECOND REFERENCE: Baseline Risk Assessment (3.5) - RI Reports  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #89 001-001  
LONG TITLE: Evaluation of the Air Pathway in Baseline Risk Assessment  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 11 February 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #90 001-001  
LONG TITLE: Evaluation of the Air Pathway in Baseline Risk Assessment  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 11 February 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #91 001-002  
LONG TITLE: IRP Site 32/36 Source Area Remedial Investigation Report  
AUTHOR: Edward S. Barnes, Roy F. Weston, Inc.  
RECIPIENT: USAF  
Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 14 February 1992

RECIPIENT: NHDES  
Mark McKenzie  
USAF/Pease AFB  
DATE: 31 July 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #82 001-006  
LONG TITLE: Review of the Proposed Procedure for Background Determination Protocols for Pease Air Force Base, Portsmouth, NH  
AUTHOR: Johanna Hunter, USEPA  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 02 August 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #83 001-001  
LONG TITLE: Vented Monitoring Wells - Response to July 31, 1991 Letter on same Issue Form NHDES  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: Scott Doane  
NHDES  
DATE: 26 August 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #84 001-001  
LONG TITLE: Split Sampling Results  
AUTHOR: Arthur Ditto, RPM  
U. S. Air Force/Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
and  
Richard Pease, RPM  
NHDES  
DATE: 9 September 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #85 001-002  
LONG TITLE: Field Oversight - September 1991  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Arthur Ditto, USAF RPM  
DATE: 28 October 1991  
TYPE: Letter  
SECOND REFERENCE: RI Field Work (3.4)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #86 001-001  
LONG TITLE: Transmittal Letter for Data Collected on Surface Water and Sediment Background Concentration  
AUTHOR: Johanna Hunter, RPM



DATE: Brooks AFB, TX 78235-5000  
02 July 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #77 001-001  
LONG TITLE: Transmittal Letter for Protocols for Baseline Risk Assessments  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: Richard Pease, RPM  
NHDES  
DATE: 18 July 1991  
TYPE: Transmittal Letter  
SECOND REFERENCE: Baseline Risk Assessments  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #78 001-001  
LONG TITLE: Transmittal Letter for Protocols for Baseline Risk Assessments  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
DATE: 18 July 1991  
TYPE: Transmittal Letter  
SECOND REFERENCE: Baseline Risk Assessments  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #79 001-001  
LONG TITLE: Submittal of Secondary Document  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
Johanna Hunter, USEPA  
DATE: 18 July 1991  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #80 001-002  
LONG TITLE: Exploratory Boring Soil Sampling Procedures  
AUTHOR: Edward S. Barnes  
Roy F. Weston, Inc.  
RECIPIENT: Capt. Logan Van Leigh  
U.S. Air Force  
Air Force Center for Environmental Excellence  
DATE: 26 July 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #81 001-001  
LONG TITLE: Vented Monitoring Wells  
AUTHOR: Scott Doane, Hydrogeologist  
Groundwater Technology Section  
Groundwater Protection Bureau

DOCUMENT NUMBER: PEA (3.6) #71 001-001  
LONG TITLE: Background Determination Protocols  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 07 June 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #72 001-003  
LONG TITLE: Revised Analytical Methods for Pease AFB GC/MS Method 8260 for VOA  
AUTHOR: Edward S. Barnes, Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: 11 June 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #73 001-001  
LONG TITLE: Laboratory Services  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 13 June 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #74 001-004  
LONG TITLE: Pease AFB Feedback on Site 8 Sampling - June 1991  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 19 June 1991  
TYPE: Letter  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #75 001-002  
LONG TITLE: EPA Pump Test Information Request to be Provided by Air Force  
AUTHOR: Johanna Hunter, RPM  
RECIPIENT: U.S. EPA Region 1  
Art Ditto, RPM  
USAF  
Pease AFB  
DATE: 27 June 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #76 001-002  
LONG TITLE: Roy F. Weston, Inc., Proposed Methods for Determining Background Concentrations at Pease Air Force Base, New Hampshire  
AUTHOR: George Rice, Mitre Corporation  
RECIPIENT: Dennis Lundquist  
Human Systems Division IRP Program Office  
HSD/YAQ

DATE: Brooks AFB, TX 78235-5000  
14 May 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #66 001-002  
LONG TITLE: Revised Analytical Methods for Pease AFB  
AUTHOR: Logan VanLeigh, Capt., USAF, BSC  
Technical Program Manager  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
DATE: 31 May 1991  
TYPE: Letter  
SECOND REFERENCE: Sampling and Analysis Plan (3.1)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #67 001-005  
LONG TITLE: Procedure for Establishing Background Metal Concentrations for Groundwater and Soil  
AUTHOR: Edward S. Barnes, Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: 03 June 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #68 001-012  
LONG TITLE: Information to Assist Interpretation of Data Submitted by EPA to the Air Force  
AUTHOR: Johanna Hunter, USEPA  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 06 June 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #69 001-004  
LONG TITLE: Resolution Letter for Procedures for 8260 for VOC Analysis of Water  
AUTHOR: Mark McKenzie, Pease AFB  
RECIPIENT: Richard Pease, NHDES  
Carl Gysler, Earth Technology, San Bernardino, CA  
Johanna Hunter, USEPA  
DATE: 06 June 1991  
TYPE: Fax  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #70 001-001  
LONG TITLE: Background Determination Protocols  
AUTHOR: USAF  
RECIPIENT: Richard Pease, NHDES  
DATE: 07 June 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #60 001-001  
LONG TITLE: Surface Water and Sediment Sampling Locations  
AUTHOR: Arthur Ditto, RPM  
USAF/Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
DATE: 24 April 1991  
TYPE: Letter (Transmittal)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #61 001-008  
LONG TITLE: Field Oversight Coordination  
AUTHOR: Johanna Hunter, USEPA  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 29 April 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #62 001-004  
LONG TITLE: Preliminary Sampling Schedule for Stage 3C IRP Sites through November 1991  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 02 May 1991  
TYPE: Fax  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #63 001-003  
LONG TITLE: Review of April 25, 1991 Revised Analytical Methods  
AUTHOR: Johanna Hunter, USEPA  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 08 May 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #64 001-002  
LONG TITLE: Review of April 25, 1991 Revised Analytical Methods  
AUTHOR: Johanna Hunter, USEPA  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 08 May 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #65 001-005  
LONG TITLE: Field Performance Review of Weston Activities, Pease Air Force Base, New Hampshire  
AUTHOR: Mitre Corporation  
RECIPIENT: Dennis Lundquist  
Human Systems Division  
IRP Program Office  
HSD/YAQ

RECIPIENT: EPA  
DATE: 1991  
TYPE: Response to Comments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #55 001-003  
LONG TITLE: Off-Base Sampling at Pease Air Force Base  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 25 October 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #56 001-001  
LONG TITLE: EPA Concerns  
AUTHOR: U.S. Air Force - Internal Note  
RECIPIENT: Art Ditto/USAF/Pease AFB  
DATE: 8 April 1991  
TYPE: Internal Record of Phone Conversation with EPA and NHDES  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #57 001-004  
LONG TITLE: Issues Needing Resolution Prior to Upcoming Field Efforts  
AUTHOR: Johanna Hunter, RPM  
RECIPIENT: Arthur Ditto, RPM  
DATE: 10 April 1991  
TYPE: Letter  
SECOND REFERENCE: Stage 3 and 4 Work Plan (3.3)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #58 001-002  
LONG TITLE: Review of Risk Assessment Data and Sampling Procedures  
AUTHOR: Johanna Hunter, USEPA  
RECIPIENT: Arthur Ditto, Pease AFB  
DATE: 16 April 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #59 001-067  
LONG TITLE: Concerns about Analytical Methods  
AUTHOR: USAF  
RECIPIENT: USAF  
DATE: 23 April 1991  
TYPE: Fax with Attachments  
SECOND REFERENCE: None  
LOCATION: ARF

#

RECIPIENT: Air Force  
DATE: 29 October 1990  
TYPE: Review Comments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #49 001-076  
LONG TITLE: "EPA technical review of the Draft IRP Stage 4 Work Plan and Sampling and Analysis Plan for Pease Air Force Base"  
AUTHOR: U.S. EPA  
RECIPIENT: Air Force  
DATE: 2 November 1990  
TYPE: Review Comments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #50 001-002  
LONG TITLE: "Response to Air Force questions on state comments to the Stage 4 Work Plan"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 3 December 1990  
TYPE: Response to Air Force questions on State of New Hampshire comments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #51 001-007  
LONG TITLE: "Response to EPA comments on the Pease AFB Stage 4 Work Plan/Sampling and Analysis Plan"  
AUTHOR: U.S. Air Force  
RECIPIENT: EPA  
DATE: 10 December 1990  
TYPE: Air Force responses to EPA comments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #52 001-008  
LONG TITLE: "Air Force Response to NHDES Comments - Draft Final Stage 4 Work Plan and Sampling and Analysis Plan"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 7 February 1991  
TYPE: Response to Comments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #53 001-008  
LONG TITLE: "EPA initial approval of the IRP Stage 4 Work Plan and Sampling and Analysis Plan"  
AUTHOR: U.S. EPA  
RECIPIENT: Air Force  
DATE: 13 March 1991  
TYPE: Letter concerning EPA initial approval of Stage 4 Work Plan and Sampling and Analysis Plan  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #54 001-058  
LONG TITLE: "Air Force Response to EPA comments on the Stage 4 Work Plan and Sampling and Analysis Plan"  
AUTHOR: Roy F. Weston, Inc.

DATE: 14 February 1991  
TYPE: Review Comments  
SECOND REFERENCE: PEA (3.4) # 32 001-338  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #43 001-004  
LONG TITLE: "Issues Needing Resolution Prior to the Upcoming Field Efforts"  
AUTHOR: U.S. EPA  
RECIPIENT: Air Force  
DATE: 10 April 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #44 001-030  
LONG TITLE: "Response to Comments. Landfill 5 Site Characterization Summary - Informal Technical Information Report"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 7 June 1991  
TYPE: Response to Comments  
SECOND REFERENCE: PEA (3.4) #32 001-338  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #45 001-030  
LONG TITLE: "(Revised) Response to Comments. Landfill 5 - Site Characterization Summary, Informal Technical Information Report"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 17 July 1991  
TYPE: Letter  
SECOND REFERENCE: PEA (3.4) #32 001-338  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #46 001-038  
LONG TITLE: "Response to Comments - Stage 4 Work Plan and SAP"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 28 September 1990  
TYPE: Response to Comments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #47 001-011  
LONG TITLE: "Review comments on the Installation Restoration Plan (IRP) Stage 4 Work Plan and Sampling and Analysis Plan"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 16 October 1990  
TYPE: Review Comments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #48 001-017  
LONG TITLE: "The Town of Newington review comments on the IRP Stage 4 Work Plan"  
AUTHOR: The Town of Newington

TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #37 001-002  
LONG TITLE: "Letter regarding testing of IRP Site 32/36 well"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 27 September 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #38 001-002  
LONG TITLE: "Information Letter 3 - Documenting discussion on 25 October 1990"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 29 October 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #39 001-002  
LONG TITLE: "Letter regarding the disposal of clean soil cuttings and drilling mud"  
AUTHOR: Department of the Air Force  
RECIPIENT: Roy F. Weston, Inc.  
DATE: 1 November 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #40 001-007  
LONG TITLE: "Stage 3, Landfill 5 Site Characterization Summary Informal Technical Information Report; review comments"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 30 January 1991  
TYPE: Review Comments  
SECOND REFERENCE: PEA (3.4) #32 001-338  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #41 001-008  
LONG TITLE: "Response to Comments - Draft Final Stage 4 Work Plan and Sampling And Analysis Plan"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 7 February 1991  
TYPE: Letter/Response to Comments  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #42 001-017  
LONG TITLE: "EPA review comments on the Stage 3, Landfill 5 Site Characterization Summary Informal Technical Information Report"  
AUTHOR: U.S. EPA  
RECIPIENT: Air Force



TYPE: Letter - Pertaining to RI  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #31 001-002  
LONG TITLE: "Letter regarding well installation modification"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 5 July 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #32 001-004  
LONG TITLE: "Letter regarding procedures used in installing and abandoning monitor well 632"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 8 August 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #33 001-001  
LONG TITLE: "Letter regarding June 1990 Pickering Spring sampling results"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Peggy Lamson, Selectman & Town Health Officer, Newington, NH  
DATE: 15 August 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #34 001-004  
LONG TITLE: "Letter regarding the disposal of clean water, drilling mud and soil"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 25 September 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #35 001-002  
LONG TITLE: "Letter regarding procedures for handling solids and liquids during well construction and soil borings"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 25 September 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #36 001-006  
LONG TITLE: "Letter regarding Pease Air Force Base well installation - IRP Site 8"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 26 September 1990

LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #25 001-009  
LONG TITLE: "Special Notification concerning the results of sampling monitor Well 562A at Site 8"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 1 February 1990  
TYPE: Letter - Pertaining to RI  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #26 001-002  
LONG TITLE: "Followup to Special Notification (1 February 1990) concerning groundwater samples from Well 562A at Site 8"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 16 February 1990  
TYPE: Letter - Pertaining to RI  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #27 001-002  
LONG TITLE: "Letter summarizing discussions between Roy F. Weston, Inc. and the New Hampshire Department of Environmental Services concerning on-site handling and disposal of soil and water generated during drilling, development, purging, and pump testing of wells"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 12 March 1990  
TYPE: Letter - Pertaining to 3.4  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #28 001-004  
LONG TITLE: "Letter regarding recent and scheduled future activity in the bulk fuel storage area"  
AUTHOR: Department of the Air Force  
RECIPIENT: Roy F. Weston, Inc.  
DATE: 10 May 1990  
TYPE: Letter - Pertaining to RI  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #29 001-007  
LONG TITLE: "Review comments on the Stage 3 Work Plan for the IRP"  
AUTHOR: U.S. EPA  
RECIPIENT: Air Force  
DATE: 7 June 1990  
TYPE: Review Comments - Pertaining to RI  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #30 001-002  
LONG TITLE: "Letter concerning proposed drilling locations, Stage 3B"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 12 June 1990

SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #19 001-002  
LONG TITLE: "Installation Restoration Program (IRP) at Pease AFB, NH"  
AUTHOR: Department of the Air Force  
RECIPIENT: Air Force  
DATE: 8 March 1989  
TYPE: Memorandum -- Pertaining to RI  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #20 001-002  
LONG TITLE: "Work Plan for the IRP Stage 3 and ITR #4"  
AUTHOR: Department of the Air Force  
RECIPIENT: Air Force  
DATE: 3 April 1989  
TYPE: Memorandum -- Pertaining to RI  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #21 001-007  
LONG TITLE: "Consolidated Comments to the IRP Stage 3 Work Plan for Pease Air Force Base, NH"  
AUTHOR: Department of the Air Force  
RECIPIENT: Roy F. Weston, Inc.  
DATE: 1 June 1989  
TYPE: Review Comments -- Pertaining to RI  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #22 001-001  
LONG TITLE: "Review Comments Regarding the Work Plan and QAPP - Stage 3"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 16 June 1989  
TYPE: Review Comments -- Pertaining to RI  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #23 001-008  
LONG TITLE: "Stage 3 Work Plan - Response to Comments"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 29 June 1989  
TYPE: Response to Comments -- Pertaining to RI  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #24 001-008  
LONG TITLE: "Consolidated Comments to the IRP Stage 3 Quality Assurance Project Plan (QAPP) for Pease Air Force Base, NH"  
AUTHOR: Department of the Air Force  
RECIPIENT: Roy F. Weston, Inc.  
DATE: 29 June 1989  
TYPE: Review Comments -- Pertaining to RI  
SECOND REFERENCE: None

SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #13 001-020  
LONG TITLE: "Review Comments to the IRP Stage 2 RI/FS Draft Report"  
AUTHOR: Department of the Air Force  
RECIPIENT: Roy F. Weston, Inc./Air Force  
DATE: 15 March 1990  
TYPE: Review Comments Serving 3.4 (Preliminary RI Field Work Reports)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #14 001-004  
LONG TITLE: "Sampling Data for Off-Site Sampling at Pease AFB"  
AUTHOR: State of New Hampshire, Water Supply and Pollution Control Division  
RECIPIENT: Air Force  
DATE: 5 July 1990  
TYPE: Sampling Data  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #15 001-010  
LONG TITLE: "Pease AFB, Site 8 Sampling Data"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force, EPA  
DATE: September 1990  
TYPE: Sampling Data  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #16 001-003  
LONG TITLE: "Off-Base Sampling at Pease AFB"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 25 October 1990  
TYPE: Sampling Results  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #17 001-013  
LONG TITLE: "Split Sampling Results, Site 8 and Site 34"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 29 October 1990  
TYPE: Sampling Results  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #18 001-065  
LONG TITLE: "Sampling Results from Pease AFB, Newington, Portsmouth"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 17 January 1991  
TYPE: Sampling Data

LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #7 001-002  
LONG TITLE: "Review of Work Plan Removal of Source Contamination at Building 244"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 8 March 1989  
TYPE: Letter Serving 3.4 (Preliminary RI Field Work Reports)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #8 001-001  
LONG TITLE: "Letter Regarding Technical Review of Building 244 Solvent Tank Removal and Off-Site Contaminant Migration"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 3 May 1989  
TYPE: Letter/Comments Serving 3.4 (Preliminary RI Field Work Reports)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #9 001-002  
LONG TITLE: "Letter Concerning Disposal of Drill Cuttings From Stage 2 IRP Investigations"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 2 October 1989  
TYPE: Letter Serving 3.4 (Preliminary RI Field Work Reports)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #10 001-003  
LONG TITLE: "Review Comments on the Phase II, Stage 2 IRP, Draft Final Report"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 28 February 1990  
TYPE: Review Comments on Phase II, Stage 2, IRP Serving 3.4 (Preliminary RI Field Work Reports)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #11 001-011  
LONG TITLE: "Review Comments for the Pease AFB, Phase II, Stage 2 IRP Draft Final Report"  
AUTHOR: U.S. EPA  
RECIPIENT: Air Force  
DATE: 7 March 1990  
TYPE: Review Comments Serving 3.4 (Preliminary RI Field Work Reports)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #12 001-010  
LONG TITLE: "Review Comments Regarding the IRP, Stage 2 Draft Final Report (December 1989)"  
AUTHOR: U.S. Department of Commerce, National Oceanic and Atmospheric Administration  
RECIPIENT: Air Force via EPA  
DATE: 7 March 1990  
TYPE: Review Comments Serving 3.4 (Preliminary RI Field Work Reports)

### 3.6 RI Correspondence

DOCUMENT NUMBER: PEA (3.6) #1 001-001  
LONG TITLE: "Comments Regarding the Work Plan for the IRP Stage 2"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 27 July 1987  
TYPE: Comments Serving 3.4 (Preliminary RI Field Work Reports)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #2 001-006  
LONG TITLE: "Letter Regarding IRP, Stage 2"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 11 November 1987  
TYPE: Letter Serving 3.4 (Preliminary RI Field Work Reports)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #3 001-001  
LONG TITLE: "Letter Stating Conformance of the Stage 2, Quality Assurance Project Plan With Air Force IRP Practices"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 12 November 1987  
TYPE: Letter Serving 3.4 (Preliminary RI Field Work Reports)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #4 001-001  
LONG TITLE: "Letter Regarding the Suspect Fire Training Area"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 16 December 1987  
TYPE: Letter Serving 3.4 (Preliminary RI Field Work Reports)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #5 001-003  
LONG TITLE: "Letter Concerning Short-Duration Pumping Tests of the Haven and Harrison Water Supply Wells"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 14 June 1988  
TYPE: Letter Serving 3.4 (Preliminary RI Field Work Reports)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.6) #6 001-001  
LONG TITLE: "Letter Concerning Drilling Program"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 20 October 1988  
TYPE: Letter Serving 3.4 (Preliminary RI Field Work Reports)  
SECOND REFERENCE: None

LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Appendix K  
DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #102 001-R.7  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 4 Remedial Investigation Report DRAFT Section  
6  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Report  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #103 001-L.7  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 4 Remedial Investigation Report DRAFT  
Appendix L  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #104 001-G.1  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Landfill 5 Remedial Design Excavation/Relocation Plan  
for Waste, Soil and Sediment Text DRAFT (90% Submittal)  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: July 1993  
TYPE: Remedial Design  
SECOND REFERENCE: LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #105 001-13250-8  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Remedial Design Excavation/Relocation Plan for Waste,  
Soil and Sediment Landfills 2, 4 and 5 Technical Specifications DRAFT (90% Submittal)  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: July 1993  
TYPE: Specifications  
SECOND REFERENCE: LF-2, LF-4, LF-5  
LOCATION: ARF

SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #96 001-H  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Appendix H Part 3 of 3 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #97 001-2388  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Appendix I Part 1 of 2 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #98 2424-5307  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Appendix I Part 2 of 2 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #99 001-J  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Appendix J Part 1 of 2 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #100 001-J  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Appendix J Part 2 of 2 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #101 001-K6-4



RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendices  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #91 001-B  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Appendix B Part 1 of 2 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #92 001-B  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Appendix B Part 2 of 2 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #93 001-M.79  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Appendices E, F, G, L and M DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendices  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #94 001-H.4  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Appendix H Part 1 of 3 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #95 001-H  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Appendix H Part 2 of 3 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix

#

DOCUMENT NUMBER: PEA (3.5) #85 001-L2  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Appendix I Part 2 of 2 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #86 001-K.7.4  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Appendix K DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #87 001-Acr.5  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Text DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Report  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #88 001-6.401  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Section 6 Tables DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Tables  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #89 001-Plate 4  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Figures DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Figures  
SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #90 001-D.26  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 3 Remedial Investigation Report Appendices A, C and D DRAFT  
AUTHOR: Roy F. Weston, Inc.

RECIPIENT: USAF  
DATE: May 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #80 001-M  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Appendix B Part 2 of 2 and Appendices F, G, L and M DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1993  
TYPE: Appendices  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #81 001-H.5  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Appendix H Part 1 of 2 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #82 001-J.262  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Appendix H Part 2 of 2 and Appendix J Part 1 of 2 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1993  
TYPE: Appendices  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #83 001-N  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Appendix J Part 2 of 2 and Appendix N DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1993  
TYPE: Appendices  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #84 001-L.1  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Appendix I Part 1 of 2 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #74 001-K3  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Appendix K DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #75 001-L  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Appendix L DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #76 001-Acc.4  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Text DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1993  
TYPE: Report  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #77 001-6.4-3  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Figures DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1993  
TYPE: Figures  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #78 001-E  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Appendices A, C, D and E DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1993  
TYPE: Appendices  
SECOND REFERENCE: Zone 2  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #79 001-F.29  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Appendix B Part 1 of 2 DRAFT  
AUTHOR: Roy F. Weston, Inc.

SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #69 001-G  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Appendices E,F and G DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendices  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #70 001-H-4.95  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Appendix H Part 1 of 2 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #71 001-H  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Appendix H Part 2 of 2 DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #72 001-2853  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Appendix I DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #73 001-J  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Appendix J DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

LONG TITLE: Installation Restoration Program, Stage 4 IRP Zone 5 Remedial Investigation Pease Air Force Base, NH 03803, Appendices K, L & M  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: February 1993  
TYPE: Appendices  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #64 001-N  
LONG TITLE: Installation Restoration Program, Stage 4 IRP Zone 5 Remedial Investigation Pease Air Force Base, NH 03803, Appendix N  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: February 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #65 001-R15  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Text DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Report  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #66 001-Plate 5  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Figures DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Figures  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #67 001-D8  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Appendices A,C and D DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendices  
SECOND REFERENCE: Zone 1  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #68 001-04/19/93  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Appendix B DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Appendix

AUTHOR: Roy F. Weston, Inc.  
 RECIPIENT: USAF  
 DATE: February 1993  
 TYPE: Appendices  
 SECOND REFERENCE: Zone 5  
 LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #58 001-L-6-2  
 LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 5 Remedial Investigation Report Appendices B,D, E, F, G, and L DRAFT FINAL

AUTHOR: Roy F. Weston, Inc.  
 RECIPIENT: USAF  
 DATE: August 1993  
 TYPE: Appendices  
 SECOND REFERENCE: Zone 5  
 LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #59 001-I  
 LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 5 Remedial Investigation Report Appendices H and I DRAFT FINAL

AUTHOR: Roy F. Weston, Inc.  
 RECIPIENT: USAF  
 DATE: August 1993  
 TYPE: Appendices  
 SECOND REFERENCE: Zone 5  
 LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #60 001-K  
 LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 5 Remedial Investigation Report Appendices J and K DRAFT FINAL

AUTHOR: Roy F. Weston, Inc.  
 RECIPIENT: USAF  
 DATE: August 1993  
 TYPE: Appendices  
 SECOND REFERENCE: Zone 5  
 LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #61 001-J.2  
 LONG TITLE: Installation Restoration Program, Stage 4 IRP Zone 5 Remedial Investigation Pease Air Force Base, NH 03803, Appendices J Part 2 of 3

AUTHOR: Roy F. Weston, Inc.  
 RECIPIENT: USAF  
 DATE: February 1993  
 TYPE: Appendix  
 SECOND REFERENCE: Zone 5  
 LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #62 001-J.3  
 LONG TITLE: Installation Restoration Program, Stage 4 IRP Zone 5 Remedial Investigation Pease Air Force Base, NH 03803, Appendices J Part 3 of 3

AUTHOR: Roy F. Weston, Inc.  
 RECIPIENT: USAF  
 DATE: February 1993  
 TYPE: Appendix  
 SECOND REFERENCE: Zone 5  
 LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #63 001-M

RECIPIENT: USAF  
DATE: March 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #52 001-J.2  
LONG TITLE: United States Air Force Installation Restoration Program, Pease Air Force Base, Zone 4 Remedial Investigation Report, Appendix J 2 of 4  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: March 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #53 001-J.3  
LONG TITLE: United States Air Force Installation Restoration Program, Pease Air Force Base, Zone 4 Remedial Investigation Report, Appendix J 3 of 4  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: March 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #54 001-J.4  
LONG TITLE: United States Air Force Installation Restoration Program, Pease Air Force Base, Zone 4 Remedial Investigation Report, Appendix J 4 of 4  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: March 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #55 001-Acc.4  
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Zone 5 Remedial Investigation Report Text DRAFT FINAL  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: August 1993  
TYPE: Report  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #56 001-Plate 8  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 5 Remedial Investigation Report Figures DRAFT FINAL  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: August 1993  
TYPE: Figures  
SECOND REFERENCE: Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #57 001-C  
LONG TITLE: Installation Restoration Program, Stage 4 IRP Zone 5 Remedial Investigation Pease Air Force Base, NH 03803, Appendices A, B & C



RECIPIENT: USAF  
DATE: March 1993  
TYPE: Report  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #46 001-C  
LONG TITLE: United States Air Force Installation Restoration Program, Pease Air Force Base, Zone 4 Remedial Investigation Report, Appendices A, B & C  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: March 1993  
TYPE: Appendices  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #47 001-G  
LONG TITLE: United States Air Force Installation Restoration Program, Pease Air Force Base, Zone 4 Remedial Investigation Report, Appendices D, E, F & G.  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: March 1993  
TYPE: Appendices  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #48 001-I.1  
LONG TITLE: United States Air Force Installation Restoration Program, Pease Air Force Base, Zone 4 Remedial Investigation Report, Appendix H and Appendix I, Part 1 of 2.  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: March 1993  
TYPE: Appendices  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #49 001-I.2  
LONG TITLE: United States Air Force Installation Restoration Program, Pease Air Force Base, Zone 4 Remedial Investigation Report, Appendix I Part 2 of 2  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: March 1993  
TYPE: Appendix  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #50 001-O  
LONG TITLE: United States Air Force Installation Restoration Program, Pease Air Force Base, Zone 4 Remedial Investigation Report, Appendices K, M, N & O  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: March 1993  
TYPE: Appendices  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #51 001-J.1  
LONG TITLE: United States Air Force Installation Restoration Program, Pease Air Force Base, Zone 4 Remedial Investigation Report, Appendix J 1 of 4  
AUTHOR: Roy F. Weston, Inc.

TYPE: Appendix  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #40 001-K.29  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH Appendices B, C, D, G, H, J and K - Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: November 1992  
TYPE: Appendices  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #41 001-6.4.2  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH Figures - Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: November 1992  
TYPE: Figures  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #42 001-7.8  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH, Technical Report - Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: November 1992  
TYPE: Report  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #43 001-126  
LONG TITLE: Haven Well Pumping Test Letter Report  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Jim Snyder, AFCEE/ESB, USAF  
DATE: 8 January 1993  
TYPE: Transmittal Letter, Letter Report, Maps, Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.5) #44 001-Acr. 3  
LONG TITLE: United States Air Force Installation Restoration Program, Pease Air Force Base, Zone 4 Remedial Investigation Report Text -Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: March 1993  
TYPE: Report  
SECOND REFERENCE: Zone 4  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #45 001-5.3-1  
LONG TITLE: United States Air Force Installation Restoration Program, Pease Air Force Base, Zone 4 Remedial Investigation Report Text -Draft  
AUTHOR: Roy F. Weston, Inc.

DOCUMENT NUMBER: PEA (3.5) #34 001-C  
LONG TITLE: Installation Restoration Program, Stage 4, Site Characterization Summary, IRP Zone 1, Pease AFB, NH Appendices A-C - Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: October 1992  
TYPE: Appendices  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #35 001-ACR.1  
LONG TITLE: Installation Restoration Program, Stage 4, Site Characterization Summary, IRP Zone 2, Pease AFB, NH Text -Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: October 1992  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #36 001-D.3  
LONG TITLE: Installation Restoration Program, Stage 4, Site Characterization Summary, IRP Zone 5, Pease AFB, NH Technical Report and Appendices A-D - Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: October 1992  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #37 001-G.890  
LONG TITLE: Installation Restoration Program, Stage 4, Site Characterization Summary, IRP Zone 5, Pease AFB, NH Appendices E-G - Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: October 1992  
TYPE: Appendices  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #38 001-D.3  
LONG TITLE: Installation Restoration Program, Stage 4, Site Characterization Summary, IRP Zone 5, Pease AFB, NH Technical Report and Appendices A-D - Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: October 1992  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #39 001-L  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH Appendix L - Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: November 1992

SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #29 J874-J1752  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH, Appendix J, Part 2 of 4 - Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: July 1992  
TYPE: Appendix  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #30 J1753-J2661  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH, Appendix J, Part 3 of 4 - Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: July 1992  
TYPE: Appendix  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #31 J2662-J3221  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH, Appendix J, Part 4 of 4 - Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: July 1992  
TYPE: Appendix  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #32 001-B43  
LONG TITLE: Installation Restoration Program, Stage 4, No Further Action Decision Document for IRP Site 3, Pease AFB, NH  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: September 1992  
TYPE: Decision Document  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #33 001-3.1.1  
LONG TITLE: Installation Restoration Program, Stage 4, Site Characterization Summary, IRP Zone 1, Pease AFB, NH Technical Report - Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: October 1992  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

AUTHOR: 1 of 2 --Draft  
ROY F. WESTON, INC.  
RECIPIENT: USAF  
DATE: July 1992  
TYPE: Appendix  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #24 001-K2  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH, Appendix K, Part 2 of 2 --Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: July 1992  
TYPE: Appendix  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #25 001-I1  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH, Appendices H-I1 -- Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: July 1992  
TYPE: Appendices  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #26 001-I2  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH, Appendices H-I2 -- Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: July 1992  
TYPE: Appendix  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #27 001-0.31  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH, Appendices L-O -- Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: July 1992  
TYPE: Appendices  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #28 001-J873  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH, Appendix J, Part 1 of 4 -- Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: July 1992  
TYPE: Appendix

SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #18 001-N  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 32/36, Source Area Remedial Investigation, Pease AFB, NH, Appendices D, E, F, G, L, M and N – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: June 1992  
TYPE: Appendices  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #19 001-C  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 32/36 Source Area Remedial Investigation, Pease AFB, NH, Appendices A-C – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: June 1992  
TYPE: Appendices  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #20 001-ACR3  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 32/36, Source Area Remedial Investigation, Pease AFB, NH, Technical Report – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: June 1992  
TYPE: Report  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #21 001-C  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH, Appendix C – Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: July 1992  
TYPE: Appendix  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #22 001-G  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH, Appendices D-G – Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: July 1992  
TYPE: Appendices  
SECOND REFERENCE: Site 8  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #23 001-K1  
LONG TITLE: Installation Restoration Program, Stage 3C, IRP Site 8 Remedial Investigation, Pease AFB, NH, Appendix K, Part

LONG TITLE: Installation Restoration Program, Stage 3C, Jet Engine Test Cell - IRP Site 34, Source Area Remedial Investigation  
Pease AFB, Appendices A-H, - Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1992  
TYPE: Appendices  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #13 001-1608  
LONG TITLE: Installation Restoration Program, Stage 3C, Jet Engine Test Cell - IRP Site 34, Source Area Remedial Investigation  
Pease AFB, Appendices I-J, -Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1992  
TYPE: Appendices  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #14 001-M.16  
LONG TITLE: Installation Restoration Program, Stage 3C, Jet Engine Test Cell - IRP Site 34, Source Area Remedial Investigation,  
Pease AFB, Appendices K-M, - Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1992  
TYPE: Appendices  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #15 001-6.4.1  
LONG TITLE: Installation Restoration Program, Stage 3C, Jet Engine Test Cell - IRP Site 34, Source Area Remedial Investigation,  
Pease AFB, NH - Figures -Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1992  
TYPE: Figures  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #16 001-B.12  
LONG TITLE: Sampling Locations and Results Drainage Area Letter Report  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1992  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #17 001-6.4.1  
LONG TITLE: Installation Restoration Program, Stage 3C IRP Site 32/36 Source Area Remedial Investigation, Pease AFB, NH,  
Figures -- Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: June 1992  
TYPE: Figures

RECIPIENT: USAF  
DATE: April 1992  
TYPE: Appendices  
SECOND REFERENCE: LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #7 001-5.2.1  
LONG TITLE: Installation Restoration Program, Stage 4 Site Characterization Summary, Zone 3, Pease AFB, NH Technical Report  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1992  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #8 001-C  
LONG TITLE: Installation Restoration Program, Stage 4 Site Characterization Summary, Zone 3, Pease AFB, NH Appendices  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1992  
TYPE: Appendices  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #9 001-D  
LONG TITLE: Installation Restoration Program, Stage 4 Site Characterization Summary, IRP Zone 4, Pease AFB, NH Appendices  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1992  
TYPE: Appendices  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #10 001-R29  
LONG TITLE: Installation Restoration Program, Stage 4 Site Characterization Summary, IRP Zone 4, Pease AFB, NH Technical Report  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1992  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #11 001-A.3  
LONG TITLE: Installation Restoration Program, Stage 3C, Jet Engine Test Cell - IRP Site 34, Source Area Remedial Investigation Pease AFB, NH Technical Report - Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1992  
TYPE: Report  
SECOND REFERENCE: Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #12 001-H.40



### 3.5 Remedial Investigation (RI) Reports

DOCUMENT NUMBER: PEA (3.5) #1 001-C8  
LONG TITLE: Installation Restoration Program, Stage 3 Pease AFB, NH, IRP Site 5 Column Leach Study Letter Report  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: 14 February 1991  
TYPE: Letter Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #2 001-G.4  
LONG TITLE: Installation Restoration Program, Stage 3C, Landfill 5 Remedial Investigation, Pease AFB, NH Technical Report – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1992  
TYPE: Report  
SECOND REFERENCE: LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #3 001-6.4.5  
LONG TITLE: Installation Restoration Program, Stage 3C, Landfill 5 Remedial Investigation, Pease AFB, NH Figures – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1992  
TYPE: Figures  
SECOND REFERENCE: LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #4 001-F.154  
LONG TITLE: Installation Restoration Program, Stage 3C, Landfill 5 Remedial Investigation, Pease AFB, NH Appendices A-F – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1992  
TYPE: Appendices  
SECOND REFERENCE: LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #5 001-M.30  
LONG TITLE: Installation Restoration Program, Stage 3C, Landfill 5 Remedial Investigation, Pease AFB, NH Appendices G, H, L and M – Draft Final  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1992  
TYPE: Appendices  
SECOND REFERENCE: LF-5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #6 001-K  
LONG TITLE: Installation Restoration Program, Stage 3C, Landfill 5 Remedial Investigation, Pease AFB, NH Appendices I-K – Draft Final  
AUTHOR: Roy F. Weston, Inc.

RECIPIENT: EPA, NHDES  
DATE: July 1991  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF

**NOTE: NEED 2 COPIES FOR ARF**

#

DOCUMENT NUMBER: PEA (3.4) #37 001-  
LONG TITLE: "Installation Restoration Program, Stage 3C, Site Characterization Summary. IRP Site 34 – Appendix"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: July 1991  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF  
**NOTE: NEED 2 COPIES FOR ARF**

#

DOCUMENT NUMBER: PEA (3.4) #38 001-041  
LONG TITLE: Pease AFB Monitor Well Inventory and Inspection  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: 7 August 1992  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.4) #39 001-D  
LONG TITLE: Background Values for Soil, Groundwater, Surface Water and Sediment at Pease Air Force Base  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: 26 February 1993  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

RECIPIENT: EPA, NHDES  
DATE: 1 October 1990  
TYPE: Letter Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.4) #31 001-007  
LONG TITLE: "Site 8 Follow-on Letter Report"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: 9 October 1990  
TYPE: Letter Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.4) #32 001-338  
LONG TITLE: "Installation Restoration Program, Stage 3, Landfill 5 Site Characterization Summary"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: November 1990  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.4) #33 001-068  
LONG TITLE: "Installation Restoration Program, Stage 3 Site 5 Column Leach Study Letter Report"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: February 1991  
TYPE: Letter Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.4) #34 001-062  
LONG TITLE: "Installation Restoration Program, Stage 3, IRP Site 8 Column Leach Study Letter Report"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: February 1991  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.4) #35 001-279  
LONG TITLE: "Installation Restoration Program, Stage 3C, Site Characterization Summary. IRP Sites 32/36"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: July 1991  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.4) #36 001-  
LONG TITLE: "Installation Restoration Program, Stage 3C, Site Characterization Summary. IRP Site 34"  
AUTHOR: Roy F. Weston, Inc.

RECIPIENT: EPA, NHDES  
DATE: July 1990  
TYPE: Technical Report - Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #25 001-007  
LONG TITLE: "Geophysical Survey Letter Report, Stage 3"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: 19 October 1989  
TYPE: Letter Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.4) #26 001-006  
LONG TITLE: "Jet Engine Test Cell Letter Report"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: 9 January 1990  
TYPE: Letter Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.4) #27 001-014  
LONG TITLE: "Recovery Well Selection Letter Report: IRP Site 8"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: 11 May 1990  
TYPE: Letter Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.4) #28 001-005  
LONG TITLE: "Geophysical Letter Report for the IRP Stage 3B, Areas of Concern 34 and 32/36"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: 17 August 1990  
TYPE: Letter Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.4) #29 001-011  
LONG TITLE: "Recovery Well Letter Report for Site 32/36"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: 14 September 1990  
TYPE: Letter Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.4) #30 001-017  
LONG TITLE: "Recovery Well Selection Letter Report: IRP Site 34"  
AUTHOR: Roy F. Weston, Inc.

RECIPIENT: EPA, NHDES  
DATE: July 1990  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #19 001-621  
LONG TITLE: "Installation Restoration Program, Stage 2, Draft Final Report, Appendices, Volume I"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: July 1990  
TYPE: Technical Report - Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #20 001-420  
LONG TITLE: "Installation Restoration Program, Stage 2, Draft Final Report, Appendices, Volume II"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: July 1990  
TYPE: Technical Report - Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #21 001-658  
LONG TITLE: "Installation Restoration Program, Stage 2, Draft Final Report, Appendices, Volume III"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: July 1990  
TYPE: Technical Report - Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #22 001-688  
LONG TITLE: "Installation Restoration Program, Stage 2, Draft Final Report, Appendices, Volume IV"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: July 1990  
TYPE: Technical Report - Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #23 001-261  
LONG TITLE: "Installation Restoration Program, Stage 2, Draft Final Report, Appendices, Volume V"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: July 1990  
TYPE: Technical Report - Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #24 001-340  
LONG TITLE: "Installation Restoration Program, Stage 2, Draft Final Report, Appendices, Summary Analytical Tables"  
AUTHOR: Roy F. Weston, Inc.

RECIPIENT: EPA, NHDES  
DATE: April 1989  
TYPE: Technical Report - Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #13 001-770  
LONG TITLE: "Interim Technical Report No. 4 for the Installation Restoration Program, Stage 2, Volume IV - Appendices"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: April 1989  
TYPE: Technical Report - Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #14 001-1,150  
LONG TITLE: "Interim Technical Report No. 4 for the Installation Restoration Program, Stage 2, Volume V - Appendices"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: April 1989  
TYPE: Technical Report - Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #15 001-729  
LONG TITLE: "Interim Technical Report No. 4 for the Installation Restoration Program, Stage 2, Volume VI - Appendices"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: April 1989  
TYPE: Technical Report - Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #16 001-803  
LONG TITLE: "Interim Technical Report No. 4 for the Installation Restoration Program, Stage 2, Volume VII - Appendices"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: April 1989  
TYPE: Technical Report - Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #17 001-251  
LONG TITLE: "Installation Restoration Program, Stage 2, Draft Final Report, Volume I"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: July 1990  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #18 001-452  
LONG TITLE: "Installation Restoration Program, Stage 2, Draft Final Report, Volume II"  
AUTHOR: Roy F. Weston, Inc.

DATE: August 1988  
TYPE: Technical Report - Appendices (Analytical Results)  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #7 001-289  
LONG TITLE: "Interim Technical Report No. 2 for the Installation Restoration Program, Stage 2, Volume V - Appendices (Field Geological, Geotechnical, and Hydrogeological Data)"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: August 1988  
TYPE: Technical Report - Appendices (Field Geological, Geotechnical, and Hydrogeological Data)  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #8 001-106  
LONG TITLE: "Interim Technical Report No. 3 for the Installation Restoration Program, Stage 2, Volume I"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: February 1989  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #9 001-658  
LONG TITLE: "Interim Technical Report No. 3 for the Installation Restoration Program, Stage 2, Volume II - Appendices"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: February 1989  
TYPE: Technical Report - Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #10 001-198  
LONG TITLE: "Interim Technical Report No. 4 for the Installation Restoration Program, Stage 2, Volume I"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: April 1989  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #11 001-770  
LONG TITLE: "Interim Technical Report No. 4 for the Installation Restoration Program, Stage 2, Volume II - Appendices"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: April 1989  
TYPE: Technical Report - Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #12 001-568  
LONG TITLE: "Interim Technical Report No. 4 for the Installation Restoration Program, Stage 2, Volume III - Appendices"  
AUTHOR: Roy F. Weston, Inc.

### 3.4 Preliminary RI Field Work Reports

DOCUMENT NUMBER: PEA (3.4) #1 001-173  
LONG TITLE: "Interim Technical Report No. 1 for the Installation Restoration Program, Stage 2, Volume I"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: February 1988  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #2 001-147  
LONG TITLE: "Interim Technical Report No. 1 for the Installation Restoration Program, Stage 2, Volume II - Appendices"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: January 1988  
TYPE: Technical Report - Appendices  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #3 001-214  
LONG TITLE: "Interim Technical Report No. 2 for the Installation Restoration Program, Stage 2, Volume I"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: August 1988  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #4 001-696  
LONG TITLE: "Interim Technical Report No. 2 for the Installation Restoration Program, Stage 2, Volume II - Appendices (Sample Tracking Information, Analytical Results)"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: August 1988  
TYPE: Technical Report - Appendices (Sample Tracking Information, Analytical Results)  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #5 001-838  
LONG TITLE: "Interim Technical Report No. 2 for the Installation Restoration Program, Stage 2, Volume III - Appendices (Analytical Results)"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: August 1988  
TYPE: Technical Report - Appendices (Analytical Results)  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.4) #6 001-722  
LONG TITLE: "Interim Technical Report No. 2 for the Installation Restoration Program, Stage 2, Volume IV - Appendices (Analytical Results)"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES



RECIPIENT: Task Manager  
Roy F. Weston, Inc.  
Arthur Ditto, RPM  
U.S. Air Force/Pease AFB  
DATE: 2 October 1992  
TYPE: Letter  
SECOND REFERENCE: Groundwater Modeling  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.3) #13 001-C31  
LONG TITLE: Installation Restoration Program, Stage 5 Health and Safety Plan, Pease AFB, NH – Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: October 1992  
TYPE: Health and Safety Plan  
SECOND REFERENCE: Groundwater Modeling  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.3) #14 001-036  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Landfill 5 Remedial Design Work Plan DRAFT  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: April 1993  
TYPE: Work Plan  
SECOND REFERENCE: LF-5  
LOCATION: ARF, IR

#

LOCATION: ARF, IR

DOCUMENT NUMBER: PEA (3.3) #7 001-G5  
LONG TITLE: Installation Restoration Program, Stage 4 Work Plan Addendum Number 2 for Pease AFB, NH – Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: March 1992  
TYPE: Addendum  
SECOND REFERENCE: None  
LOCATION: ARF, IR

DOCUMENT NUMBER: PEA (3.3) #8 001-B4  
LONG TITLE: Installation Restoration Program, Stage 3C, Operations Plan for Pease AFB, NH – Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: May 1991  
TYPE: Plan  
SECOND REFERENCE: None  
LOCATION: ARF, IR

DOCUMENT NUMBER: PEA (3.3) #9 001-3.5  
LONG TITLE: Installation Restoration Program, Stage 4, Work Plan Addendum 3, Pease AFB, NH  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: June 1992  
TYPE: Addendum  
SECOND REFERENCE: None  
LOCATION: ARF, IR

DOCUMENT NUMBER: PEA (3.3) #10 iii-R2  
LONG TITLE: Stage 4 Health and Safety Plan Addendum - Section 9 Paint Can Disposal Area Test Pit and Drum Handling Procedures  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: 22 June 1992  
TYPE: Addendum  
SECOND REFERENCE: None  
LOCATION: ARF, IR

DOCUMENT NUMBER: PEA (3.3) #11 001-003  
LONG TITLE: Conversion of Well 06-608 to a Fractured Bedrock Monitor Well  
AUTHOR: Lee dePersia  
Task Manager  
Roy F. Weston, Inc.  
RECIPIENT: Arthur Ditto, RPM  
U.S. Air Force/Pease AFB  
DATE: 8 September 1992  
TYPE: Letter and Diagram  
SECOND REFERENCE: LF-6 and Well 06-608  
LOCATION: ARF, IR

DOCUMENT NUMBER: PEA (3.3) #12 001-004  
LONG TITLE: Groundwater Modeling Process Outline  
AUTHOR: Lee dePersia

### 3.3 Work Plan

DOCUMENT NUMBER: PEA (3.3) #1 001-144  
LONG TITLE: "Work Plan for the Installation Restoration Program, Stage 3"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: August 1989  
TYPE: Work Plan  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.3) #2 001-019  
LONG TITLE: "Installation Restoration Program, Stage 3C, Treatability Study Work Plan: IRP Sites 8 and 34"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: May 1991  
TYPE: Work Plan  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.3) #3 001-028  
LONG TITLE: "Installation Restoration Program, Stage 3C, Action Plan"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: May 1991  
TYPE: Operations Plan  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.3) #4 001-258  
LONG TITLE: "Installation Restoration Program, Stage 4 Work Plan"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: January 1991  
TYPE: Work Plan  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.3) #5 001-213  
LONG TITLE: "Work Plan for the Integrated Installation Restoration Program, Stage 2, Labelled Stage 2 Work Plan"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: September 1987  
TYPE: Work Plan  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.3) #6 001-GL2  
LONG TITLE: Installation Restoration Program, Stage 4 Work Plan Addendum 1, Pease AFB, NH -- Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: September 1991  
TYPE: Addendum  
SECOND REFERENCE: None

LOCATION: ARF #

DOCUMENT NUMBER: PEA (3.2) #16 001-009

LONG TITLE: Thomas Drinking Water Well Sample Analytical Result

AUTHOR: Kenneth W. Teague, President  
Analytics Environmental Laboratory, Inc.  
Through U.S. Air Force/Arthur Ditto

RECIPIENT: Evelyn Thomas  
509 Newington Road  
Newington, NH 03801

DATE: 23 November 1992

TYPE: Transmittal Letters with Attachments (Tables, Questionnaire and Map)

SECOND REFERENCE: Artesian Well  
at 509 Newington Rd.

LOCATION: ARF #

#

DOCUMENT NUMBER: PEA (3.2) #12 001-052  
LONG TITLE: Maximum Detected Concentrations for Unfiltered Groundwater at Pease AFB, NH  
AUTHOR: Lee dePersia  
Task Manager  
Roy F. Weston, Inc.  
RECIPIENT: Arthur Ditto, RPM  
U.S. Air Force/Pease AFB  
DATE: 25 August 1992  
TYPE: Letter with Attachments (Tables and Graphs)  
SECOND REFERENCE: Characterization of Inorganic Background Levels for Groundwater at Pease AFB  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.2) #13 001-007  
LONG TITLE: Haven Well Pumping Test Data  
AUTHOR: Jim Spratt  
Project Geologist  
Roy F. Weston, Inc.  
RECIPIENT: Mark McKenzie  
U.S. Air Force/Pease AFB  
DATE: 16 September 1992  
TYPE: Letter with Tables  
SECOND REFERENCE: Haven Well (597)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.2) #14 001-009  
LONG TITLE: Newington Water Quality Sampling on July 18, 1992 and Analysis Performed on August 28, 1992 (NHDES Sample #210239-210241)  
AUTHOR: Scott Doane  
Hydrogeologist  
NHDES  
RECIPIENT: Wayne Wood  
428 Newington Road  
Newington, NH 03803  
DATE: 21 September 1992  
TYPE: Letter with Chain of Custody and Tables  
SECOND REFERENCE: Bedrock Well Serving  
428 Newington Road  
Tax Map 51, Lot 09  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.2) #15 001-009  
LONG TITLE: Tissue Sample Letter Report for Great Bay, Bass Pond and McIntyre Brook  
AUTHOR: Lee R. dePersia  
Task Manager  
Roy F. Weston, Inc.  
Through U.S. Air Force  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
and  
Richard Pease, RPM  
NHDES  
DATE: 9 October 1992  
TYPE: Routing Letters and Letter Report with Map and Table  
SECOND REFERENCE: Great Bay, Bass Pond  
McIntyre Brook

LOCATION: ARF

DOCUMENT NUMBER: PEA (3.2) #7 001-D1  
LONG TITLE: Background Soluble Metals Concentrations for Groundwater at Pease AFB  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: 20 November 1991  
TYPE: Letter Report  
SECOND REFERENCE: PEA (3.6)  
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.2) #8 001-E.1  
LONG TITLE: Tolerance Limits for Background Soils at Pease AFB, NH  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: 17 April 1992  
TYPE: Letter Report  
SECOND REFERENCE: None  
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.2) #9 001-014  
LONG TITLE: Continuance of IRP Site 16 Inspection  
AUTHOR: Arthur Ditto, RPM  
U.S. Air Force/Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
USEPA, Region 1  
and  
Richard Pease, RPM  
NHDES  
DATE: 30 June 1992  
TYPE: Letter with Diagrams, Tables and Maps  
SECOND REFERENCE: Site 16, Building 410  
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.2) #10 001-002  
LONG TITLE: Results of Background Surface Water/Sediment Location Walkover  
AUTHOR: Arthur L. Ditto, RPM  
U.S. Air Force/Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
U.S. EPA, Region 1  
DATE: 19 August 1992  
TYPE: Letter  
SECOND REFERENCE: Knights Brook  
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.2) #11 001-004  
LONG TITLE: Haven Well Test  
AUTHOR: James G. Spratt  
Roy F. Weston, Inc.  
RECIPIENT: Mark McKenzie  
U.S. Air Force/Pease AFB  
DATE: 21 August 1992  
TYPE: Letter  
SECOND REFERENCE: Haven Well Aquifer  
LOCATION: ARF

3.2 Sampling and Analysis Data / Chain of Custody Forms

DOCUMENT NUMBER: PEA (3.2) #1 001-027  
LONG TITLE: Volatile Aromatics/Halocarbons by Modified 8010/8020 - Draft Data Sheets  
AUTHOR: Roy F. Roy F. Weston, Inc.  
RECIPIENT: Pease AFB  
DATE: Unknown  
TYPE: Data  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.2) #2 001-018  
LONG TITLE: Volatile Aromatics/Halocarbons by Modified 8010/8020  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Pease AFB  
DATE: Unknown  
TYPE: Data  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.2) #3 001-009  
LONG TITLE: CLP Volatile Organic Analysis, Case No. 15175, SDG No. AX086, 8 Water Analytical Results  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Pease AFB  
DATE: Unknown  
TYPE: Data  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.2) #4 001-037  
LONG TITLE: Pease AFB GWTP Summary Tables  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: Unknown  
TYPE: Data  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.2) #5 001-013  
LONG TITLE: Split Sampling Results Site 8 and Site 34  
AUTHOR: Richard Pease, NHDES  
RECIPIENT: Art Ditto, Pease AFB  
DATE: 29 October 1990  
TYPE: Data  
SECOND REFERENCE: Site 8; Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.2) #6 001-013  
LONG TITLE: Preliminary Survey of Metal Concentrations in New Hampshire Soils - Final Report  
AUTHOR: New Hampshire Division of Public Health Services, Bureau of Health Risk Assessment  
RECIPIENT: USAF  
DATE: May 1991  
TYPE: Data  
SECOND REFERENCE: None

DATE: 06 January 1993  
TYPE: Letter Report  
SECOND REFERENCE: Zone 1; Site 13  
LOCATION: ARF

#



DATE: 23 October 1992  
TYPE: Letter  
SECOND REFERENCE: Samples for SW8330 Analysis  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #16 001-003  
LONG TITLE: Recommendations to Characterize Overburden Groundwater Quality and Flow Direction near Site 8 (Zone 5)  
AUTHOR: Jennifer D. Toney, P.G.  
Zone Manager  
Roy F. Weston, Inc.

RECIPIENT: Arthur Ditto  
U.S. Air Force/Pease AFB

DATE: 5 November 1992  
TYPE: Letter with Map  
SECOND REFERENCE: Site 8, Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #17 001-005  
LONG TITLE: Ethylene Dibromide (EDB) Analysis using Modified Method E504.1  
AUTHOR: Edward S. Barnes, P.E., C.I.H.  
Project Director  
Roy F. Weston, Inc.

RECIPIENT: Capt Carl Woertle  
U.S. Air Force/Base Closure Division  
Air Force Center for Environmental Excellence

DATE: 19 November 1992  
TYPE: Letter with 4 Page Attachment  
SECOND REFERENCE: Analytical Method Recommended for EDB Analysis  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #18 001-007  
LONG TITLE: Objectives of Site 10 Aquifer Test (well 10-6048)  
AUTHOR: James J. Soukup  
Senior Hydrogeologist  
Roy F. Weston, Inc.  
RECIPIENT: Mark McKenzie  
U.S. Air Force/Pease AFB  
DATE: 30 November 1992  
TYPE: Letter with Tables and Maps  
SECOND REFERENCE: Site 10. Well 10-6048, Zone 2 Leaded Fuel Tank Sludge Disposal Area.  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #19 2.24-R.1  
LONG TITLE: Stage 4 Sampling and Analysis Plan, Addendum #3, QAPP Portion  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: 2 December 1992  
TYPE: Addendum  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #20 001-007  
LONG TITLE: Letter Report - Proposed Aquifer Test of Well 6104  
AUTHOR: James Soukup, George Swedberg, Roy F. Weston, Inc.  
RECIPIENT: Mark McKenzie, Pease AFB

SECOND REFERENCE: Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #11 001-R1  
LONG TITLE: Installation Restoration Program, Stage 4 Sampling and Analysis Plan Addendum 3, Pease AFB, NH – Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: October 1992  
TYPE: Addendum  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #12 001-005  
LONG TITLE: Site 72 Aquifer Test Proposed for Bedrock Well 72-6057  
AUTHOR: Robert J. Casper  
Project Geologist  
Roy F. Weston, Inc.  
RECIPIENT: Mark McKenzie  
U.S. Air Force/Pease AFB  
DATE: 1 October 1992  
TYPE: Letter with Table and Map  
SECOND REFERENCE: Site 72, Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #13 001-004  
LONG TITLE: Site 31 Aquifer Test Plan for Lower Sand Well 31-518  
AUTHOR: James G. Spratt  
Project Geologist  
Roy F. Weston, Inc.  
RECIPIENT: Mark McKenzie  
U.S. Air Force/Pease AFB  
DATE: 1 October 1992  
TYPE: Letter with Table and Map  
SECOND REFERENCE: Site 31, Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #14 001-005  
LONG TITLE: Site 39 Aquifer Test Plan for Lower Sand Well 39-5101  
AUTHOR: Robert J. Casper  
Project Geologist  
Roy F. Weston, Inc.  
RECIPIENT: Mark McKenzie  
U.S. Air Force/Pease AFB  
DATE: 15 October 1992  
TYPE: Letter with Table and Map  
SECOND REFERENCE: Well 39-5101/Lower Sand Unit at Site 39  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #15 001-001  
LONG TITLE: Analysis Using SW846 Method 8330 for Explosives  
AUTHOR: Edward S. Barnes, P.E., C.I. H.  
Roy F. Weston, Inc.  
RECIPIENT: Capt. Carl Woerhle  
U.S. Air Force/Base Closure Division  
Air Force Base Center for Environmental Excellence

RECIPIENT: Roy F. Weston, Inc.  
Arthur Ditto  
U.S. Air Force/Pease AFB  
DATE: 22 January 1991  
TYPE: Letter with Tables and Map  
SECOND REFERENCE: Site 32/36, Wells 6013 and 6014  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #7 001-003  
LONG TITLE: Locations of Background Sampling Locations  
AUTHOR: Arthur L. Ditto  
RPM, U.S. Air Force/Pease AFB  
RECIPIENT: Johanna Hunter, RPM  
USEPA, Region 1  
and  
Richard Pease, RPM  
NHDES  
DATE: 15 June 1992  
TYPE: Letter and Map  
SECOND REFERENCE: Stage 3C Background Data Base  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #8 001-004  
LONG TITLE: Aquifer Testing Proposed for Site 8 (Bedrock Well 08-622)  
AUTHOR: Robert J. Casper  
Project Geologist  
Roy F. Weston, Inc.  
RECIPIENT: Mark McKenzie  
U.S. Air Force/Pease AFB  
DATE: 28 August 1992  
TYPE: Letter with Table and Map  
SECOND REFERENCE: Site 8, Bedrock Well 08-622, Zone 5  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #9 001-001  
LONG TITLE: Horizontal Drilling Technique (Video)  
AUTHOR: Lee R. dePersia  
Task Manager  
Roy F. Weston, Inc.  
RECIPIENT: Arthur Ditto  
RPM, U.S. Air Force  
Pease AFB  
DATE: 28 September 1992  
TYPE: Letter  
SECOND REFERENCE: "Horizontal Wellbore System"  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #10 001-003  
LONG TITLE: Zone 3 Pumping Tests  
AUTHOR: Robert J. Casper  
Project Geologist  
Roy F. Weston, Inc.  
RECIPIENT: Mark McKenzie  
U.S. Air Force/Pease AFB  
DATE: 28 September 1992  
TYPE: Letter and Table

### 3.1 Sampling and Analysis Plan (SAP)

DOCUMENT NUMBER: PEA (3.1) #1 001-210  
LONG TITLE: "Quality Assurance Project Plan, Integrated Installation Restoration Program, Stage 2, to Support the Preliminary Remedial Investigation Field Work, Labelled Stage 2 Field Work"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA; NHDES; HQ SAC/DEPV, Offutt AFB, NE  
DATE: November 1987  
TYPE: Quality Assurance Project Plan  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #2 001-212  
LONG TITLE: "Quality Assurance Project Plan, Integrated Installation Restoration Program, Stage 3"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: August 1989  
TYPE: Quality Assurance Project Plan  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #3 001-286  
LONG TITLE: "Installation Restoration Program, Stage 4 Sampling and Analysis Plan"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: January 1991  
TYPE: Sampling and Analysis Plan  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #4 001-045  
LONG TITLE: "IRP Health Assessment Sampling and Analysis Plan (Buildings 244, 229, and 226)"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: April 1991  
TYPE: Sampling and Analysis Plan  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #5 001-006  
LONG TITLE: Site 39 Aquifer Test Procedure Plan for Bedrock Well 39-6080  
AUTHOR: Robert J. Casper  
Project Geologist  
Roy F. Weston, Inc.  
RECIPIENT: Mark McKenzie  
U.S. Air Force/Pease AFB  
DATE: 15 October 1992  
TYPE: Letter with Table and Map  
SECOND REFERENCE: Bedrock Well 39-6080 in Zone 3  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.1) #6 001-005  
LONG TITLE: Pumping Tests at Site 32/36  
AUTHOR: Amy E. Bruckner, P.G.

**TYPE:** Letter with Maps  
**SECOND REFERENCE:** Site 8, FDTA - 2  
**LOCATION:** ARF

LONG TITLE: IRP Site 34, Groundwater Treatment Plant  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 13 August 1992  
TYPE: Letter  
SECOND REFERENCE: PEA (2.7); Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.8) #19 001-008  
LONG TITLE: Proposal to Upgrade IRP Site 8 Pilot Groundwater Recovery and Recharge Systems  
AUTHOR: Fred Symmes  
Assistant Project Engineer  
Roy F. Weston, Inc.  
RECIPIENT: Mark McKenzie  
U.S. Air Force/Pease AFB  
DATE: 14 September 1992  
TYPE: Letter with Maps  
SECOND REFERENCE: Site 8, Pilot Groundwater Recovery and Recharge Systems  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.8) #20 001-001  
LONG TITLE: Pease AFB Site 32/36 Groundwater Treatment Plant Informal Technical Information Report  
AUTHOR: Weston  
RECIPIENT: USAF  
DATE: 14 October 1992  
TYPE: Letter  
SECOND REFERENCE: PEA (2.7); Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.8) #21 001-001  
LONG TITLE: Pease AFB Site 34 GWTP Informal Technical Report Advance Copy  
AUTHOR: Weston  
RECIPIENT: USAF  
DATE: 19 October 1992  
TYPE: Letter  
SECOND REFERENCE: PEA (2.7); Site 34  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.8) #22 001-007  
LONG TITLE: Notification of Treatment of Extraction Water from Building 227  
AUTHOR: USAF  
RECIPIENT: NHDES, Water Supply and Pollution Control Division  
DATE: 26 November 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.8) #23 001-004  
LONG TITLE: Site 8 Groundwater Remediation System Update  
AUTHOR: Lee dePersia  
Task Manager  
Roy F. Weston, Inc.  
RECIPIENT: Arthur Ditto, RPM  
U.S. Air Force/Pease AFB  
DATE: 2 December 1992

DATE: 20 August 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.8) #13 001-041  
LONG TITLE: "New Hampshire wetlands permit for National Priorities List (NPL) related work site 32/36"  
AUTHOR: Air Force  
RECIPIENT: State of New Hampshire  
DATE: 22 August 1990  
TYPE: Permit  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.8) #14 001-002  
LONG TITLE: "Request for additional information regarding pilot groundwater treatment systems for areas of concern 32/36 and 34"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 11 January 1991  
TYPE: Request for Information  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.8) #15 001-001  
LONG TITLE: "Letter to New Hampshire Department of Environmental Services regarding pilot groundwater treatment system for IRP Sites 32/36 and Site 34"  
AUTHOR: Department of the Air Force  
RECIPIENT: New Hampshire Department of Environmental Services  
DATE: 24 January 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.8) #16 001-005  
LONG TITLE: "Letter Regarding Notification of Intent to Discharge Effluent From Two Pilot Groundwater Treatment Systems"  
AUTHOR: U.S. Department of the Air Force  
RECIPIENT: New Hampshire Department of Environmental Services  
US EPA  
DATE: 10 December 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.8) #17 001-002  
LONG TITLE: "Letter to U.S. EPA regarding pilot groundwater treatment systems for IRP Sites 32/36 and Site 34"  
AUTHOR: U.S. Department of the Air Force  
RECIPIENT: US EPA  
DATE: 24 January 1991  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.8) #18 001-001

LOCATION: ARF  
#  
DOCUMENT NUMBER: PEA (2.8) #7 001-004  
LONG TITLE: "Corrected Tables for 5 November 1990 letter, "Anticipated Effluent Quality from Groundwater Treatment Plants at Sites 32/36 and 34."  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 3 December 1990  
TYPE: Letter  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (2.8) #8 001-004  
LONG TITLE: "Letter Regarding the Approval of Pease Air Force Base Groundwater Permit No. 8908-25P for the Fire Department Training Area"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 11 September 1989  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (2.8) #9 001-002  
LONG TITLE: "Letter Regarding Review of a Supplemental Proposal to Air Strip Contaminated Groundwater"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 13 September 1989  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (2.8) #10 001-003  
LONG TITLE: "Letter Regarding Revision of Pease Air Force Base Groundwater Permit No. 8908-25P of the Former Fire Department Training Area No. 2, Site 8"  
AUTHOR: U.S. Air Force  
RECIPIENT: State of New Hampshire  
DATE: 18 April 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (2.8) #11 001-001  
LONG TITLE: "Letter Regarding Groundwater Discharge Permit No. 8908-25P"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 5 July 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#  
DOCUMENT NUMBER: PEA (2.8) #12 001-002  
LONG TITLE: "Letter to the New Hampshire Department of Environmental Services Regarding Amendments to Groundwater Treatment System air emissions"  
AUTHOR: Air Force  
RECIPIENT: NHDES



## 2.8 Correspondence

DOCUMENT NUMBER: PEA (2.8) #1 001-002  
LONG TITLE: "Tank Removal at Building 244"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 8 March 1989  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

DOCUMENT NUMBER: PEA (2.8) #2 001-002  
LONG TITLE: "Review Comments Regarding Site 32/36 Groundwater Remediation Pilot Contract Document and Specifications"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 25 September 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

DOCUMENT NUMBER: PEA (2.8) #3 001-001  
LONG TITLE: "Letter Regarding Fire Training Area No. 2, Pilot Groundwater Treatment System"  
AUTHOR: Department of the Air Force  
RECIPIENT: Air Force  
DATE: 11 October 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

DOCUMENT NUMBER: PEA (2.8) #4 001-003  
LONG TITLE: "TRP Site 32/36 Recovery Well Update"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 1 November 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

DOCUMENT NUMBER: PEA (2.8) #5 001-005  
LONG TITLE: "Letter Regarding Anticipated Effluent Quality from Groundwater Treatment Plants at Sites 32/36 and 34"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 5 November 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

DOCUMENT NUMBER: PEA (2.8) #6 001-001  
LONG TITLE: "Letter Regarding Fire Training Area No. 2, Pilot Groundwater Treatment System"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: Air Force  
DATE: 12 November 1990  
TYPE: Letter  
SECOND REFERENCE: None

LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.7) #7 001-E  
LONG TITLE: Installation Restoration Program, Stage 4, Letter Report for the Intensive Test Pit Operation at the McIntyre Road Drum Disposal Area for Pease AFB, NH - Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: February 1992  
TYPE: Letter Report  
SECOND REFERENCE: PEA (2.8)  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.7) #8 001-601  
LONG TITLE: Installation Restoration Program, Stage 3B, IRP Site 32/36, Groundwater Treatment Plant, Informal Technical Information Report, Pease AFB, NH, Appendix K - Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: October 1992  
TYPE: Report  
SECOND REFERENCE: Site 32/36  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.7) #9 001-J.4  
LONG TITLE: Installation Restoration Program, Stage 3B, IRP Site 32/36, Groundwater Treatment Plant, Informal Technical Information Report, Pease AFB, NH, -- Technical Report and Appendices A-J  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: October 1992  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.7) #10 001-D4  
LONG TITLE: Installation Restoration Program, Stage 3B, IRP Site 34, Groundwater Treatment Plant, Informal Technical Report, Pease AFB, NH, Appendices A-D - Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: November 1992  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.7) #11 001-808  
LONG TITLE: Installation Restoration Program, Stage 3B, IRP Site 34, Groundwater Treatment Plant, Informal Technical Information Report, Pease AFB, NH, Appendices E-G - Draft  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: November 1992  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

## 2.7 Removal Response Reports

DOCUMENT NUMBER: PEA (2.7) #1 001-452  
LONG TITLE: "Informal Technical Information Report, Drum Removal at Site 5 (LF-5) – Pre-NPL Actions"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: December 1990  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.7) #2 001-070  
LONG TITLE: "Informal Technical Information Report, Soil Removal at Site 8 (FDTA-2) – Pre-NPL Actions"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: December 1990  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.7) #3 001-142  
LONG TITLE: "Informal Technical Information Report, Soil Removal at Site 34 (Building 222) – Pre-NPL Actions"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: January 1991  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.7) #4 001-244  
LONG TITLE: "Informal Technical Information Report, Soil Removal at Site 32 (Building 113) – Pre-NPL Actions"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: April 1991  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.7) #5 001-900  
LONG TITLE: Installation Restoration Program, Stage 3A, IRP Site 8 Groundwater Treatment Plant, Pease AFB, NH - Volume II  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: November 1991  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (2.7) #6 001-H.12  
LONG TITLE: Installation Restoration Program, Stage 3A, IRP Site 8 Groundwater Treatment Plant, Pease AFB, NH - Volume I  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: USAF  
DATE: November 1991  
TYPE: Report  
SECOND REFERENCE: None

2.6 Amendments to Action Memorandum

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

2.5 Action Memorandum

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

24 EE/CA (Engineering Evaluation / Cost Analysis)

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

23 EE/CA Approval Memorandum (Non-Time Critical Removals)

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

2.2 Sampling and Analysis Data / Chain of Custody

• NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#



2.1 Sampling and Analysis Plans

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (1.6) #7 001-001  
LONG TITLE: Submittal of Site 42 Site Inspection Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
DATE: 28 July 1992  
TYPE: Letter  
SECOND REFERENCE: Site 42  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (1.6) #8 001-001  
LONG TITLE: Railroad Track SI Letter Report  
AUTHOR: USAF  
RECIPIENT: Johanna Hunter, USEPA  
Richard Pease, NHDES  
DATE: 30 September 1992  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

1.6 Correspondence

DOCUMENT NUMBER: PEA (1.6) #1 001-002  
LONG TITLE: "Comments Regarding the Installation Restoration Program, Phase I Record Search Report, Pease Air Force Base"  
AUTHOR: The State of New Hampshire, Water Supply and Pollution Control Commission  
RECIPIENT: HQ SAC, Offutt AFB, NE  
DATE: 16 March 1984  
TYPE: Letter/Comments  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (1.6) #2 001-004  
LONG TITLE: "Comments Regarding the Installation Restoration Program Report (09/10/86)"  
AUTHOR: State of New Hampshire, Division of Public Health Services  
RECIPIENT: NH Division of Public Health Services  
DATE: 24 November 1986  
TYPE: Comments to SI (1.4)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (1.6) #3 001-005  
LONG TITLE: "Comments Regarding the Phase II, Stage 1 IRP Report (08/86 Draft)"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 3 February 1987  
TYPE: Comments to SI (1.4)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (1.6) #4 001-007  
LONG TITLE: "Air Force Responses to Comments From the New Hampshire Department of Environmental Services on the Phase II, Stage 1 IRP Draft Report"  
AUTHOR: Department of the Air Force  
RECIPIENT: NHDES  
DATE: 8 May 1987  
TYPE: Responses to Comments to SI (1.4)  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (1.6) #5 001-001  
LONG TITLE: "Letter Regarding Water Sample Obtained from the Pease AFB Golf Course Spring"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 29 June 1990  
TYPE: Letter  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (1.6) #6 001-004  
LONG TITLE: "Letter Concerning Site Walkovers made with Members of Sherburne Civic Group"  
AUTHOR: State of New Hampshire, Department of Environmental Services  
RECIPIENT: Air Force  
DATE: 18 July 1990  
TYPE: Letter

1.5 Previous Operable Unit Information

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

AUTHOR: Weston  
RECIPIENT: USAF  
DATE: 24 September 1992  
TYPE: Letter Report  
SECOND REFERENCE: PEA (1.6)  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (1.4) #7 001-Acr.3  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zones 6 and 7 Site Inspection Report Text DRAFT  
AUTHOR: Weston  
RECIPIENT: USAF  
DATE: June 1993  
TYPE: Report  
SECOND REFERENCE: Zones 6 and 7  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (1.4) #8 001-Plate 2  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zones 6 and 7 Site Inspection Report Figures DRAFT  
AUTHOR: Weston  
RECIPIENT: USAF  
DATE: June 1993  
TYPE: Figures  
SECOND REFERENCE: Zones 6 and 7  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (1.4) #9 001-H  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zones 6 and 7 Site Inspection Appendices A, B, C, D, E, F, G and H DRAFT  
AUTHOR: Weston  
RECIPIENT: USAF  
DATE: June 1993  
TYPE: Appendices  
SECOND REFERENCE: Zones 6 and 7  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (1.4) #10 001-L.17  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zones 6 and 7 Site Inspection Appendices I and L DRAFT  
AUTHOR: Weston  
RECIPIENT: USAF  
DATE: June 1993  
TYPE: Appendices  
SECOND REFERENCE: Zones 6 and 7  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (1.4) #11 001-J  
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zones 6 and 7 Site Inspection Appendices J and K DRAFT  
AUTHOR: Weston  
RECIPIENT: USAF  
DATE: June 1993  
TYPE: Appendices  
SECOND REFERENCE: Zones 6 and 7  
LOCATION: ARF

14 Site Investigation (SI) Report

DOCUMENT NUMBER: PEA (1.4) #1 001-309  
LONG TITLE: "Installation Restoration Program, Phase II - Confirmation/Quantification Stage I, Volume I (Final Report for Period October 1984 - July 1986)"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: HQ SAC/SGPB, Offutt AFB, NE; EPA; NHDES  
DATE: August 1986  
TYPE: Technical Report: Field Investigations  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (1.4) #2 001-883  
LONG TITLE: "Installation Restoration Program, Phase II - Confirmation/Quantification Stage 1, Volume II (Appendices)"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: HQ SAC/SGPB, Offutt AFB, NE; EPA; NHDES  
DATE: August 1987  
TYPE: Technical Report: Field Investigations  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (1.4) #3 001-308  
LONG TITLE: "Installation Restoration Program, Stage 3B Preliminary Assessment/Site Inspection"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA; NHDES; HQ SAC/DE, Offutt AFB, NE; AFSC HSD/YAQ, Brooks AFB, TX  
DATE: February 1991  
TYPE: Technical Report: Also includes review of PA  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (1.4) #4 001-088  
LONG TITLE: Final Portsmouth Refuse to Energy Plant Site Inspection Report for Pease AFB, NH  
AUTHOR: ICF Kaiser Engineers, Inc.  
286 Congress Street, 7th Floor  
Boston, Massachusetts 02210  
RECIPIENT: USAF  
DATE: July 1992  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (1.4) #5 001-D  
LONG TITLE: Final Portsmouth Refuse to Energy Plant Site Inspection Report Appendices  
AUTHOR: ICF Kaiser Engineers, Inc.  
286 Congress Street, 7th Floor  
Boston, Massachusetts 02210  
RECIPIENT: USAF  
DATE: July 1992  
TYPE: Appendices  
SECOND REFERENCE: None  
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (1.4) #6 001-B17  
LONG TITLE: Pease AFB Railroad Tracks (Site 46) Site Investigation Letter Report

1.3 Preliminary Assessment (PA) Report

DOCUMENT NUMBER: PEA (1.3) #1 001-068  
LONG TITLE: "Phase II Problem Confirmation and Quantification Presurvey Report (Field Sampling for SI Work)"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES, USAF Occupational and Environmental Health Lab (OEHL), Brooks AFB, TX  
DATE: June 1984  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (1.3) #2 001-182  
LONG TITLE: "Installation Restoration Program Records Search"  
AUTHOR: CH2M Hill  
RECIPIENT: EPA; NHDES; USAF Engineering & Services Center, Tyndall AFB; SAC, Offutt AFB, NE  
DATE: January 1984  
TYPE: Technical Report  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (1.3) #3 001-041  
LONG TITLE: "Preliminary Assessment - Updated PA Report"  
AUTHOR: Roy F. Weston, Inc.  
RECIPIENT: EPA, NHDES  
DATE: 20 July 1990  
TYPE: Letter Report  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (1.3) #4 001-L2  
LONG TITLE: Final Preliminary Assessment Report Portsmouth Refuse to Energy Plant  
AUTHOR: ICF Kaiser Engineers, Inc.  
286 Congress Street, 7th Floor  
Boston, Massachusetts 02210  
RECIPIENT: USAF  
DATE: November 1991  
TYPE: Report  
SECOND REFERENCE: None  
LOCATION: ARF, IR

#

1.2 Notification/Site Inspection Reports

\* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

#



**1.1 Background - RCRA and Other Information**

DOCUMENT NUMBER: PEA (1.1) #1 001-031  
LONG TITLE: "Scope of Work for the Remedial Investigation/Feasibility Study"  
AUTHOR: Pease Air Force Base  
RECIPIENT: EPA, NHDES  
DATE: April 1991  
TYPE: Scope of Work for RI/FS  
SECOND REFERENCE: None  
LOCATION: ARF, IR

DOCUMENT NUMBER:  
LONG TITLE:  
AUTHOR:  
RECIPIENT:  
DATE:  
TYPE:  
SECOND REFERENCE:  
LOCATION:

**11.0 TECHNICAL SOURCES, GUIDANCE, AND PROCEDURES DOCUMENTS**

- 11.1 EPA Headquarters Guidance
- 11.2 EPA Regional Guidance
- 11.3 State Guidance
- 11.4 Air Force Guidance
- 11.5 Technical Sources
- 11.6 Proposed Procedures/Procedures
- 11.7 Correspondence

**12.0 CONFIDENTIAL FILE**

- 12.1 Privileged Documents (Extractions)

## **6.0 STATE AND FEDERAL COORDINATION**

- 6.1 Cooperative Agreements/SMOAs
- 6.2 Federal Facility Agreement (FFA)
- 6.3 Coordination - State/Federal
- 6.4 General Correspondence

## **7.0 ENFORCEMENT**

- 7.1 Enforcement History
- 7.2 Endangerment Assessments
- 7.3 Administrative Orders
- 7.4 Consent Decrees
- 7.5 Affidavits
- 7.6 Documentation of Technical Discussions/Response Actions
- 7.7 Notice Letters and Responses

## **8.0 HEALTH ASSESSMENTS**

- 8.1 ATSDR Health Assessments
- 8.2 Toxicological Profiles
- 8.3 General Correspondence

## **9.0 NATURAL RESOURCE TRUSTEES**

- 9.1 Notices Issued
- 9.2 Findings of Fact
- 9.3 Reports
- 9.4 General Correspondence

## **10.0 PUBLIC PARTICIPATION**

- 10.1 Comments and Responses
- 10.2 Community Relations Plan
- 10.3 Public Notice(s) (Availability of the Admin. Record File, Availability of the Proposed Plan, Public Meetings)
- 10.4 Public Meeting Transcripts
- 10.5 Documentation of other Public Meetings
- 10.6 Fact Sheets, Press Advisories, and News Releases
- 10.7 Responsiveness Summary
- 10.8 Late Comments
- 10.9 Technical Review Committee Charter
- 10.10 Correspondence

## **ADMINISTRATIVE RECORD FILE STRUCTURE**

### **1.0 SITE IDENTIFICATION**

- 1.1 Background - RCRA and other Information
- 1.2 Notification/Site Inspection Reports
- 1.3 Preliminary Assessment (PA) Report
- 1.4 Site Investigation (SI) Report
- 1.5 Previous Operable Unit Information
- 1.6 Correspondence

### **2.0 REMOVAL RESPONSES**

- 2.1 Sampling and Analysis Plans
- 2.2 Sampling and Analysis Data / Chain of Custody
- 2.3 EE/CA Approval Memorandum (Non-Time-Critical Removals)
- 2.4 EE/CA (Engineering Evaluation / Cost Analysis)
- 2.5 Action Memorandum
- 2.6 Amendments to Action Memorandum
- 2.7 Removal Response Reports
- 2.8 Correspondence

### **3.0 REMEDIAL INVESTIGATION (RI)**

- 3.1 Sampling and Analysis Plan (SAP)
- 3.2 Sampling and Analysis Data/Chain of Custody Forms
- 3.3 Work Plan
- 3.4 Preliminary RI Field Work Reports
- 3.5 Remedial Investigation (RI) Reports
- 3.6 Correspondence

### **4.0 FEASIBILITY STUDY (FS)**

- 4.1 ARAR Determinations
- 4.2 Feasibility Reports
- 4.3 Proposed Plan
- 4.4 Supplements and Revisions to the Proposed Plan
- 4.5 Correspondence

### **5.0 RECORD OF DECISION (ROD)**

- 5.1 ROD
- 5.2 Amendments to ROD
- 5.3 Explanations of Significant Differences
- 5.4 Correspondence

## ABOUT THE INDEX NUMBERING SYSTEM

**Document Number** - Comprised of a 3 letter site code (PEA), the category number, the entry number and the page range of a document. (Both page numbers will be the same for a one page document.) If documents are eventually placed on a microfiche system, the document number consists of the site code followed by the microfilm reel and frame number.

Example: PEA (1.1) #1 001-031

<u>Site Code</u>	<u>(Category #)</u>	<u>Entry #</u>	<u>Page Range</u>
PEA	(1.1)	#1	001-031

**Long Title** The long title and brief description of document.

**Author** Indicates author or primary originator of document. If a contractor prepared the document, indicates company and location.

**Recipient** Indicates primary recipient of document.

**Date** Indicates date document was issued.

**Type** Indicates document type

**Second Reference** Other categories pertaining to the document.

**Location** Exact location(s) of document.

## **ABOUT THE ADMINISTRATIVE RECORD FILE**

The administrative record file is a collection of documents which form the basis for the selection of a response action at a Superfund site. Under section 113(k) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the U.S. Air Force is required to establish an administrative record file for every Superfund response action and to make a copy of the administrative record available at or near the site.

The administrative record file must be reasonably available for public review during normal business hours. The record file should be treated as a non-circulating reference document. This will allow the public greater access to the volumes and also minimize the risk of loss or damage. Individuals may photocopy any documents in the non-confidential portion of the file, according to the photocopying procedures at the local repository.

The documents in the administrative record file may become lost or damaged during use. If this occurs, contact the administrative record file manager at Pease AFB. Documents may be added to the administrative record file as site work progresses. This index will be updated as documents are added to the administrative record file.

The administrative record file will be maintained in Building 43 at Pease AFB. Questions and/or comments about the administrative record file should be directed to:

**Arthur L. Ditto, Remedial Project Manager  
Air Force Base Disposal Agency  
Operating Location A, Building 43  
61 International Drive  
Pease AFB, NH 03803-0157  
(603) 430-2586**

**ADMINISTRATIVE RECORD FILE INDEX**

**FOR THE**

**INSTALLATION RESTORATION PROGRAM**

**PEASE AIR FORCE BASE  
NEW HAMPSHIRE**

**AUGUST 1993**