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EPA Superfund Record of Decision:

Pease Air Force Base, Zone 1, NH 6/26/1995

Record of Decision
Zone 1
Pease Air Force Base, New Hampshire

July 1995

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DECLARATION

SITE NAME AND LOCATION

Pease Air Force Base (Pease AFB), Zone 1, New Hampshire

STATEMENT OF BASIS AND PURPOSE

This decision document presents a selected remedial action designed to protect human and ecological receptors at Zone 1, Pease AFB, New Hampshire. Zone 1 includes the following sites: Landfill 2 (LF-2), Landfill 3 (LF-3), Landfill 4 (LF-4), Landfill 5 (LF-5), the Bulk Fuel Storage Area (BFSA), the Paint Can Disposal Area (PCDA), and the Railroad Tracks Herbicides. However, for reasons outlined in Section II, only LF-2, LF-4, the PCDA, and Zone 1 groundwater are addressed in this ROD. Additionally, three drainageways have received runoff and contamination and have been evaluated in Zone 1 documents. These drainageways consist of Flagstone Brook, Pauls Brook, and the Railway Ditch.

This Record of Decision (ROD) document was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC Section 9601 et seq.), as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986 and the National Contingency Plan (NCP). Through this document, the Air Force plans to remedy the threat to human health, welfare, or the environment posed by groundwater contamination in Zone 1. This decision is based on the Administrative Record for the site. The Administrative Record for the site is located in Building 43 at Pease AFB (61 International Drive). The Administrative Record Index as it applies to Zone 1 is provided in Appendix D.

DESCRIPTION OF THE SELECTED REMEDY

The selected remedy at Zone 1 addresses the principal threat posed by the migration of contaminated groundwater from the LF-5 source area. Implementation of this remedy will prevent endangerment of public health, welfare, and the environment by allowing natural

physical and chemical attenuation processes to remove residual contamination in groundwater.

The selected remedy also involves the placement of deed restrictions on the use of groundwater in areas of Zone 1 where MCLs are exceeded for the time period during which the MCLs are exceeded and long-term environmental monitoring in the zone. In addition, a Groundwater Management Zone (GMZ) will be established in accordance with New Hampshire Department of Environmental Services (NHDES) Regulation Env-Ws 410. A GMZ is the designation used by NHDES to denote a subsurface volume in which groundwater contamination associated with a discharge of a regulated contaminant is contained and managed. The use of the contaminated groundwater is managed typically through institutional controls such as deed restrictions, and groundwater is monitored in the GMZ.

No further action under CERCLA is planned for LF-2, LF-4, and the PCDA. These sites will be closed according to applicable New Hampshire regulations. LF-5 and the Railway Ditch are addressed separately in the Draft LF-5 ROD (G-617). Removal of soil and solid waste from LF-2 and LF-4 and consolidation of this material in LF-5 also have been addressed in the LF-5 ROD. Removal of waste materials from the PCDA was performed during an intensive test pit operation at this site and is discussed in the Zone 1 Remedial Investigation (RI) Report. The two remaining drainageways that have been affected by Zone 1 activities (Flagstone Brook and Pauls Brook) will be addressed in a separate drainageways document to be prepared by the Air Force at a later date. The purpose of the decision to separate drainageways was to allow additional time to address several outstanding issues associated with the drainageways and to not delay the actions for the remainder of the Zone 1 sites. LF-3 has been addressed in a No Further Action Decision Document (NFADD) (G-587), which presents the basis for no action. The Railroad Tracks also have been recommended for no further action in the Railroad Tracks (Site 46) Site Investigation Letter Report (G-573). In addition, the BFSA is not addressed in the selected remedy for the zone because the site has been excluded from the amended Federal Facilities Agreement (FFA) and is being addressed by the Pease AFB Underground Storage

Tank (UST) Management Program. Required actions at the BFSA are being coordinated with the State of New Hampshire under the UST Management Program.

NHDES concurs with the selected remedy for Zone 1.

STATUTORY DETERMINATION

The selected 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, and is cost effective. A review will be conducted by the Air Force, the U.S. Environmental Protection Agency (EPA), and NHDES no less than every 5 years after implementation to ensure that the remedy provided adequate protection of human health and the environment and will continue to do so.

The foregoing represents the selection of a remedial action by the Air Force and EPA Region I, with the concurrence of NHDES.

Concur and recommended for immediate implementation:

U.S. Air Force

By: _____ Date: June 19, 1995
Alan K. Olsen
Director, Air Force Base Conversion Agency

U.S. Environmental Protection Agency

By: _____ Date: 6/26/95
John P. DeVillars
Regional Administrator

RECORD OF DECISION SUMMARY

I. SITE NAME, LOCATION, AND DESCRIPTION

Pease Air Force Base (AFB) is a National Priorities List (NPL) site consisting of numerous areas of contamination. This ROD addresses sources of contamination in Zone 1. Zone 1 comprises Landfill 2 (Site 2 or LF-2), Landfill 3 (Site 3 or LF-3), Landfill 4 (Site 4 or LF-4), Landfill 5 (Site 5 or LF-5), the Bulk Fuel Storage Area (Site 13 or BFSA), the Paint Can Disposal Area (Site 44 or PCDA), and the Railroad Tracks Herbicides (Site 46). However, for reasons outlined in Section II, only LF-2, LF-4, the PCDA, and Zone 1 groundwater are addressed in this ROD. Zone 1 occupies approximately 350 acres on the northeastern margin of the former Pease AFB.

Pease AFB is located in the Town of Newington and the City of Portsmouth, both of which are in Rockingham County, New Hampshire. Pease AFB occupies approximately 4,365 acres, as shown in Figure 1. The base is located on a peninsula in southeastern New Hampshire 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 approximately in the center of the peninsula.

At the beginning of World War II, an airport at the present Pease AFB location was used by the U.S. Navy. The Air Force assumed control of the site in 1951, and construction of the facility was completed in 1956. Various quantities of fuels, oils, solvents, lubricants, and protective coatings were used at the base over time, and releases of contaminants into the environment occurred.

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 base on 31 March 1991. The New Hampshire Air National Guard (NHANG) remains at the airfield and uses some of the existing facilities.

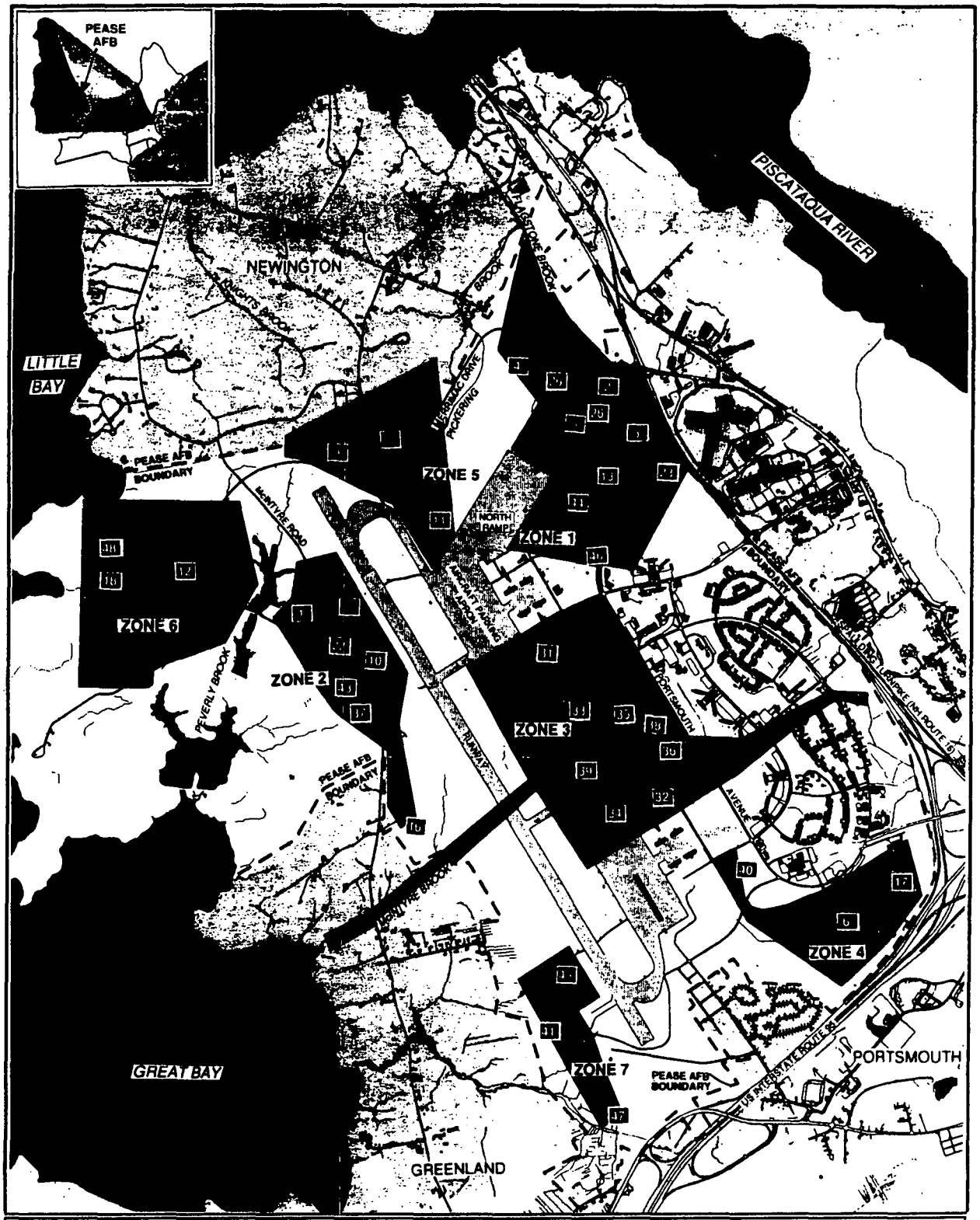
The remainder of the base has been divided among the Department of the Interior (DOI), the State of New Hampshire's Pease Development Authority (PDA), and the Air Force.

Although the ultimate disposition/future use of the property has yet to be determined by the PDA, some assumptions have been made concerning future use scenarios for sites in Zone 1. The landfills are considered to have restricted future use potential; construction of residences will not occur on the landfills. Construction of residences could, however, occur adjacent to identified source or fill areas. Roads, parking lots, and open space are typical future uses that are reasonable for landfills. The PCDA is located in the NHANG restricted-access area. It is assumed that this area will continue to have restricted access in the future.

Land use in the vicinity of Zone 1 varies. An off-base commercial and residential area is located along Spaulding Turnpike, approximately 1,000 feet northeast of the Pease AFB eastern boundary and approximately 500 feet north of the northern boundary of Zone 1. The North Ramp is adjacent to Zone 1 to the west.

Pease AFB is located within the Piscataqua River drainage basin. Drainage flows 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 water bodies are subject to semidiurnal water level variations.

Several surface water pathways channel surface runoff away from Zone 1 toward the Piscataqua River. The primary surface water pathways at Zone 1 include Flagstone Brook, the Railway Ditch, and Pauls Brook, as shown in Figure 2. Approximately 75% of Zone 1 is drained by Flagstone Brook and the Railway Ditch, including all of LF-2, LF-4, LF-5, and the PCDA, and a portion of the BFSA. Flagstone Brook, below the Railway Ditch confluence, discharges into the Piscataqua River near the General Sullivan Bridge.



LISTING OF CURRENT IRP SITES

SITE NO.	SITE NAME - (ABBREVIATION)		ZONE
1	Landfill 1	(LF-1)	2
2	Landfill 2	(LF-2)	1
3	Landfill 3	(LF-3)	1
4	Landfill 4	(LF-4)	1
5	Landfill 5	(LF-5)	1
6	Landfill 6	(LF-6)	4
7	Fire Department Training Area 1	(FDTA-1)	2
8	Fire Department Training Area 2	(FDTA-2)	5
9	Construction Rubble Dump 1	(CRD-1)	5
10	Leaded Fuel Tank Sludge Disposal Area	(LFTS)	2
11	FMS Equipment Cleaning Site	(FMS)	5
12	Munitions Maintenance Area	(MMA)	6

SITE NO.	SITE NAME - (ABBREVIATION)		ZONE
13	Bulk Fuel Storage Area	(BFSA)	1
16	Building 410 - PCB Spill		2
17	Construction Rubble Dump 2	(CRD-2)	4
18	Munitions Residue Burial Area	(MRBA)	6
22	Burn Area 1	(BA-1)	2
23	Pauls Brook		1
26	Flagstone Brook/Railway Ditch		1
31	Building 244		3
32	Building 113		3
33	Building 229		3
34	Building 222 Jet Engine Test Cell	(JETC)	3
35	Building 226		3

SITE NO.	SITE NAME - (ABBREVIATION)		ZONE
36	Building 119		3
37	Burn Area 2	(BA 2)	2
38	Building 120		3
39	Building 227		3
40	Auto Hobby Shop	(AHS)	4
41	Golf Course Maintenance Area	(GCMA)	7
43	McIntyre Road Drum Disposal Area	(MRDDA)	2
44	Paint Can Disposal Area	(PCDA)	1
45	Old Jet Engine Test Stand	(OJETS)	7
46	RR Tracks Herbicides	(RRTH)	1
47	Golf Course Pesticide Area (Mixing/Storage)	(GCPA)	7
48	EOD Burn Detonation Area		6

NORTH

0 500 1000 2000 4000

SCALE IN FEET

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

Pease AFB

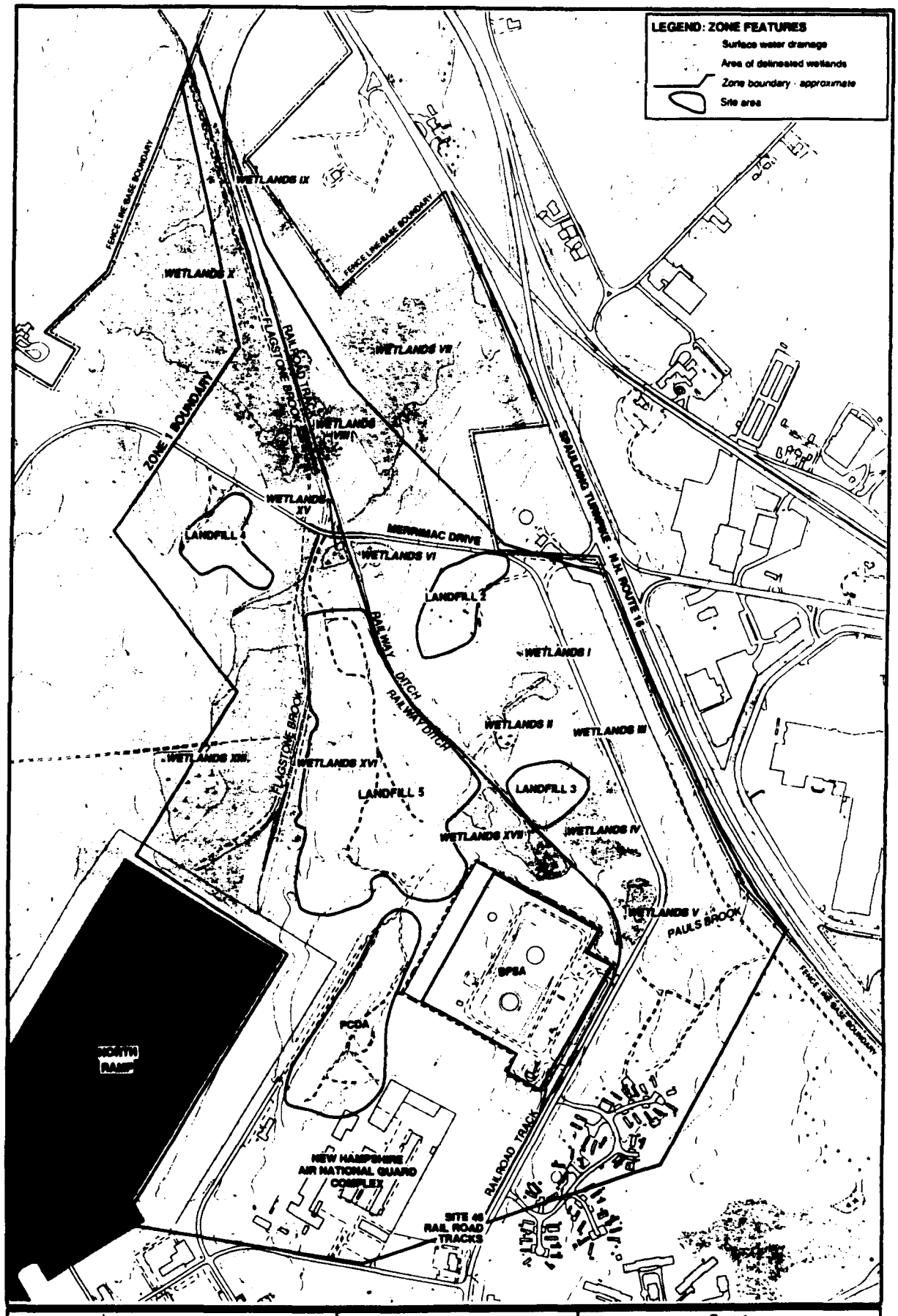
LEGEND:

Areal extent of IRP Zone

48 IRP Site

Zone 1
Stage 4, Record of Decision
Pease Air Force Base, New Hampshire

FIGURE 1
GENERAL LOCATION MAP



Zone 1
Stage 4, Record of Decision
Pease Air Force Base, New Hampshire

FIGURE 2
GENERAL ZONE 1 LOCATION MAP

The southern portion of Zone 1 is drained by Pauls Brook, which flows off base to the northeast under the Spaulding Turnpike and discharges into the Piscataqua River.

Several wetland areas have been identified in Zone 1, and the area of wetlands delineation is shown in Figure 2. On and immediately adjacent to LF-5 are three wetlands: Wetlands XV, XVI, and XVII. Wetlands XVI drains to Flagstone Brook, and Wetlands XV and XVII drain to the Railway Ditch. Surrounding LF-3, between the railroad tracks 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. In the northern section of Zone 1, 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-4 and west of Flagstone Brook and has no identified surface water connection to Flagstone Brook. West of LF-5, Wetlands XIII is immediately adjacent to Flagstone Brook, and a portion of it flows into Flagstone Brook near its conjunction with Merrimac Drive. According to the New Hampshire National Heritage Inventory (G-395), the headwaters of Flagstone Brook are located near a wetland classified as a Southern New England Acidic Seepage Swamp. This wetland is dominated by red maples, and contains plants not found elsewhere on base or in the area, and is classified as an exemplary wetland.

Wetlands XIII, which abuts a portion of Flagstone Brook, is a large, forested wetlands area containing several shallow ponds. In addition, Wetlands VI, east of the northern portion of Flagstone Brook, is described as an emergent, depressional wetland. Both Wetlands XIII and VI are exemplary wetlands.

Because Pease AFB was a U.S. military installation, the Federal Emergency Management Agency (FEMA) did not delineate floodplains at the base. Therefore, it is not known whether Zone 1 is within a 100-year floodplain. There are no records indicating that flooding has occurred at Pease AFB.

A more detailed description of the zone, including zone geology and hydrogeology, is presented in the Draft Final Zone 1 Remedial Investigation (RI) Report (G-623).

access road leading from Merrimac Drive to the railroad tracks. A detailed summary of the results of the investigation at LF-3 is presented in the LF-3 No Further Action Decision Document (NFADD) (G-587). The LF-3 NFADD forms the basis for no action at that site under CERCLA, and, as a result, LF-3 is not discussed further in this document.

LF-4

LF-4 is located south of Merrimac Drive and northwest of LF-5 and encompasses approximately 7 acres. LF-4 was used for the disposal of domestic and industrial refuse between 1963 and 1964. The disposal method used was to trench and cover with clean fill.

Removal of soil and solid waste fill material from LF-4 and consolidation of this material in LF-5 prior to capping and final closure of LF-5 are addressed in the Draft LF-5 ROD (G-617).

LF-5

LF-5 is bordered by Merrimac Drive to the north, an abandoned railroad bed to the east, Flagstone Brook to the west, the BFSA to the southeast, and the PCDA to the southwest. LF-5, which is the largest site in Zone 1, encompasses approximately 23 acres.

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 included waste oils and solvents, paints, paint strippers and thinners, pesticide containers, and empty cans and drums. The landfill also received an estimated 20,000 gallons of sludge from the industrial waste treatment plant (Building 226 in Zone 3). Trichloroethene (TCE) was used in the main shop areas served by the industrial waste treatment plant, and, consequently, the sludge may have contained TCE residues.

In addition to receiving landfill wastes and industrial sludge, sludge from the base wastewater treatment facility, grass clippings, wood chips, miscellaneous soils, and concrete rubble were temporarily stored at the landfill pending ultimate disposal. A small drum staging area used for temporary storage of drums encountered on base, miscellaneous soils, and metals was located at the southern landfill entrance.

The LF-5 source area has been addressed in a separate ROD, which was submitted to and accepted by EPA and NHDES in September 1993. Currently, the LF-5 source area is in the remedial design/remedial action phase of the CERCLA process. Because source area concerns are being addressed separately, this Zone 1 ROD addresses the management-of-migration of contaminated groundwater associated with the LF-5 area.

BFSA

The BFSA was the main storage area for fuels at the base. The BFSA encompasses approximately 16 acres and is located at the northeastern section of the base. The site is bordered by Merrimac Drive to the east, LF-3 and LF-5 to the north, and the PCDA to the southwest. Currently, the BFSA contains two aboveground and two USTs. The aboveground tanks are surrounded by earthen berms.

The BFSA has been in operation from 1953 to the present. Major spills were reported to have occurred at this site in 1963, 1975, and 1980. In March 1993, the BFSA was removed from the FFA because the sources of contamination at the site were petroleum products, which are non-CERCLA regulated wastes. Upon removal from CERCLA, the BFSA was put under the state's jurisdiction, and, as a result, is not discussed further in this document. However, petroleum product contamination and remediation at the BFSA is being addressed by the Pease AFB UST Management Program.

PCDA

The PCDA is a heavily wooded, 9-acre area located primarily between a secondary access road to LF-5 and the main access road near the southern end of LF-5. The site is abutted by LF-5 to the north, the BFSA to the northeast, the NHANG complex to the south, and the North Ramp to the west.

The PCDA was reportedly used by both the Air Force and contract painters over a 30-year period to store and dispose of drums that contained paint and paint residues. The Air Force Civil Engineering Department may have used this area to stage and store curbing and other roadway maintenance materials. In addition, reports suggest that the area at or near the junction of two access roads to the site was a common location for burial of waste flocculent generated at the industrial waste treatment plant. An intensive test pit operation (ITPO), including removal of potential contaminant sources such as grossly contaminated soil and crushed drums, was performed in 1992 and is discussed in the Zone 1 RI Report (G-623).

Railroad Tracks

The railroad tracks traverse from the northeastern corner of the base into Zone 1. In Zone 1, the tracks pass near LF-2, LF-3, and LF-5, and around the BFSA before exiting Zone 1 at the southwestern boundary of the zone.

Herbicides were used historically at Pease AFB to control unwanted vegetation along the railroad tracks located in Zones 1 and 3 in the northeastern portion of the base. Ureabor, manufactured by Occidental Chemical Company, was the primary herbicide used along the railroad tracks. The last reported use of this chemical was in 1985 or 1986. The site was evaluated during the Preliminary Assessment/Site Investigation (PA/SI) performed in 1990. Upon review of the site history and site sampling data, the Air Force, EPA, and NHDES concluded that the site did not warrant inclusion in the FFA as an area of concern and,

therefore, did not require a Remedial Investigation/Feasibility Study (RI/FS). As a result, the railroad tracks are not discussed further in this document.

Drainageways

Flagstone Brook is the primary stream draining Zone 1. It originates from two culverts at the northern end of the North Ramp/aircraft parking apron. The western culvert drains stormwater from an approximate 20-acre area, which includes the North Ramp/aircraft parking apron and the hot cargo holding pad. The eastern culvert drains stormwater from a portion of the North Ramp, the taxiway, the indoor firing range, a small area of industrial buildings, and Nashua Avenue.

Below the confluence of the eastern and western branches, Flagstone Brook flows north along the western edge of LF-5. A small stream that drains wetlands located west of Flagstone Brook discharges into Flagstone Brook near the northern end of LF-5, south of Merrimac Drive. North of Merrimac Drive, wetlands occupy areas on either side of Flagstone Brook and discharge into Flagstone Brook downstream, near the base boundary.

Pauls Brook receives stormwater runoff from the BFSA, the civil engineering maintenance area, and the mobile home park. Pauls Brook begins as an emergent wetlands west of Merrimac Drive and flows eastward off base under Merrimac Drive toward the Piscataqua River.

The Railway Ditch originates in wetlands south of and along a railway spur located in the eastern section of Zone 1. Both sides of the spur are ditched and collect surface water runoff and seepage from wetlands adjacent to the railway. Wetlands and seeps along and adjacent to LF-2, LF-3, and LF-5 discharge into the Railway Ditch. At the point where the railway crosses Merrimac Drive, the two drainages flow through emergent wetlands, enter a culvert, and coalesce northeast of Merrimac Drive. Downstream of Merrimac Drive, the Railway Ditch flows into Flagstone Brook.

Several outstanding issues associated with the drainageways require resolution prior to establishing remedial action remedies. As a result, Flagstone Brook and Pauls Brook are not discussed further in this ROD and will be addressed separately in a Proposed Plan, along with other drainageways at Pease AFB. Railway Ditch remediation was included in the LF-5 ROD. An additional area of contaminated sediments associated with the Railway Ditch that is contiguous to the sediment removal area described in the LF-5 ROD was identified in the Zone 1 RI and FS Reports. Because this additional area of the Railway Ditch requiring sediment removal is of the same scope as that specified in the LF-5 source area ROD and such removal is consistent with the intent and objectives of the LF-5 source area ROD, the work necessary to remove these sediments will be conducted as part of the LF-5 source area remedial action and is not discussed further in this Zone 1 ROD.

B. Response Activity

In 1983, an Installation Restoration Program (IRP), Phase I Problem Identification/Records Search (G-84) was conducted at Pease AFB to assess whether potential hazardous waste sites warranted further investigation. Based on the results of that investigation, further study was deemed necessary at LF-5. A Phase II presurvey was conducted to obtain sufficient information to develop a work scope and cost estimate for a more detailed study. The presurvey was submitted to the Air Force in 1984. Following the presurvey, RIs were conducted in accordance with CERCLA, as amended by SARA, at LF-5 and 18 other IRP sites at Pease AFB. The investigations in Zone 1 were conducted in four stages between September 1984 and January 1993.

The Stage I investigation (September 1984 to August 1986) was designed to identify potential impacts of previous activities on groundwater and surface water quality at Zone 1. Field work was performed at LF-2, LF-4, LF-5, and the BFSA. The results of this investigation are presented in the IRP Phase II — Confirmation/Quantification, Stage I Final Report for Pease AFB (G-525) issued in June 1986.

The Stage 2 field investigation (October 1987 to May 1989) focused on characterizing the source areas at LF-2, LF-4, LF-5, and the BFSA, and more accurately delineating the extent of contamination in soil, groundwater, surface water, and sediment. The Stage 2 field investigation is described in the IRP Stage 2 Draft Final Report for Pease AFB (G-533) and Interim Technical Report (ITR) Nos. 1, 2, 3, and 4 (G-530; G-531; G-536; G-537).

Stage 3 investigations in Zone 1 focused on LF-5 field work and were conducted between September 1989 and October 1990 and between May and November 1991. Groundwater, soil, surface water, and sediment sampling occurred during this stage. A wetlands evaluation was performed and included assessment and delineation activities. In addition to these investigative tasks, drum removal at LF-5 was conducted as an Interim Remedial Measure (IRM) in December 1989. The Stage 3 field investigation is described in the IRP Stage 3 LF-5 Site Characterization Summary (G-542), the Stage 3 Drum Removal at IRP Site 5 (LF-5) Informal Technical Information Report (G-541), the Stage 3 IRP Site 5 and IRP Site 8 Column Leaching Study Letter Report (G-551), the IRP Stage 3C Draft Final LF-5 RI Report (G-580), and the IRP Stage 3C Draft Final FS Report for IRP Site 5 (G-574).

Stage 4 activities (May 1991 to January 1993) were performed to further define the areal extent of contamination, to evaluate the potential for contaminant migration, and to provide additional data needed to develop a working conceptual model of the zone. Field investigations were performed at LF-2, LF-4, the BFSA, and the PCDA. The results of the Stage 4 activities in Zone 1 are included in the Zone 1 Site Characterization Study (G-590) and the Draft Final Zone 1 RI Report (G-623).

Table 1 in Appendix A provides a summary of the field investigation activities in Stages 1 through 4. Data collected during the latter part of Stage 4 were used to complete the baseline risk assessment and Zone 1 FS Report. A more detailed description of Zone 1 history is presented in Sections 1 and 2 of the Zone 1 RI Report.

C. Enforcement History

The enforcement history relative to Pease AFB, including Zone 1, is summarized as follows:

- In 1976, the Department of Defense (DOD) devised a comprehensive IRP to assess and control environmental contamination that may have resulted from past operations and disposal practices at DOD facilities.

- In June 1980, DOD issued a Defense Environmental Quality Program Policy Memorandum (DEQPPM) requiring identification of past hazardous waste disposal sites on DOD agency installations. The DEQPPM was issued in response to the Resource Conservation and Recovery Act of 1976 (RCRA), and in anticipation of CERCLA.

- On 14 July 1989, Pease AFB was proposed for addition to the NPL. The effective date of addition was February 1990.

- On 24 April 1991, the Air Force, EPA, and NHDES signed the FFA establishing the protocol and timetable for conducting the RI/FS and remedial design/remedial action processes at Pease AFB.

As part of the timetable established in the FFA, the Air Force, in an effort to streamline activities, designed a basewide strategy plan for conducting an RI/FS investigation. This strategy plan grouped the sites at Pease AFB into seven zones or operable units based on geographic location, potential receptors, and potential future uses. RI/FS reports were prepared for each zone.

III. COMMUNITY PARTICIPATION

Throughout the history of IRP activities at Pease AFB, the community has been actively involved and informed. EPA, NHDES, and the Air Force have kept the community and other interested parties apprised of zone activities through informational meetings, fact sheets, press releases, and public meetings.

In January 1991, the Air Force released a community relations plan that outlined a program to address community concerns and keep citizens informed about and involved in remedial activities at the base. This plan was updated and reissued in November 1994.

Numerous fact sheets have been released by the Air Force throughout the IRP at Pease AFB. These fact sheets are intended to keep the public and other concerned parties apprised of developments and milestones in the Pease AFB IRP. The fact sheets released to date that concern Zone 1 are summarized as follows:

Fact Sheet	Release Date
Pease AFB Installation Restoration Program Update	October 1991
Pease AFB Installation Restoration Program Update	December 1992
Summary of LF-5 Source Area Proposed Plan	January 1993
Revised Summary of LF-5 Source Area Proposed Plan and Summary of Consolidation Plans for LF-2 and LF-4 into LF-5	July 1993
Summary of Zone 1 Proposed Plan	August 1994

A complete information repository containing documents relating to the Pease AFB IRP is maintained at Pease AFB in Building 43. An Administrative Record containing correspondence pertaining to the Pease AFB IRP also is located in Building 43 at Pease AFB. An index of the Administrative Record is maintained at EPA Region I Headquarters in Boston, Massachusetts.

IV. SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION

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 and/or surface water pathways. This ROD addresses both source control (excluding the LF-5 source area) and management-of-migration measures in Zone 1. The remedial alternative developed for Zone 1 was designed to reduce potential human health and environmental risks identified in the risk assessment for Zone 1. The results of the risk assessment are presented in the Zone 1 RI Report (G-623) and are summarized in Section VI of this ROD along with an evaluation of the exposure pathway as presented in the Draft Final Zone 1 FS Report (G-622).

The risk assessment forms the basis for concluding that contaminants in soil and groundwater at LF-2 and LF-4 and in soil at the PCDA do not pose unacceptable risk to human or ecological receptors and that remedial actions under CERCLA are not warranted. The risk assessment indicated that risks exist in exceedance of EPA's acceptable risk range (10^{-4} to 10^{-6} for cancer risks, and a hazard index of less than 1 for noncancer risks) for groundwater at LF-5 and the PCDA. However, further analysis of site-specific conditions at the PCDA led to the conclusion that this assessment was overly conservative and that no further remedial action under CERCLA was warranted for PCDA groundwater. The majority of the unacceptable risk posed by human receptor exposure to PCDA water table groundwater was attributable to the PCB Aroclor-1260 and metals. Yet, as outlined in Subsection 2.5.3 of the Zone 1 FS Report (G-622), Aroclor was detected at the MCL (0.5 μg/L) in one sampling round only. In addition, the metals concentrations contributing to total risk were detected at PCDA wells that had a thin saturated interval. Consequently, groundwater samples from these wells were highly turbid, which resulted in elevated metals concentrations not representative of actual groundwater quality. Furthermore, because groundwater is not in contact with contaminated PCDA soils most of the year, remaining soil contamination does not pose a threat to the underlying groundwater. Additionally, given the low yields of wells installed at the PCDA, it is not likely that groundwater could be used for consumptive purposes. Finally, since the PCDA is located in the NHANG

cantonment area, an area served by public water supplies, future residential use of the PCDA and human exposure to PCDA groundwater are unlikely. For these reasons, no further action is proposed for LF-2, LF-4, and the PCDA under CERCLA.

Final closure of LF-2, LF-4, and the PCDA will be performed under state jurisdiction. Limited actions, including environmental monitoring, will be conducted at these sites in accordance with NHDES guidelines. These limited actions are not discussed in this ROD, which only addresses those actions required under CERCLA.

The human health risk assessment indicated that contaminants in groundwater at LF-5 may pose a health risk to potential future on-zone residents in excess of EPA threshold criteria. To address these potential risks, the following remedial action objectives (RAOs) were developed:

- Protect human receptors from exposure (via ingestion and noningestion exposure routes) to contaminated groundwater that may present unacceptable health risks in exceedance of EPA's risk range.
- Comply with chemical-specific applicable or relevant and appropriate requirements (ARARs) and/or established background levels for specific contaminants in groundwater, as appropriate.

To meet these objectives, the Air Force has established zone-specific cleanup levels for groundwater (see Section X). Cleanup goals for groundwater were established for contaminants that exceeded either human health risk-based concentrations, regulatory-based concentrations, or background values.

The remedial alternative developed for Zone 1 addresses the RAOs associated with groundwater at LF-5. Management-of-migration activities address dissolved-phase groundwater contamination at LF-5 and include contamination within the boundary of LF-5 and contamination that has migrated beyond the LF-5 footprint.

In summary, the remedy provides for:

- Natural attenuation and biodegradation of residual-contaminated groundwater.
- Long-term environmental monitoring in Zone 1.
- Placement of deed restrictions on the use of groundwater in Zone 1 in areas where MCLs are exceeded.
- Establishment of a GMZ in Zone 1.

V. SUMMARY OF ZONE CHARACTERISTICS

Section 1 of the Draft Final Zone 1 FS Report contains an overview of the Draft Final Zone 1 RI Report (G-623). Based on the results of the RI, a working conceptual model was developed that incorporates all known data concerning Zone 1 and its vicinity, including geologic, hydrogeologic, and analytical data; field measurements; and visual observations. The salient points of the model are summarized as follows:

- Several disposal areas exist in Zone 1, including the LF-5 and PCDA areas.
- Much of the Glacial Till (GT) unit has been excavated across LF-5; consequently, the debris is, in places, located directly on top of the shallow bedrock, and a direct physical and hydraulic connection exists between the overburden and the bedrock.
- The sites located in Zone 1 have relatively small amounts of saturated overburden because the sites are located on topographic highs. Water is commonly first encountered in the shallow bedrock.
- Relatively small quantities of debris and contaminated soil exist at LF-2 and LF-4.
- Contaminated soil is a likely source for some of the contaminants that have been observed in other matrices in the LF-5 area.
- A regional groundwater recharge area exists in the northeastern portion of Pease AFB that encompasses the PCDA and Zone 1. A local water table groundwater high, which acts as an enhanced recharge zone, exists near the central portion of LF-5.
- Groundwater at LF-5 is contaminated with several different aromatic hydrocarbons (AHCs), halogenated hydrocarbons (HHCs), semivolatile organic compounds (SVOCs), metals, and pesticides.
- AHCs and HHCs are discharged from groundwater to surface water at the Railway Ditch and Flagstone Brook.
- A groundwater plume containing HHCs is migrating east from LF-5. The extent of the halogenated volatile organic compound (VOC) plume east of the Railway Ditch is known; the downgradient limit coincides with wells 5009 and 6003.
- A groundwater plume containing AHCs is present at LF-5. The extent of the AHC plume is known and is primarily restricted to the LF-5 site boundary.

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

A. Soil and Solid Waste

LF-2

Source characterization at LF-2 included collection and analysis of soil from three surface soil sampling locations and two test pit locations. A total of 13 test pits were excavated, and visual observations of the contents were made. All soil samples were submitted for VOC, SVOC, pesticide/polychlorinated biphenyl (PCB), and metals analyses. In addition, test pit samples also were analyzed for chlorinated herbicides and diesel fuels. The contaminant groups identified in LF-2 soil consist of the following:

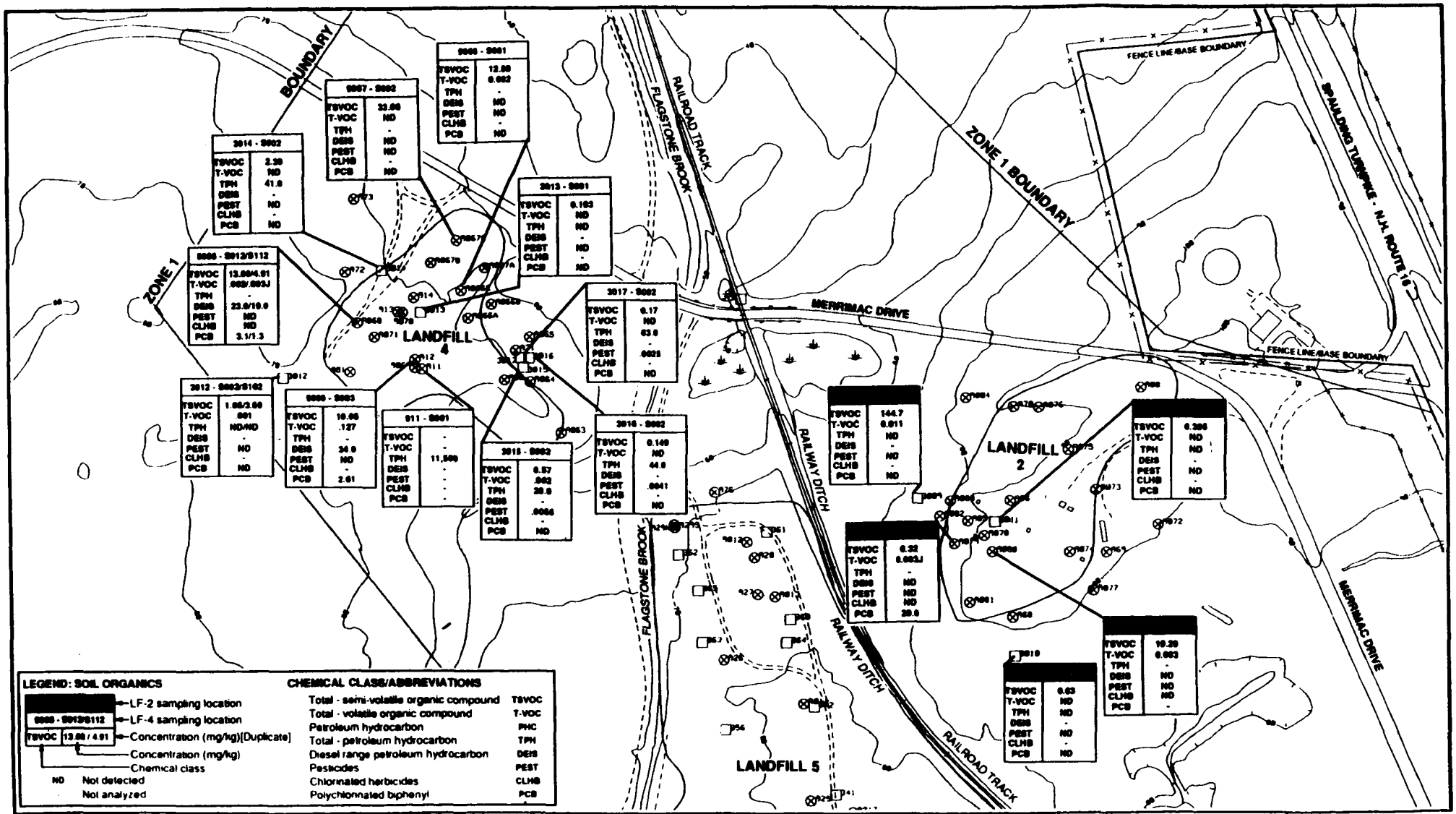
- Polynuclear aromatic hydrocarbons (PAHs).
- Benzoic acid.
- PCBs.
- AHCs.
- Oxygenated hydrocarbons (OHCs).
- Metals.

The maximum concentration and location for each organic compound detected in soil are presented in Table 2 (Appendix A). Figure 3 shows the distribution of organics in LF-2 soil. Table 3 (Appendix A) presents a similar summary for inorganics.

SVOCs were detected in all LF-2 samples collected. The majority of the SVOCs detected were PAHs.

Xylene and diethyl ether were the only two VOCs detected at LF-2. Both were detected at concentrations below laboratory quantification limits.

PCBs (Aroclor-1248 and -1254) were detected at one location at LF-2. The sample was collected from soil associated with a trash layer. However, the source of PCBs in this area was not identified, and PCBs were not detected in any other soil samples collected at LF-2.



Zone 1
Stage 4, Record of Decision
Pease Air Force Base, New Hampshire
FIGURE 3
DISTRIBUTION OF ORGANICS IN SOILS
AT LANDFILL-2 AND LANDFILL-4

No pesticides, chlorinated herbicides, or diesel fuels were detected in LF-2 soil samples. In addition, Toxicity Characteristic Leaching Procedure (TCLP) analysis of soil from one test pit location did not result in concentrations above TCLP limits.

LF-4

Characterization of LF-4 source materials involved excavation of nine test pits. Soil samples were collected from four of these test pits at depths ranging from 0 to 1.5 feet below ground surface (ft BGS) to 11 to 13 ft BGS. In addition, seven surface soil locations were sampled. Soil samples were submitted for VOC, SVOC, pesticide/PCB, and metals analyses. Additionally, test pit soil samples were analyzed for chlorinated herbicides and diesel fuels. One sample was analyzed for TCLP hazardous waste characterization under RCRA.

The contaminant groups identified in LF-4 soil include the following:

- PAHs.
- Phthalates.
- Phenols.
- Nitrogenated SVOCs.
- Total petroleum hydrocarbons (TPHs).
- Diesel fuel.
- Benzoic acid.
- Pesticides.
- PCBs.
- AHCs.
- OHCs.

Tables 4 and 5 (Appendix A) provide the maximum concentrations of organics and inorganics detected at LF-4 and their locations. Figure 3 shows the distribution of organics in soil at LF-4.

VOCs present in LF-4 soil included chlorobenzene, 1,4-dichlorobenzene, toluene, ethylbenzene, xylenes (total), and diethyl ether. All VOCs were detected at very low concentrations, either below or just above laboratory quantification limits. The highest total

VOC concentration of 0.95 mg/kg was detected in the sample from test pit location 9069. VOCs were not detected in the TCLP leachate sample (9068).

PAHs were present in all LF-4 soil samples, with the highest total PAH concentration (32.8 mg/kg) detected in test pit 9067. A total of 12 PAHs were detected at concentrations above background levels. Phthalates were detected at levels below both laboratory quantification limits and background levels. Phenols also were detected at levels below laboratory quantification limits. Benzoic acid was detected at surface soil locations 3012 through 3017, in surficial samples from test pits 9066 and 9067, and in subsurface samples from all LF-4 test pits. No benzoic acid soil concentrations detected at LF-4 exceeded background or laboratory quantification limits. SVOCs were not detected in the TCLP leachate sample from location 9068.

Low levels of the pesticides 4'-DDT, 4'-DDD, 4'-DDE, and lindane were detected in three LF-4 surface soil samples. PCBs (Aroclor-1232, -1242, and -1254) were detected in LF-4 test pit samples, but were not detected in surface soil samples. Neither pesticides nor PCBs were detected in the TCLP leachate from sampling location 9068.

TPHs were detected at levels above basewide background (240 mg/kg) at five of the nine surface soil locations sampled. Diesel-range TPHs were detected at locations 9068 and 9069. The maximum detected TPH concentration (34.2 mg/kg) also was at location 9069.

Seven metals were detected at concentrations exceeding background levels. Metals results for TCLP leachate at location 9068 were all within acceptable TCLP regulatory criteria.

LF-5

The nature and extent of source material contamination and source area remediation at LF-5 are discussed extensively in the Draft Final LF-5 RI Report (G-580), Draft Final LF-5 FS Report (G-574), Draft Final LF-5 Proposed Plan (G-506), and Draft Final LF-5 ROD (G-617). Therefore, further discussion of LF-5 is not presented here.

PCDA

Characterization of the contaminants detected in PCDA soil has included the following tasks presented in chronological order:

- Collection of four surface soil samples during the 1990/1991 PA/SI (G-553).
- Excavation of 10 test pits (9001 through 9010) during the preliminary test pit operation, and collection and laboratory analysis of 12 soil samples from seven of the 10 test pits in May 1991.
- Excavation of 24 test pits during the ITPO, and collection and laboratory analysis of 45 soil samples from the test pits during the summer of 1992.

Figure 4 depicts the PCDA source area sampling locations. Soil samples from each sampling location were analyzed for VOCs, SVOCs, pesticides/PCBs, and metals. Soil samples from selected locations were analyzed for herbicides and TPHs.

Surface soil analytical results indicated the presence of the VOC trichlorofluoromethane at low concentrations at locations 313 and 316. Several PAHs were detected at location 317, in a drum sludge sample. Fluorene also was detected at location 314. TPH concentrations exceeded background at locations 313, 316, and 317. Metals detected at levels above background in PCDA surface soil samples were lead, chromium, barium, iron, and manganese.

During the preliminary test pit investigation, the analytical sampling results provided the following data (see Figure 4 for sampling locations):

- SVOCs were detected at levels below background in samples from test pits 9005, 9006, 9007, 9008, and 9010.
- Low concentrations of VOCs were detected in soil samples collected from test pits 9007 and 9010.

- TPHs were detected at low concentrations at test pits 9001, 9003, 9005, 9006, 9007, and 9008. Background TPH levels were exceeded at one location only (test pit 9010 at 340 mg/kg).

- Lead exceeded background in surficial soil samples collected from test pit 9008 (178 mg/kg) and test pit 9010 (93.8 mg/kg).

- 4,4'-DDE was detected at a concentration of 0.017 mg/kg in test pit 9007. DDT was detected at a concentration of 0.018 mg/kg in test pit 9008.

An ITPO was performed in 1992, including removal of potential contaminant sources such as grossly contaminated soil and crushed drums, and is discussed in the Zone 1 RI Report (G-623). During the ITPO, a total of 43 post-excavation soil confirmation samples were collected from depths below 2 ft BGS in test pits 9029 through 9049. Analytical results from ITPO soil sampling are presented in Appendix A of the Zone 1 Site Characterization Summary (G-590) and Appendix A of the Draft Final Zone 1 RI Report (G-623). The results are summarized as follows:

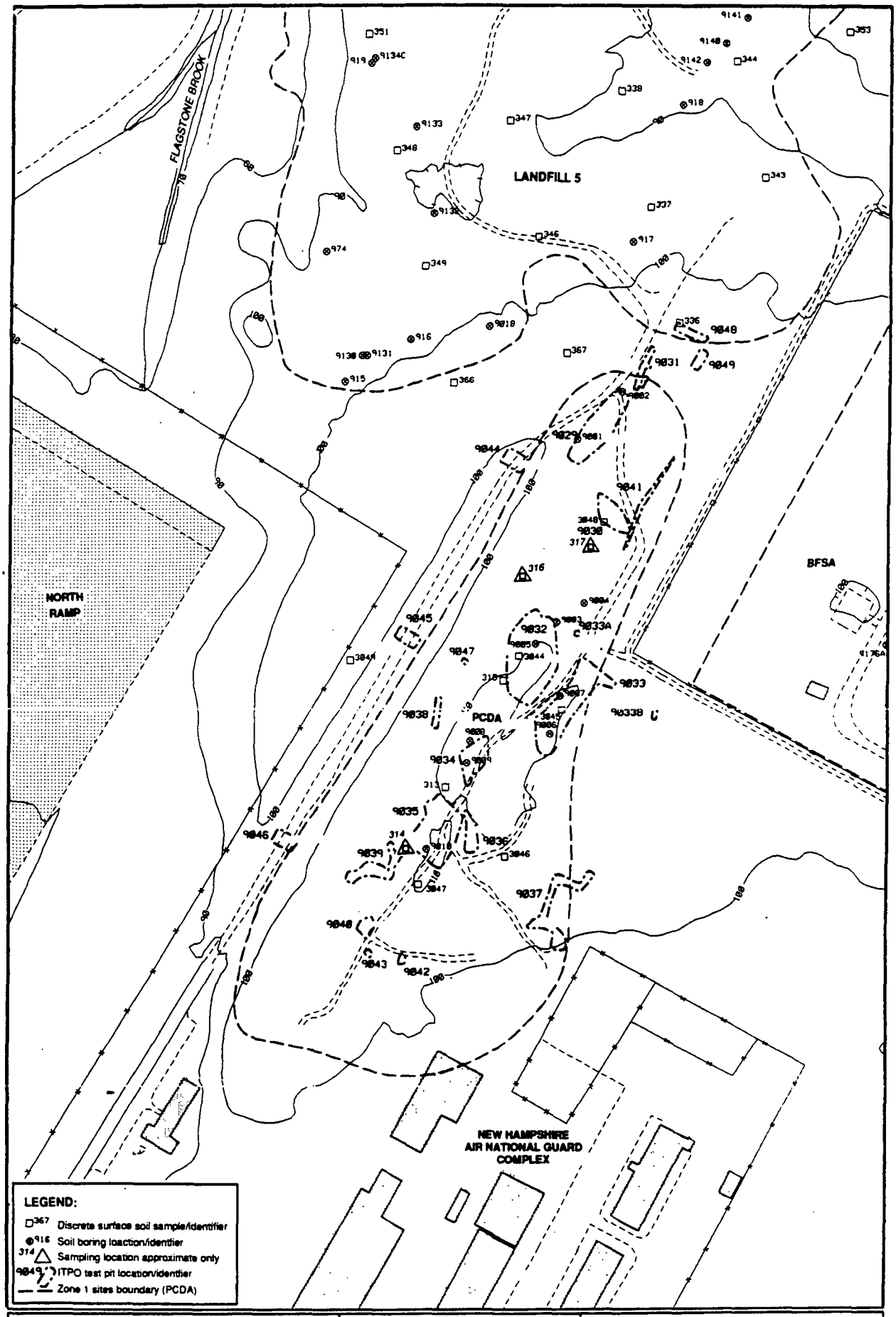
- VOCs were detected in soil samples collected from test pits 9030, 9032, 9033, 9034, 9035, 9039, and 9041. Specific VOCs detected include tetrachloroethene (PCE), chloromethane, 1,2-dichloroethene, toluene, ethylbenzene, diethyl ether, xylenes, and acetone. The highest total VOC concentrations were detected in samples from test pit 9032 (5.9 mg/kg).

- SVOCs did not exceed background concentrations in any of the samples collected. However, low levels of various PAHs and benzoic acid were detected. The maximum detected total SVOC concentration was detected at a depth of 5 ft BGS in test pit 9029.

- The DDE concentration exceeded background in a sample from test pit 9039 (0.02 mg/kg). DDT was detected at levels below background in samples from test pits 9034 and 9035. PCBs were not detected at any ITPO locations.

- Herbicide analyses were performed for test pit 9032 only. 2,4,5-TP (Silvex) was detected at 17 ft BGS (0.02 J mg/kg).

- TPHs were detected at low concentrations at test pits 9029 and 9030. The maximum TPH concentration of 16 mg/kg was detected at a depth of 5 ft BGS in test pit 9029.



NORTH

100 50 0 50 100 200

SCALE IN FEET

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

LEGEND: BASE MAP FEATURES

- 50 Surface contour/elevation(FT/MSL) 10 foot interval
- Aircraft areas - North Ramp
- Roads (asphalt/paved)
- Other roads and trails
- Buildings
- Fence

Zone 1
Stage 4, Record of Decision
Pease Air Force Base, New Hampshire

FIGURE 4
SOURCE AREA SAMPLING LOCATIONS AT PCDA

Z:\RODS\SITE PCDA\PCDATPSS.7 4/94

- Numerous metals were detected in all ITPO test pits at levels below background.

During the ITPO, approximately 660 tons of contaminated soil and source materials that posed potential risks to PCDA groundwater were excavated and temporarily stored at designated locations at LF-5, before being transported off-site to an approved treatment/disposal facility.

B. Groundwater

A detailed discussion of the distribution of groundwater contamination in Zone 1 is presented in Subsection 4.3 of the Draft Final Zone 1 RI Report (G-623). The salient points of the discussion are presented in this subsection.

Because of the close proximity of the Zone 1 sites to each other, and to aid in the presentation of contaminant distribution in Zone 1 groundwater, groundwater contaminant distribution is discussed on a zonewide basis in both the Draft Final Zone 1 RI Report (G-623) and the Draft Final Zone 1 FS Report (G-622). However, LF-5 is considered to be the major source of groundwater contamination in Zone 1. Other potential sources of groundwater contamination (i.e., LF-2, LF-4, and the PCDA) have been determined to require no further action under CERCLA (G-501; G-617; G-574). Groundwater beneath these sites will be addressed under State of New Hampshire landfill closure regulations. Therefore, the selected remedy discussed in Section X of this ROD is intended to address only the Zone 1 groundwater beneath LF-5. However, because both the Zone 1 RI Report (G-623) and the Zone 1 FS Report (G-622) provide descriptions of Zone 1 groundwater contamination on a zonewide basis, a similar discussion is presented here.

Naturally occurring discontinuities in aquitard lithologic units in Zone 1 have resulted in a single, relatively thin water-bearing unit, which includes the shallow bedrock. As a result, the overburden and shallow bedrock are referred to herein as the water table unit.

Zonewide distribution of total aromatic and total halogenated VOCs and total SVOCs in water table groundwater is presented in Figure 5. Distribution of these compounds in bedrock groundwater is presented similarly in Figure 6.

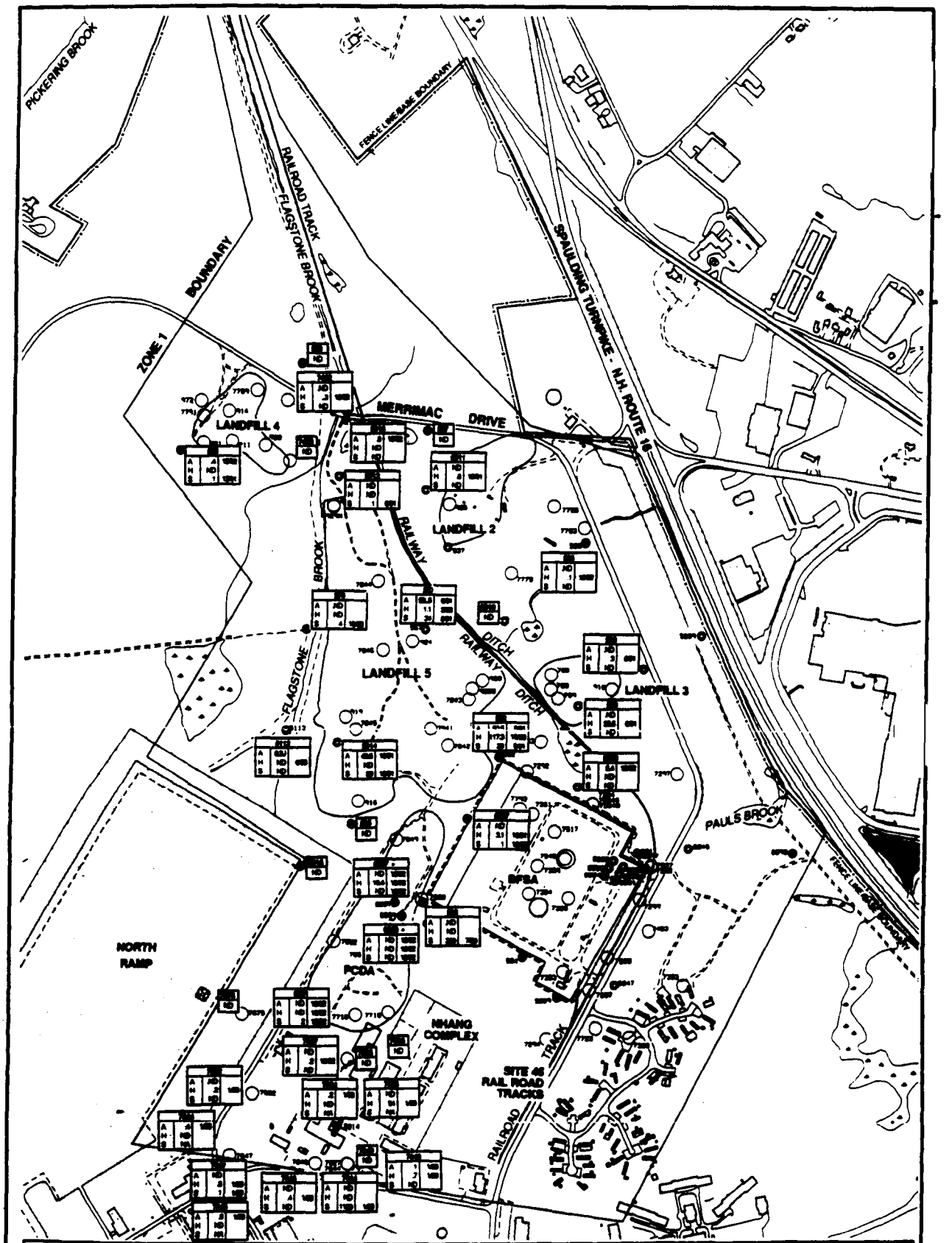
The VOC plumes identified in the LF-5 RI Report (G-580) included an HHC plume, which illustrates the distribution of TCE and PCE, and one AHC plume, which illustrates the distribution of benzene. These compounds were chosen because concentrations of these two exceed Maximum Contaminant Levels (MCLs) at LF-5; the two compounds also are relatively widespread in site groundwater.

The results of total and soluble metals analyses were compared to one another and to field turbidity values measured at the time of sampling. Field turbidity values, recorded at the time of sampling, were used to determine which metals groundwater samples (total or soluble) appear to be most representative of groundwater quality in Zone 1.

A summary of the groundwater contamination findings, as presented in the LF-5 RI Report (G-580), is as follows:

- TCE and PCE originate from an unidentified source south of the drum removal area near well 502.
- One benzene plume appears to originate in the vicinity of the central trench area.
- SVOCs were present at low concentrations in wells 567, 604, 605, 630, and 6005 in the vicinity of the central trench area.
- Low concentrations of the pesticides delta-BHC, endosulfan-1, or 4,4′-DDD were detected in samples from wells 605, 606, and 629 in LF-5.
- Dissolved arsenic has been detected in wells located in the vicinity of the central trench area.

A discussion of Stage 4 analytical data, and relevant historical analytical data, is presented in Subsection 4.3 of the Draft Final Zone 1 RI Report (G-623). Analytical results from wells 502, 5007, 5008, and 6105 at the BFSA are discussed in the RI Report because they help define the extent of one or more contaminant plumes. All other data collected to assess groundwater quality in the BFSA are presented in the BFSA Site Investigation Report (G-669).



Zone 1
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FIGURE 5
DISTRIBUTION OF ORGANICS IN WATER TABLE GROUNDWATER

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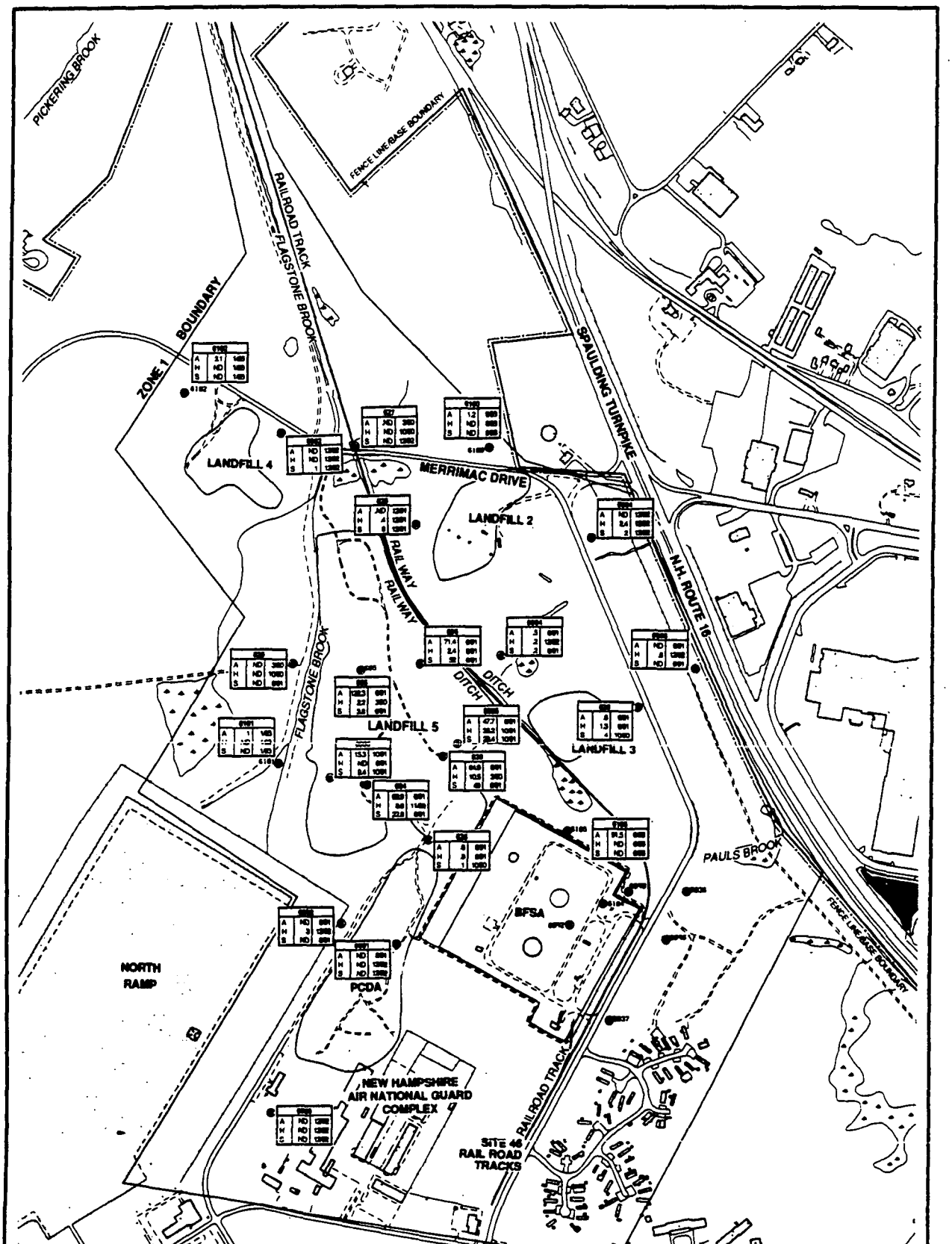

LEGEND

Monitor well (bedrock)

		6004	
Total Aromatic VOCs	A	5	6/91
Total Halogenated VOCs	H	2	12/92
Total Semivolatiles	S	2	6/91

Well identification

Date Sampled

Concentration detected (ug/l)

ND = Not detected

NA = Not analyzed

NORTH

0 100 200 300 400 500 1000

SCALE IN FEET

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

Pease AFB

Map Area

LEGEND: BASE MAP FEATURES

- Aircraft areas - north ramp
- Roads (asphalt/paved)
- Other roads and trails
- Buildings
- Fence
- Base boundary
- Marshy area

Zone 1
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Pease Air Force Base, New Hampshire

FIGURE 6
DISTRIBUTION OF ORGANICS IN BEDROCK GROUNDWATER

Z1RODB04(21F3152)-7/94

Zone 1 Water Table Flow Unit

A total of 32 wells monitor the water table flow unit (including overburden and shallow bedrock) beneath Zone 1. Twenty-three of these monitor wells are completed in the overburden; nine monitor wells are completed in shallow bedrock. The compounds present in the shallow flow unit include:

- AHCs.
- HHCs.
- OHCs.
- PAHs.
- Phthalates.
- Phenols.
- PCBs.
- Pesticides.
- Metals.

A summary of the highest concentrations detected, the location of the highest detection, and a comparison of background and MCLs for organic compounds is presented in Table 6 (Appendix A). Both nonfiltered (total) and filtered (dissolved) metals results are presented in Table 7 (Appendix A).

The principal water table flow unit VOC plumes in Zone 1 originate from LF-5. The distribution of TCE and PCE in the water table flow unit is defined by monitor wells 502, 538, 568, and 5007 (see Figure 7).

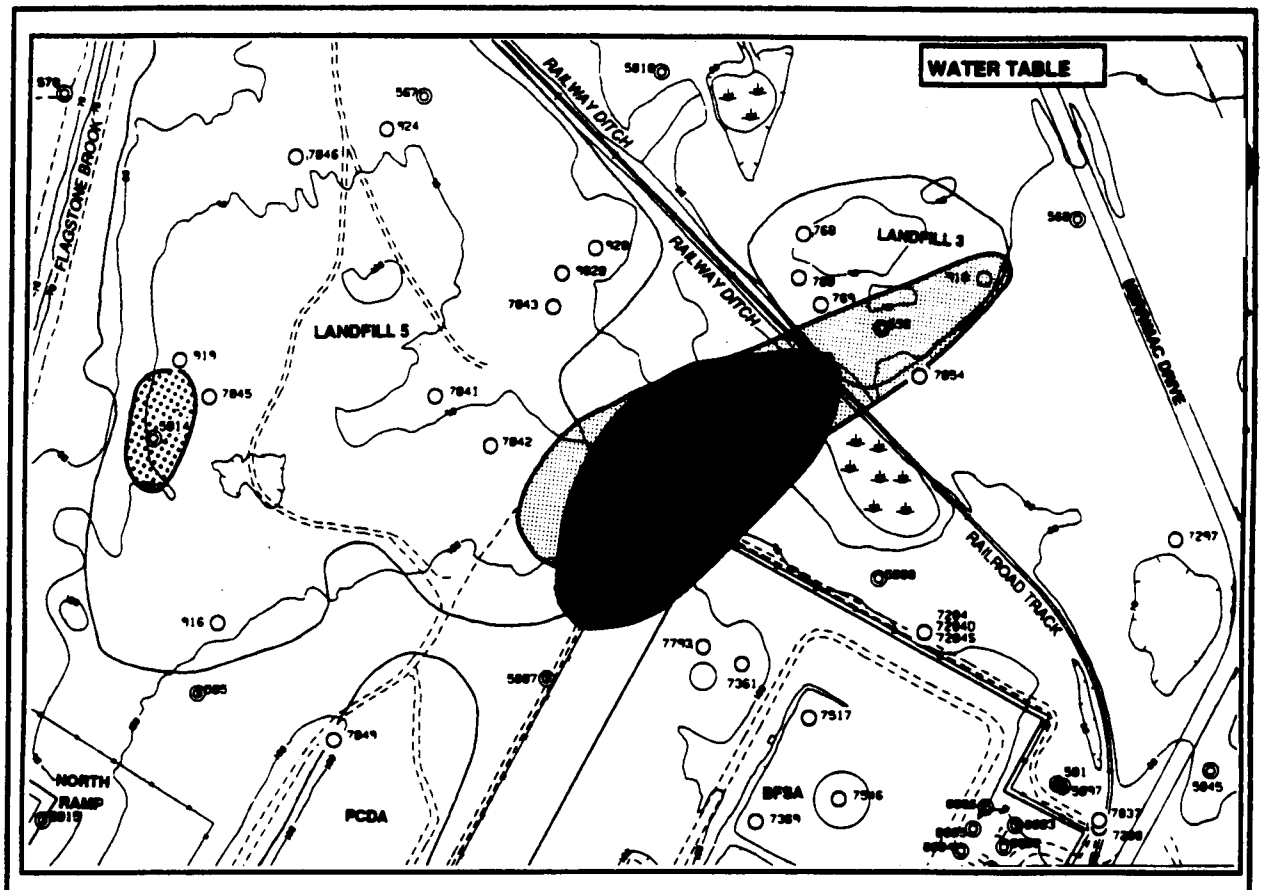
Both TCE and PCE have been detected at the highest concentrations and above MCLs at monitor well 502. The maximum concentrations for both compounds at well 502 were 46.0 μg/L (October 1990) for PCE and 56.0 μg/L (October 1990) for TCE. PCE concentrations also exceeded the MCL at monitor well 538 at LF-3. The highest concentration of PCE was detected in well 6087 (16 μg/L), which was installed at the PCDA in the area of highest soil contamination and debris identified and removed during the ITPO. The well was installed to monitor the water table because two deep bedrock wells were previously installed (6001 and 6002) and had not detected any deep bedrock groundwater contamination. Only a sample for VOC analysis was collected during the sampling event because very little water was in the well. Well 6087 could not be properly developed because of extremely slow recharge. As a result of the inability to develop well 6087

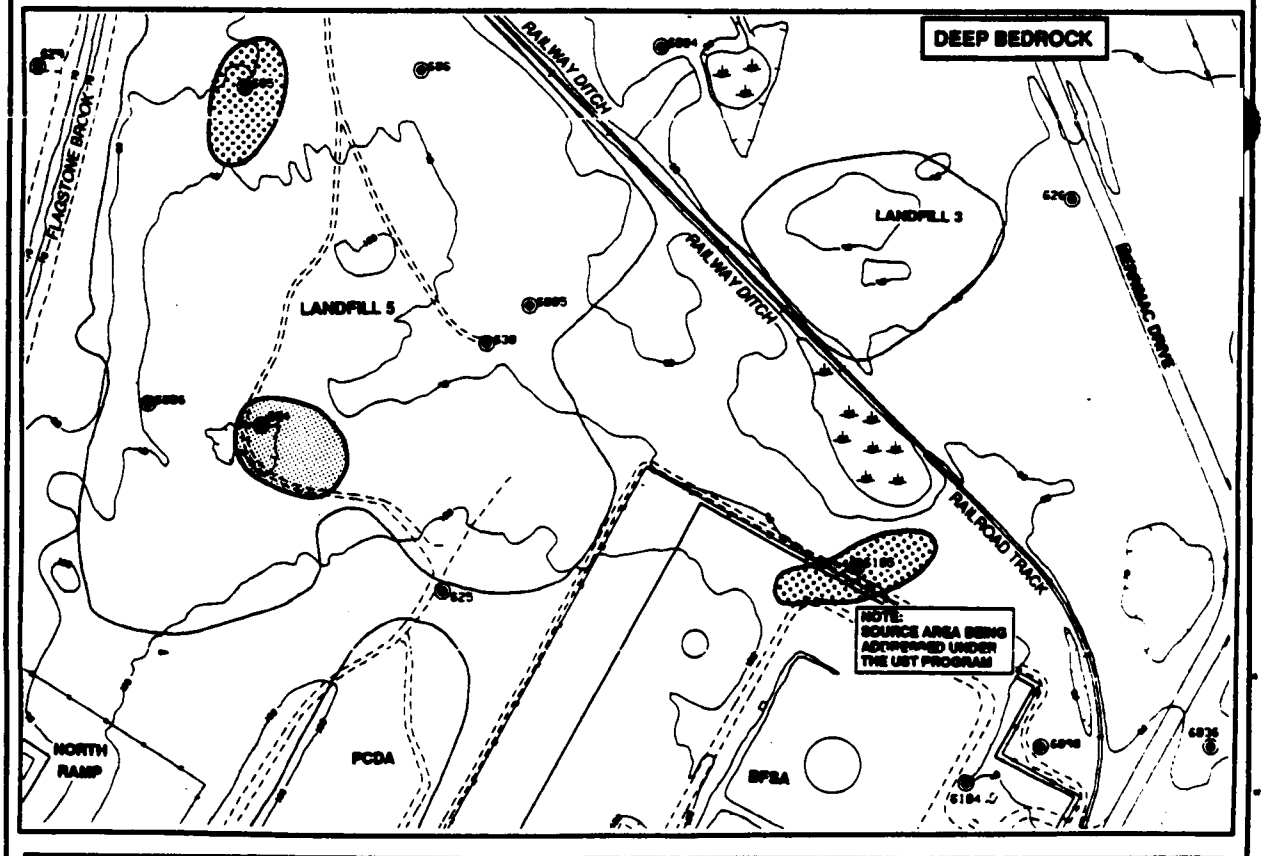
adequately, the subsequent groundwater sample was extremely turbid and is most likely not representative of groundwater quality. These data suggest a nearby HHC source in the southern part of LF-5. Both TCE and PCE have been detected at lesser concentrations in deep bedrock groundwater.

The distribution of benzene is defined by water table monitor wells 502, 567, 5014, and 5008 (see Figure 7). Historical maximum concentrations have been observed at location 5014 located in the southwestern corner of the central trench area. The benzene concentration at location 5014 exceeded the MCL (5 μg/L); a benzene concentration of 9.0 μg/L was detected in October 1991. Benzene concentrations decrease across LF-5; at water table monitor wells 502 and 5008, the benzene concentrations are below the laboratory quantification limit. Benzene also has been detected at several well locations that monitor deep bedrock groundwater, as shown in Figure 7.

Six additional VOCs, which have primary MCLs, have been detected in the groundwater at LF-5 within the TCE plume, the PCE plume, or both. These compounds are 1,2-trichlorobenzene, 1,2-dichlorobenzene, cis-1,2-dichloroethene, chlorobenzene, trans-1,2-dichloroethane, and vinyl chloride. These compounds have not been detected consistently, and occur at concentrations below their respective MCLs, with the exception of vinyl chloride. This compound was detected at a maximum concentration of 8.1 μg/L (October 1990), which exceeds the MCL (2.0 μg/L). Vinyl chloride has not been detected in other water table wells.

VOCs (i.e., toluene, methylene chloride, xylenes, ethylbenzene, 1,4-dichlorobenzene, and 1,2-dichloroethane) have been detected in wells located outside the boundaries of the TCE and PCE plumes (see Figure 8). The distribution of these compounds is sporadic, and concentrations, with the exception of methylene chloride, are below MCLs. As shown in Figure 8, both TCE and PCE are present at concentrations below laboratory quantification limits in wells 5011 and 7652, respectively. With the exception of well 05-567, benzene is not present in wells located outside the AHC plume.





LEGEND: GROUNDWATER FEATURES

- Piezometer
- Monitor well(Overburden)
- Monitor well(Bedrock)
- Monitor well(Hybrid)
- Areal extent of selected compounds at concentration of MCL
- Benzene
- Tetrachloroethene
- Trichloroethene

NORTH

0 50 100 200 300 400

SCALE IN FEET

Base Map Source:
Design area of photogrammetric compilation of PAFB from aerial photography dated 11/25/87

Pease AFB — Map area

LEGEND: BASE MAP FEATURES

- 50 Surface contour/elevation(FT/MSL) 10 foot interval
- Surface water drainage
- Marshy area
- Structure
- Fence
- Roads - paved
- Roads/trails
- Base boundary

Zone 1
Stage 4, Record of Decision
Pease Air Force Base, New Hampshire

FIGURE 7
AREAL EXTENT OF TRICHLOROETHENE, TETRACHLOROETHENE AND BENZENE IN GROUNDWATER

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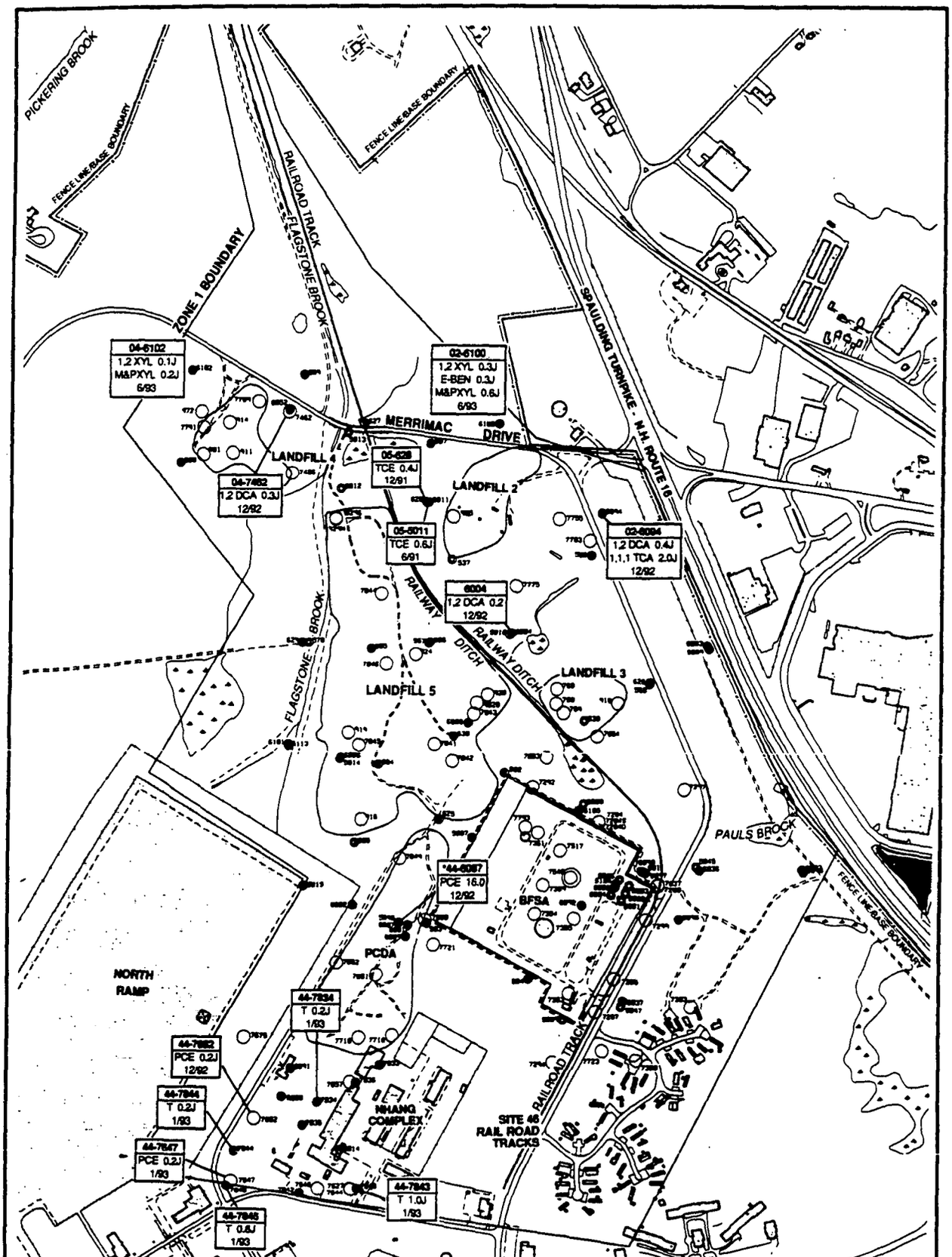


LEGEND

- Piezometer
- Monitor well (water table)
- Monitor well (bedrock)
- Monitor well (water table-except 509)
- Hydropunche boring

44-7852 — Well identification
PCE 0.2J — Concentration detected (ug/l)
12/92 — Date Sampled
* Samples used for screening purposes only(grab sample)

T Toluene
PCE Tetrachloroethene

TCE Trichloroethene
1,2 DCA 1,2 Dichloroethane
1,1,1 TCA 1,1,1 Trichloroethane
1,2XYL 1, 2 Xylene
M&PXYL M&P Xylene
E-BEN Ethylbenzene

NORTH

0 100 200 300 400 500 1000
SCALE IN FEET

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

Pease AFB — Map Area

LEGEND: BASE MAP FEATURES

- Aircraft areas - north ramp
- Roads (asphalt/paved)
- Other roads and trails
- Buildings
- Base boundary
- Fence
- Marshy area

Zone 1
Stage 4, Record of Decision
Pease Air Force Base, New Hampshire

FIGURE 8
DISTRIBUTION OF SELECTED VOCs IN GROUNDWATER

Z1RODSGN.21FB196-7884

VOC concentrations in water table wells outside LF-5 are low, generally below laboratory quantification limits, and are below MCLs.

Some of the salient points of metals analysis and field turbidity measurements for wells that monitor the water table flow unit are as follows:

- Arsenic, lead, nickel, chromium, beryllium, copper, and zinc exceeded their respective background concentrations in total metals analysis. Total metals concentrations above background were detected in numerous wells at LF-5, in 2-inch-diameter wells at the PCDA, and in wells 7466 and 509 at LF-4.

- Of these metals, arsenic, nickel, cadmium, and barium exceeded background levels in soluble metals analysis. Wells in which soluble metals exceeded background are located in the vicinity of LF-5 and LF-4.

- The wells that contained several total metals concentrations that exceeded background also contained high turbidity, usually in excess of 100 NTU.

- Arsenic, beryllium, cadmium, chromium, nickel, and lead exceeded primary MCLs in the total metals analysis. MCLs were exceeded most often in wells located in the southern and central areas of LF-5, and in most wells at the PCDA. PCDA area wells are mostly 2-inch-diameter wells with a thin saturated interval and tended to be high in turbidity and suspended solids.

- The results of soluble metals analysis indicate that only arsenic, cadmium, and nickel concentrations exceeded MCL guidelines. Arsenic concentrations exceeded the MCL at LF-5 locations 5014, 567, and 5007. Concentrations of cadmium at the PCDA (44-7646) and nickel (05-606) exceeded the respective MCLs at one location each.

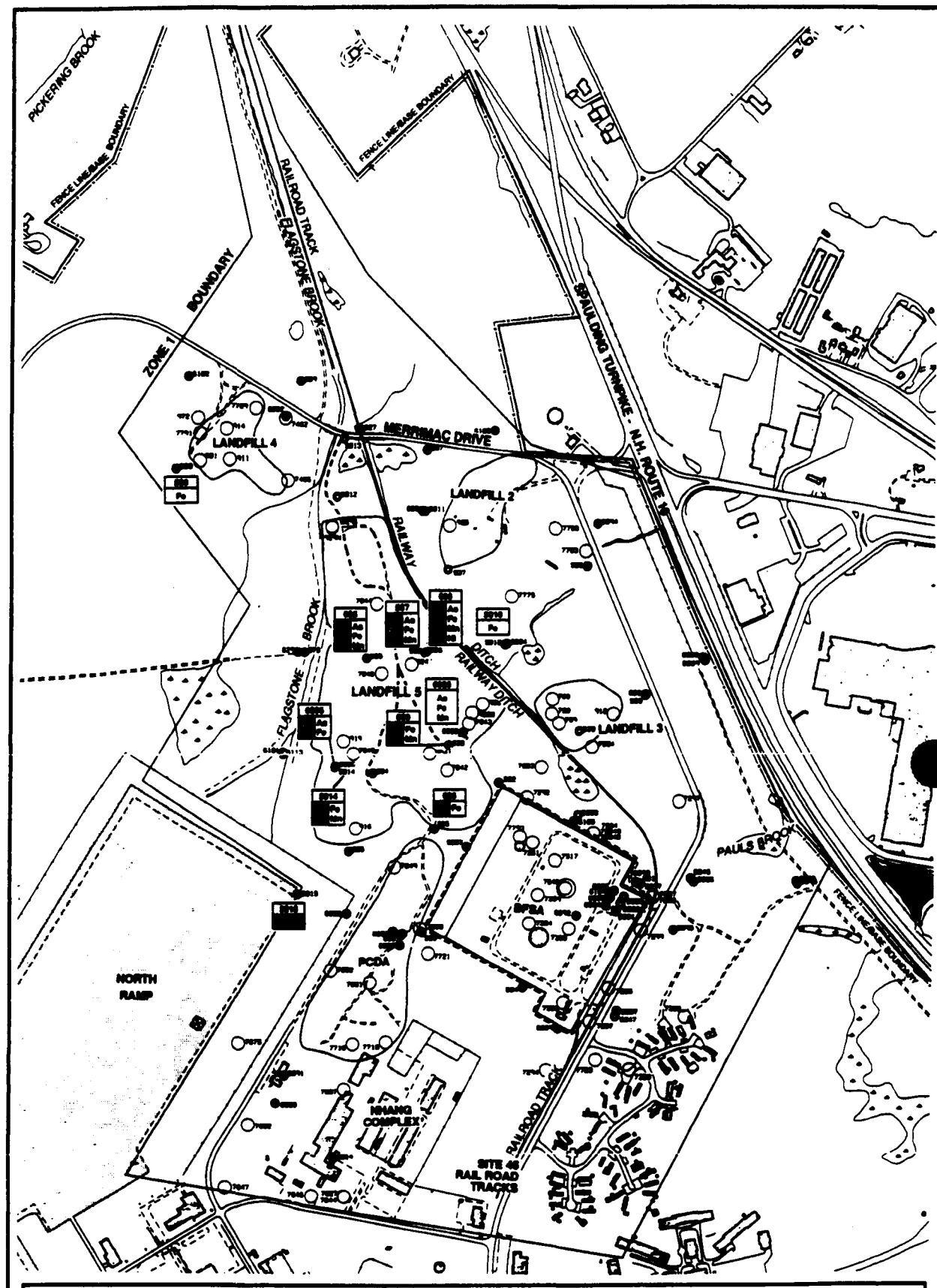
- Total iron concentrations exceeded secondary MCLs at most Zone 1 monitor well locations. Soluble iron concentrations exceeded secondary MCLs at LF-5 wells 5010, 5014, 5113, and 567; at PCDA wells 7675 and 6088; and at well 508 in LF-4. Total manganese concentrations exceeded secondary MCLs at most Zone 1 monitor well locations. Soluble manganese exceeded MCLs at most LF-5 and PCDA locations, at well 508 in LF-4, and at monitor well 506 in LF-2.

Soluble metals results tended to exceed background and MCLs within or close to the LF-5 boundary and at wells that also contain organic chemical contamination. Soluble metals data are believed to be more representative of actual groundwater metals contamination in the water table flow unit in Zone 1. Figure 9 shows the locations where total or soluble metals exceeded both background and primary or secondary MCLs for wells with turbidity values less than 100 NTU. This figure shows that, for groundwater with turbidity values less than 100 NTU, the only metals to impact Zone 1 water table groundwater are arsenic, iron, and manganese. Arsenic impacted groundwater at LF-5 location 567. Iron impacted groundwater at LF-5 wells 567, 5010, and 5014; at well 508 in LF-4; and at PCDA locations 5015 and 6088. Manganese impacted groundwater at LF-5 locations 567 and 5014. Metals did not impact water table groundwater at other Zone 1 sites.

Three chemical classes of SVOCs (i.e., PAHs, phthalates, and phenols) were detected in samples from the water table unit in Zone 1. The individual compounds and maximum detected concentrations are presented in Table 6 (Appendix A). In general, SVOC concentrations were low, mostly below quantification limits, and occur sporadically in wells across Zone 1.

Three pesticides and one PCB compound were detected in the water table flow unit, each present in only one well: alpha-BHC (13-5008), heptachlor (13-502), and 4,4′-DDD (05-567). The PCB congener Aroclor-1260 (1.8 μg/L) was detected in well 7646 at the PCDA. Pesticide concentrations did not exceed MCLs. Aroclor-1260 was detected above the MCL in one round only at a concentration of 0.5 μg/L in well 44-7646.

The herbicide 2,4,5-T (Silvex) was detected at a concentration below the laboratory quantification limit and below the MCL at location 13-5008 (BFSA) in December 1991. No other herbicides were detected in Zone 1 groundwater.



LEGEND

The wells shown above contain metals exceeding MCLs and background levels, and had low field turbidity values (<100 NTU).

- Piezometer
- Monitor well (Water Table)
- Monitor well (Bedrock)

Total Metal Exceeds MCL — Well Identifier — Soluble (Dissolved) Metal Exceeds MCL

NORTH

0 100 200 300 400 500 1000

SCALE IN FEET

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

LEGEND: BASE MAP FEATURES

- Aircraft areas - north ramp
- Roads (asphalt/paved)
- Other roads and trails
- Buildings
- Base boundary
- Fence
- Marshy area

Zone 1
Stage 4, Record of Decision
Pease Air Force Base, New Hampshire

FIGURE 9
DISTRIBUTION OF METALS IN GROUNDWATER

Z:\RODS\97LZ\Re437-7\5\

Deep Bedrock Flow Unit

A total of 29 monitor wells characterized the deep bedrock flow unit beneath Zone 1. Groups of compounds detected in groundwater samples collected from wells completed in the deep bedrock flow unit included:

- AHCs.
- HHCs.
- OHCs.
- PAHs.
- Phthalates.
- Phenols.
- TPHs.
- Pesticides.
- Metals.

A summary of highest concentrations, locations of highest detection, and comparison to background levels and MCLs for organic compounds is presented in Table 8 (Appendix A). The same information is summarized for unfiltered (total) metals and for filtered (dissolved) metals in Table 9 (Appendix A).

The principal deep bedrock plume in Zone 1 originates from LF-5 (TCE, PCE, and benzene). The distribution of TCE and PCE in deep bedrock groundwater is defined by wells 604, 625, 6005, 626, and 6003. PCE is more widespread, and present in each of the aforementioned monitor wells, with the exception of well 6005. A maximum concentration of 5.3 J μg/L of PCE was detected in November 1988 in water from well 604. PCE concentrations decrease away from monitor well 604. At well 6003, located near the Zone 1 boundary, a concentration of 0.4 J μg/L was detected in the December 1992 sampling event. The PCE concentration exceeded the MCL at one location outside the PCE plume. As shown in Figure 7, while PCE concentrations are higher in overburden, this compound occurs in a wider distribution in the deep bedrock. This suggests an overburden source area in the southern part of LF-5.

The distribution of TCE in deep bedrock groundwater is limited to wells 6005, 626, and 6003. TCE did not exceed MCLs in deep bedrock groundwater. As with PCE, TCE shows a similar pattern in concentration and distribution. Concentrations of TCE were appreciably higher in the overburden (a maximum TCE concentration of 46.0 μg/L was detected at

location 502). The maximum concentration of TCE in bedrock was 2.0 μg/L, detected in December 1992 at location 6005. TCE concentrations decrease downgradient.

The benzene plume that exists in deep bedrock groundwater is restricted to monitor wells 604, 605, 606, 630, 6005, and 6006. The primary contamination source appears to originate in the vicinity of the LF-5 central trench area. A maximum benzene concentration of 14.0 μg/L was detected at monitor well 605 (March 1990). Benzene concentrations generally decrease across LF-5, although concentrations of 4.1 μg/L (monitor well 630) and 4.0 μg/L (monitor well 6005) have been detected.

VOCs have been detected in wells located outside the boundaries of the TCE, PCE, and benzene plumes. The distribution of these compounds is sporadic, and the concentrations do not exceed MCLs.

The wells completed within deep bedrock, once developed, monitor waters that are significantly less turbid than those wells completed in the overburden (see Appendix E of the Draft Final Zone 1 RI Report). As a result, fewer primary metals were detected with concentrations that exceed background and MCLs. Turbidity values for wells completed in the deep bedrock were very low, generally less than 4.0 NTU. The metals arsenic, nickel, iron, and manganese impact deep bedrock groundwater at LF-5 (see Figure 9). Arsenic impacts bedrock groundwater at LF-5 locations 605, 606, 6005, and 6006. Arsenic is the only primary metal to exceed the background level in total metals analysis. Nickel impacts deep bedrock groundwater at LF-5 well 606. Iron and/or manganese impact bedrock groundwater at LF-5 monitor well locations 605, 606, 625, 630, 6005, and 6006. These wells are located in the vicinity of the central trench and drum removal areas. Metals do not impact deep bedrock groundwater at other Zone 1 sites.

The SVOC chemical classes identified in Zone 1 groundwater sampling results consist of PAHs, phthalates, and phenols. Individual compounds and maximum detected concentrations are presented in Table 7 (Appendix A). SVOCs are sporadically distributed and were detected at low concentrations, generally below laboratory quantification limits.

The pesticides alpha-endosulfan, beta-BHC, delta-BHC, DDT, and 4,4'-DDD were detected at low concentrations (below laboratory quantification limits and MCLs) at monitor well 605 at LF-5. Alpha-endosulfan also was detected at low concentrations at LF-5 monitor well 606.

TPHs have been detected in one deep bedrock monitor well; a concentration of 0.28 J μg/L of TPHs was detected in monitor well 605 in June 1991. TPHs have not been detected in other deep bedrock monitor wells in Zone 1.

VI. SUMMARY OF SITE RISKS

A baseline risk assessment was performed for the various sites and media in Zone 1, and is presented in Section 6 of the Draft Final Zone 1 RI Report (G-623). The purpose of the baseline risk assessment is to evaluate the potential health risks posed to human and ecological receptors by exposure to zone-related contaminants. The risk assessment is intended to provide information that can be used to determine the need for remedial action in the zone.

The risk assessment was performed for all media associated with the IRP sites in Zone 1, with the exception of LF-5 soil. The baseline risk assessment for LF-5 soil is presented in the Draft Final LF-5 RI Report (G-580). Human health and ecological risk assessments for surface water and sediment in Flagstone Brook and the Railway Ditch and a human health risk assessment for LF-5 groundwater also were included in the Draft Final LF-5 RI Report. These media were re-evaluated in the Zone 1 RI Report because of the availability of new site and background data. Groundwater data were grouped for the risk assessment based on the results of the zonewide characterization and the zone conceptual model. Specific locations were included in the data set corresponding to the likely source of detected groundwater contaminants. Therefore, locations impacted primarily by Site 5 sources were included in the Site 5 groundwater data set (bedrock and/or overburden) even if the location was physically located at Site 2 or Site 4.

Discussion of the ecological risk assessment for surface water and sediment in Flagstone Brook, the Railway Ditch, and Pauls Brook is not provided here because these areas will be discussed in a separate ROD for drainage ditches at Pease AFB.

The approach and methodology for preparing the risk assessment were originally presented in a protocols document submitted to EPA Region I and NHDES (G-568). This document was subsequently amended based on a meeting among Roy F. Weston, Inc. (WESTON®), the Air Force, EPA Region I, and NHDES (G-217), and a revised version was submitted (G-601).

The baseline risk assessment is divided into three main subsections:

- Data Evaluation and Reduction (Subsection 6.2).
- Human Health Risk Assessment (Subsection 6.3).
- Ecological Risk Assessment (Subsection 6.4).

These subsections are presented in the RI Report and are described briefly in the subsections that follow.

A. Data Evaluation and Reduction

The objectives of the data evaluation and reduction are to review and summarize the analytical data for each medium and to select the chemicals of concern to be evaluated in the risk assessment. The reviewed data include sampling results for soil, groundwater, surface water, and sediment collected during Stages 2, 3, and 4 of the IRP. The chemicals analyzed in each medium consist of SVOCs, pesticides/PCBs, VOCs, and inorganics (metals).

A preliminary data summary was performed on all media data sets. The guidelines followed in preparation of the data summary are explained in detail in Subsection 6.2.1 of the Draft Final Zone 1 RI Report (G-623).

Based on the preliminary data summary, a maximum of approximately 25 to 30 chemicals of concern were selected for each data set (G-217) using the following criteria. A chemical was eliminated as a chemical of concern when:

- The chemical was detected in fewer than 5% of the samples and was not reported at high concentrations based on professional judgment (G-189; G-217).

- The chemical was not detected at a concentration above background concentrations. Only inorganic chemicals were eliminated as chemicals of concern based on a comparison with background. Although no organic chemicals were eliminated based on a background comparison, those organics that were not reported at concentrations above background are identified in

the relevant Section 6 and Appendix K tables of the Zone 1 RI Report (G-623).

Final summary tables were prepared for the chemicals of concern in each data set. Unless otherwise indicated, the final summary tables contain the following information for each chemical: frequency of detection, range of sample quantitation limits, range of averaged and detected concentrations, mean concentration (based on the averaged values), and upper 95% confidence limit of the mean concentration. These summary tables are presented as Tables 10 through 20 (Appendix A). Table 21 (Appendix A) presents a summary of chemicals of concern by medium for all media considered, except surface water and sediment.

B. Human Health Risk Assessment

In accordance with guidance from EPA Region I, the potential risks to human health were evaluated separately for each medium for the chemicals of concern listed in Tables 10 through 21. The media that were considered were soil and groundwater. For reasons stated in Section II, surface water and sediment in Zone 1 are not addressed in this ROD. The soil data were evaluated separately for LF-2, LF-4, and LF-5, and the PCDA. Soils from 0 to 2 feet deep were evaluated for each site. An additional assessment was made for PCDA soil from 0 to 15 feet deep. The water table and deep bedrock were evaluated separately for each of the applicable sites in the zone. The resulting groundwater risk evaluations were for LF-2 water table groundwater, LF-4 water table and deep bedrock groundwater, LF-5 water table and deep bedrock groundwater, and PCDA water table and deep bedrock groundwater.

A most reasonable maximally exposed individual (RME) was selected for each medium based on both current and future land and water uses. The zone is currently inactive. Future land use in Zone 1 was assumed to continue as industrial, although future residential development may occur off base. The groundwater is not currently used, but could potentially be used for drinking or other purposes in the future (although this is unlikely because aquifer yields in parts of the zone are low and the residences currently existing

adjacent to the base are serviced by public water supplies). The current and future RMEs that were selected for each medium are presented in Table 22 (Appendix A). This subsection briefly summarizes the exposure pathways evaluated. A more thorough description is presented in the risk assessment (Subsection 6.3.1 of the Draft Final Zone 1 RI Report).

The current use exposure pathways evaluated were as follows:

- Soil — The risk assessment evaluated this pathway for LF-2, LF-4, and the PCDA [exposures to LF-5 soil were considered in the Draft Final LF-5 RI Report (G-580), LF-5 FS Report (G-574), and LF-5 ROD (G-617)]. For all three IRP sites, the maintenance worker was considered as the RME, with a trespasser also considered as a potential (although less likely) receptor. The exposure scenario assumed for all three sites was contact with the soil at a frequency of 6 days per year. Exposure was assumed to occur via incidental ingestion and dermal contact.

- Groundwater — Groundwater in Zone 1 is not currently used. Therefore, no RMEs or exposure scenarios were chosen.

Future use exposure scenarios were as follows:

- Soil — This pathway was evaluated for LF-2, LF-4, and the PCDA. The maintenance worker was chosen again as the RME for these sites. Because future development of LF-2 and LF-4 is expected to be limited, future maintenance activities for these sites were assumed to occur only 1 day/month year-round (i.e., 12 days/year). For the PCDA, a full-time maintenance worker (i.e., 250 days/year) was assumed. Building construction could potentially occur at the PCDA, and the site could support full-time maintenance activities. As with the current exposure scenarios, incidental ingestion and dermal contact were considered the likely exposure routes.

- Groundwater — For each hydrologic unit considered, an on-zone resident was selected as the future RME (Table 22, Appendix A). The on-zone resident was assumed to be exposed to groundwater contaminants 350 days/year for 30 years (G-225). The exposure routes considered for Zone 1 groundwater are both ingestion and noningestion (i.e., showering) routes.

For each pathway evaluated, average and reasonable maximum exposure estimates were generated corresponding to exposure to the average and maximum concentrations detected in that particular medium.

Excess cancer risks were determined for each exposure pathway by multiplying the exposure level by 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 actual risk is unlikely to be greater than the risk predicted). The resulting risk estimates are expressed in scientific notation (e.g., 1×10^{-6} for 1/1,000,000) and indicate (using this example) that an average individual is likely to have 1-in-1-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 cancer risk to be additive when assessing exposure to a mixture of hazardous substances.

A hazard index also was calculated for each pathway as EPA's measure of the potential for noncancer health effects. A hazard quotient is calculated by dividing the exposure level by the reference dose (RfD) or other suitable benchmark for noncancer 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 a 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). A 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. 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.

The total lifetime cancer risks and total hazard indices are presented by medium in Table 23 (Appendix A). Where applicable, the cancer risks and hazard indices were calculated using three concentrations: the mean, the upper 95% confidence limit of the mean, and the maximum. Chemicals that exceeded the 10^{-6} lifetime cancer risk and/or a hazard index of 1 also are indicated in each table. The cancer risk posed to the RME for the soil pathway was greater than 10^{-6}, but less that 10^{-5} at one or more exposure concentrations for the following scenarios:

- For LF-2 soil, the cancer risks ranged from 8×10^{-7} to 2×10^{-6} for current use scenarios, and from 2×10^{-6} to 5×10^{-6} for future use scenarios.
- For LF-4 soil, the cancer risks ranged from 10^{-6} to 3×10^{-6} for future use scenarios.
- For PCDA soil, the cancer risks ranged from 3×10^{-6} to 6×10^{-6} in shallow (0- to 2-foot-deep) soil, and from 3×10^{-6} to 9×10^{-6} in deep (0- to 15-foot-deep) soil for future use scenarios.

Only the PAHs individually or collectively posed greater than a 10^{-6} risk. Based on only those chemicals of concern detected above background, current and future use scenario risks for both shallow and deep soil at the PCDA and for current use scenarios at LF-4 were less than 10^{-6}. Although potential risks, based on all chemicals of concern, from exposure to soil at LF-2, LF-4, and the PCDA exceeded the lower limit of the range regulated at hazardous waste sites, there were no unacceptable human health risks above the EPA threshold criteria of 10^{-4}, as defined in the Zone 1 Proposed Plan (G-697). There is no apparent potential for adverse noncancer health effects posed by exposure to soil at any of the sites (all hazard indices were less than 1). In addition, qualitative and quantitative evaluations conducted to assess contaminant leaching potential indicated that leaching of dieldrin and manganese from PCDA soil to groundwater is of potential concern. However, PCDA groundwater is not in contact with contaminated soil most of the year, and recent analytical results from two PCDA wells indicate that dieldrin was not detected. Therefore, no remedial objectives (ROs) were chosen and no RAOs were established for Zone 1 soil at any of the operable

units (OUs) based on potential human health risks posed by exposure to contaminated groundwater as a result of leaching from soil.

Cancer risks based on use of water table groundwater for domestic purposes ranged from 10^{-7} for LF-2 to 3×10^{-3} for LF-5 based on filtered samples. Potential cancer and noncancer risks above those usually considered acceptable by regulatory agencies (cancer risks greater than 10^{-4}, and hazard indices greater than 1) were calculated for both LF-5 and PCDA water table groundwater. ROs were chosen and RAOs were established for LF-5 water table groundwater, as outlined in Section VII. The majority of the unacceptable risk posed by human receptor exposure to PCDA water table groundwater was attributable to the PCB Aroclor-1260 and metals. Yet, as outlined in Subsection 2.5.3 of the Zone 1 FS Report (G-622), Aroclor was detected at the MCL (0.5 μg/L) in one sampling round only. In addition, the metals concentrations contributing to total risk were detected at PCDA wells that had a thin saturated interval. Consequently, groundwater samples from these wells were highly turbid, which resulted in elevated metals concentrations not representative of actual groundwater quality. Furthermore, because groundwater is not in contact with PCDA soil most of the year, the remaining soil contamination does not pose a threat to the underlying groundwater. Additionally, given the low yields of wells installed in the PCDA, it is not likely that groundwater could be used for consumptive purposes. Finally, since the PCDA is located in the NHANG cantonment area, an area served by public water supplies, future residential use of the PCDA and human receptor exposure to the PCDA groundwater are unlikely. For these reasons, ROs were not chosen and RAOs were not established for PCDA water table groundwater, as described in Section VII. No unacceptable potential cancer or noncancer risks in exceedance of EPA's risk range were noted for LF-2 or LF-4 water table groundwater. Therefore, no ROs or ROAs were established based on human health risks (see Section VII).

Cancer risks based on use of deep bedrock groundwater for domestic purposes were evaluated for LF-5 and the PCDA only because there were no chemicals of concern established for LF-2 and LF-4 deep bedrock groundwater. Cancer risks were 3×10^{-3} for

LF-5 and 7 x 10^{-7} for the PCDA based on maximum concentrations for unfiltered samples. Based on these results, only LF-5 deep bedrock groundwater posed potential risks in exceedance of EPA's acceptable risk range (10^{-4} to 10^{-6} for cancer risks, and a hazard index of less than 1 for noncancer risks). ROs were chosen and RAOs were established for LF-5 deep bedrock groundwater, as outlined in Section VII. No unacceptable risks in exceedance of EPA's risk range were noted for LF-2, LF-4, or PCDA deep bedrock groundwater. Therefore, no ROs or RAOs were established for these OUs based on human health risks (see Section VII).

C. Ecological Risk Assessment

The ecological risk assessment evaluated the potential adverse impacts on terrestrial organisms inhabiting LF-2, LF-4, and the PCDA, and aquatic life living in Flagstone Brook, the Railway Ditch, and Pauls Brook. Subsequently, the risks to terrestrial receptors as a result of potential exposure to lead at LF-4 and the PCDA were revised and presented in an Addendum to the Zone 1 RI and FS Reports (G-696). For the reasons outlined in Section II of this ROD, the results of this assessment for Flagstone Brook, the Railway Ditch, and Pauls Brook are not presented here. These results will be discussed in a separate document. However, since the total hazard indices for certain terrestrial species were based in part on ingestion of surface water, surface water in Zone 1 is discussed in this context only.

The objectives of the ecological risk assessment were to identify and estimate the potential impacts associated with the chemicals of concern in Zone 1. The assessment focused on the potential impacts of the chemicals of concern found in the soil, surface water, and sediment to terrestrial and aquatic flora and fauna that inhabit, or are potential inhabitants of, the zone, including Flagstone Brook, the Railway Ditch, and Pauls Brook.

The ecological risk assessment was performed in two phases. The results of the original assessment were presented in the Zone 1 RI Report (G-623). The original assessment

incorporated overly conservative assumptions that resulted in unrealistically high hazard indices for LF-4 and the PCDA. An Addendum to Ecological Risks (G-696) was prepared for LF-4 and the PCDA based on more realistic assumptions. The methodology and results of the original assessment and the addendum are provided in the paragraphs that follow.

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

- Short-tailed shrew.
  - Incidental ingestion of soil as a result of earthworm ingestion, burrowing, and preening.
  - Ingestion of earthworms.
- American robin.
  - Ingestion of earthworms that may have bioaccumulated chemicals of concern.
  - Ingestion of soil as a result of earthworm ingestion.
  - Ingestion of surface water.
- Terrestrial plants.
  - Direct contact with soil.

The potential risk posed to ecological receptors was assessed by comparing estimated daily doses or medium-specific concentrations to critical toxicity values (CTVs) or appropriate medium-specific criteria values. Hazard quotients were calculated, by contaminant, for each receptor by dividing the estimated daily intake by the CTV, or, when medium-specific criteria were available, concentrations were compared directly to criteria to determine the corresponding hazard quotient. Hazard quotients were summed across all exposure pathways for each contaminant, by receptor, to develop specific hazard indices.

A hazard index of less than 1 indicates that adverse effects are not likely to occur, and no action is required. A hazard index of greater than 10 indicates that risks are at a level of

potential concern, and may warrant action. A hazard index between 1 and 10 is subject to interpretation based on the toxicity of the chemical and the uncertainty in the calculation. In addition, the frequency of detection and reproducibility of the data should be investigated. Whether a remedial action must be initiated should be examined on a site-by-site basis, after careful consideration of the levels of the hazard indices compared to the possible adverse impacts of remedial action on the ecological habitat (e.g., loss of existing wetland communities and other habitats, or increased contaminant migration resulting from resuspension of contaminated fine-grained particles).

The total hazard indices for all ecological receptors are presented in Tables 24 through 29 (Appendix A). It is difficult to determine which contaminant concentrations, mean or maximum, most accurately reflect actual exposure concentrations. Therefore, the hazard indices for ecological receptors were calculated using two concentrations: mean and maximum, where available. The following paragraphs provide an overview of the findings of the ecological risk assessment for Zone 1 and highlight contaminants that contributed substantially to the total hazard for each receptor. In the following paragraphs, the average and maximum hazard indices are presented.

For the short-tailed shrew, the average and maximum cumulative hazard indices were as follows:

- 4.2 and 12.5 for LF-2.
- 1×10^4 and 3.3×10^4 for LF-4.
- 1.4×10^4 and 4.2×10^4 for the PCDA.

For the American robin, the average and maximum cumulative hazard indices were as follows:

- 1.0 and 20.6 for LF-2.
- 153 and 438 for LF-4.
- 184 and 435 for the PCDA.

Nearly all of the risk to the shrew at LF-2 (93%) is due to the ingestion of earthworms. The contaminant contributing the majority of the total hazard (71%) was phenanthrene. Benzo(a) anthracene, which contributed 23% of the maximum cumulative hazard index, was the only other chemical with a maximum hazard index greater than 1 (2.9). Selection of ROs and screening of remedial technologies for LF-2 soil were not performed as part of the Draft Final Zone 1 FS Report in part because the maximum hazard quotient for the shrew, while exceeding 1, was in a range in which the necessity of remedial action was questionable given the uncertainty associated with the method used to derive risk values. In addition, the hazard quotients calculated for the robin are attributable to ingestion of surface water from the Railway Ditch, which will be addressed in a separate document. Therefore, LF-2 has been proposed for no further action under CERCLA, and will be closed in accordance with state landfill closure regulations.

The primary contributor to the cumulative risk to both the shrew and the robin at LF-4 and the PCDA (greater than 90%) is the ingestion of earthworms. In addition, the contaminant contributing the majority of the maximum cumulative hazard (98% for the shrew and 49% for the robin at LF-4, and 99% for the shrew and 64% for the robin at the PCDA) was lead. There is a great deal of uncertainty associated with the calculation of bioaccumulation factors for lead in earthworms. Selection of ROs and screening of remedial technologies for LF-4 and PCDA soil were not initially performed for the Draft Final Zone 1 FS Report in part because the maximum hazard quotient for the shrew, while exceeding 1, was questionable, given the uncertainty associated with the calculation of bioaccumulation factors for lead in earthworms.

In addition, potential risks to the short-tailed shrew and the robin at LF-4 and the PCDA as a result of exposure to lead in soil were revised and presented in the Addendum to Ecological Risks for LF-4 and the PCDA (G-696). In the addendum, three key assumptions used in the calculation of ecological risks at Pease AFB were modified based on additional information. The modifications were as follows:

- Initially, it was assumed that ecological receptors were continuously exposed to contaminant concentrations equivalent to the maximum concentrations

observed at the site. For lead, it was assumed that the shrew and the robin were exposed to lead concentrations of 138 and 178 mg/kg, respectively. However, when it was noted that lead concentrations exceeded background for only one of 10 samples at LF-4 and for two of nine samples at the PCDA, a more reasonable assumption of exposure to average lead concentrations in soil was made.

- The bioaccumulation factor (BAF) used in the original risk assessment (G-623) for both LF-4 and the PCDA was 11. However, review of the calculations indicated that a more appropriate BAF was 2.75 (G-696).

- Original earthworm ingestion rates for both the shrew and the robin were found to be too high. Revisions to these ingestion rates in the addendum (G-696) resulted in decreases in total estimated dose of approximately 95% for both species.

When the revised assumptions were incorporated into the risk calculations, the following total hazard indices resulted:

- 3.3 and 4.5 for the shrew at LF-4 and the PCDA, respectively.
- 2.6 and 3.6 for the robin at LF-4 and the PCDA, respectively.

Based on these observations and revised calculations, it was deemed inappropriate to proceed with remedial actions based solely on ecological risk. Therefore, LF-4 and the PCDA have been proposed for no further action under CERCLA, and will be closed in accordance with state landfill closure regulations.

VII. DEVELOPMENT AND SCREENING OF ALTERNATIVES

A. Statutory Requirements/Response Objectives

Section 121 of CERCLA establishes several statutory requirements and preferences, including: (1) remedial actions must be protective of human health and the environment; (2) remedial actions, when complete, must comply with all federal and more stringent state environmental standards, requirements, criteria, or limitations, unless a waiver is invoked; (3) the remedial action selected must be cost-effective and use permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and (4) a preference for remedies in which treatment that permanently and significantly reduces the toxicity, mobility, or volume (TMV) 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 the 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 via the migration of contaminated groundwater. RAOs for Zone 1 are discussed in this subsection.

LF-2

The results of the risk assessment conducted during the Zone 1 RI (see Section VI) indicate that there are no unacceptable human health risks above the EPA threshold criteria associated with the exposure of current and future potential receptors to soil at LF-2, or the water table and deep bedrock groundwater beneath LF-2. In addition, the results of the qualitative and quantitative evaluations conducted to assess the potential for contaminants to leach to groundwater indicated that only two organics and no inorganics at LF-2 are predicted to be of potential leaching concern according to the leaching models used. The organics chrysene and dibenzo(a,h)anthracene are present in soil at concentrations on the

same order of magnitude as the maximum allowable concentrations predicted by the analysis. Therefore, leaching of contaminants from LF-2 soil is not considered a concern.

The risk assessment revealed that site soil contaminants posed ecological risks exceeding EPA benchmark values. The ecological risk assessment indicated that there is potential risk posed to the shrew as a result of ingestion of invertebrates in LF-2 soil. However, these risks were in a range in which the necessity of remedial action was questionable given the uncertainty inherent in the derivation of risk values.

The aforementioned information provides the basis for concluding that LF-2 soil and groundwater do not pose an unacceptable current or potential future threat to human health or the environment. Therefore, no RAOs were developed for this site, and no further action is proposed under CERCLA for LF-2. Actions will be performed for final closure of the site in accordance with NHDES landfill closure requirements. NHDES will have jurisdiction over closure activities, and closure plans will be coordinated with the respective NHDES divisions, independent of CERCLA and the FFA.

<u>LF-4</u>

As discussed in Section VI, the results of the baseline risk assessment for Zone 1 indicate that no unacceptable current or potential future threat to human receptors would result from exposure to contaminants in LF-4 soil, or the water table and deep bedrock groundwater beneath LF-4. In addition, the results of the qualitative and quantitative evaluations conducted to assess the potential for inorganic and organic contaminants to leach to groundwater indicated that LF-4 soil contaminants do not pose a leaching concern.

The risk assessment revealed that site soil contaminants posed ecological risks exceeding EPA benchmark values. However, these risks were recalculated in the addendum and resulted in a cumulative hazard index of less than 10. It was determined, based on the recalculated hazard index, that remedial action was not required. For this reason,

development of RAOs and screening of remedial technologies were not performed in response to the ecological risk assessment results.

For these reasons, it was concluded that LF-4 soil and groundwater would require no further action under CERCLA. Closure of the site will proceed under NHDES guidelines independent of CERCLA and the FFA. Closure activities will be coordinated with the respective NHDES divisions, but are not included in this ROD, which addresses only those actions that are required under CERCLA.

LF-5

The human health risk assessment indicated that contaminants in water table and deep bedrock groundwater at LF-5 may pose a health risk to potential future on-zone residents in excess of EPA threshold criteria. To address these potential risks, the following RAOs were developed:

- Prevent off-base migration of contaminated groundwater.
- Protect human receptors from ingestion of contaminated groundwater that may present unacceptable risks in exceedance of EPA's acceptable risk range (total cancer risk greater than 10^{-4}, or a total hazard index greater than 1).
- Comply with chemical-specific ARARs and/or established background levels for specific contaminants in groundwater, as appropriate.

PCDA

The baseline risk assessment conducted during the Zone 1 RI (see Section VI) indicates that PCDA soil does not pose a current or potential threat to human health. Potential risks above those usually considered acceptable by regulatory agencies were calculated for PCDA water table groundwater. However, given the low yields of wells installed in the PCDA and the fact that groundwater is not in contact with PCDA soil most of the year, it is not likely that groundwater could be used for consumptive purposes. In addition, since the PCDA is located in the NHANG cantonment area and the fact that the area is served by public water

supplies, future residential use of the PCDA and human receptor exposure to PCDA groundwater are unlikely.

Qualitative and quantitative evaluations conducted to assess contaminant leaching potential indicated that leaching of dieldrin and manganese from PCDA soil to groundwater is of potential concern. However, PCDA groundwater is not in contact with contaminated soils most of the year, and recent analytical results from two PCDA wells indicate that dieldrin was not detected. In addition, waste materials from the PCDA were removed during the ITPO.

The ecological risk assessment revealed that site soil contaminants posed ecological risks exceeding EPA benchmark values. The majority of the risk (90%) is attributable to lead exposure, based on estimated concentrations in earthworms that impact the potential risk calculated for the shrew and the robin, the potential receptors. However, lead was detected in soil at levels above background in only two of the PCDA locations sampled. It should be noted that ecological risks attributed to soil lead concentrations for both receptors were revised using more reasonable assumptions regarding exposure and toxicity (G-696). The resulting hazard quotients for both species were less than 5. Contaminants contributing the remaining 10% of the potential risk were detected at levels above background in only five closely spaced locations. Many of the levels reported above background were within the statistical margins of error associated with background levels.

Based on the aforementioned observations, it was deemed inappropriate to proceed with remedial alternatives based on human health and ecological risks. Therefore, no RAOs for PCDA soil or groundwater were developed, and the PCDA is considered to require no further action under CERCLA. Closure of the PCDA will proceed in accordance with state requirements and will be coordinated with the respective NHDES divisions, independent of CERCLA and the FFA.

B. Technology and Alternative Development and Screening

CERCLA and the 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 groundwater at Zone 1 that is affected by the LF-5 source area.

With respect to the management-of-migration of contaminated groundwater in the zone, the RI/FS developed a range of three alternatives in which treatment that reduces the TMV hazardous substances is a principal element. One alternative involves the removal or destruction of hazardous substances to the maximum extent feasible, eliminating or minimizing to the degree possible the need for long-term management. A second alternative includes natural attenuation processes to clean contaminated groundwater, institutional controls to restrict the use of groundwater, and monitoring. The third alternative is the no-action alternative.

In Section 3 of the Draft Final Zone 1 FS Report, technologies were identified, assessed, and screened based on implementability, effectiveness, and cost. These technologies were separated into source control (for Flagstone Brook, Pauls Brook, and the Railway Ditch) and management-of-migration alternatives and were presented in Section 4 of the Draft Final Zone 1 FS Report. The purpose of the initial screening was to narrow the number of potential remedial actions for further detailed analysis while preserving a range of options. The retained alternatives were then evaluated in detail and screened in Section 5 of the Zone 1 FS Report.

In summary, all three of the management-of-migration remedial alternatives screened in Section 4 of the Zone 1 FS Report were retained for detailed analysis. Nine source control alternatives pertaining to the drainageways also were retained, but are not discussed in this ROD, as mentioned previously in Section II. Alternatives were not developed for LF-2, LF-4, LF-5, or the PCDA. LF-5 was addressed separately in the LF-5 ROD (G-617). LF-2, LF-4, and the PCDA are considered to require no further action under CERCLA, but are to be closed according to applicable New Hampshire regulations. As part of closure, soil

from LF-2 and LF-4 was excavated and consolidated on LF-5, as specified in the LF-5 ROD (G-617).

VIII. DESCRIPTION OF ALTERNATIVES

This section provides a narrative summary of each management-of-migration alternative that was evaluated in detail in Section 5 of the Zone 1 FS Report. A detailed tabular assessment of each alternative is presented in Tables 5.3-1 through 5.3-3 of the Zone 1 FS Report.

The alternatives analyzed for Zone 1 are as follows:

- Alternative MM-1 — No Action (always considered as required by CERCLA).
- Alternative MM-2 — Limited Action/Natural Attenuation and Biodegradation of Contaminated Groundwater/Institutional Controls/GMZ.
- Alternative MM-3 — Collection of Zone 1 Groundwater with On-Base Treatment using Metals Precipitation/UV Chemical Oxidation/Carbon Adsorption, On-Base Disposal of Groundwater Through Recharge Trenches, and Institutional Controls/GMZ.

Alternative MM-1 — No Action

The no-action alternative was evaluated in detail in the Zone 1 FS to serve as a baseline for comparison with the other remedial alternatives under consideration. Under this alternative, no treatment or containment of groundwater would occur and no action would be taken to control potential migration of contaminants in Zone 1 groundwater.

Alternative MM-2 — Limited Action/Natural Attenuation and Biodegradation of Contaminated Groundwater/Institutional Controls/GMZ

This alternative would consist of the following components:

- Natural attenuation and biodegradation of residual-contaminated groundwater from the LF-5 source area.
- Placement of deed restrictions on future use of groundwater in Zone 1 in the vicinity of the LF-5 source area.

- Establishment of a GMZ in Zone 1 in the vicinity of the LF-5 source area.

- Long-term environmental monitoring in the zone to allow the continued evaluation of the magnitude of contamination, including groundwater, surface water, and sediment sampling and analysis.

Estimated time for design and construction: None required.
Estimated period of operation: Not applicable.
Estimated capital cost: $0.
Estimated operation and maintenance (O&M) cost (net present worth): $2,054,000.
Estimated total cost (net present worth): $2,054,000.

Alternative MM-3 — Collection of Zone 1 Groundwater with On-Base Treatment Using Metals Precipitation/UV Chemical Oxidation/Carbon Adsorption, On-Base Disposal of Groundwater Through Recharge Trenches, and Institutional Controls/GMZ

This alternative would consist of the following components:

- Extraction of contaminated Zone 1 groundwater and on-base treatment via chemical precipitation, UV/chemical oxidation, and carbon adsorption.

- On-base recharge of treated groundwater.

- Placement of deed restrictions on future use of groundwater in Zone 1 in the vicinity of the LF-5 source area.

- Establishment of a GMZ in Zone 1 in the vicinity of the LF-5 source area.

- Long-term environmental monitoring in the zone to allow the continued evaluation of the magnitude of contamination, including groundwater, surface water, and sediment sampling and analysis.

Estimated time for design and construction: 12 months.
Estimated period of operation: 30 years.
Estimated capital cost: $1,947,100.
Estimated O&M cost (net present worth): $5,861,400.
Estimated total cost (net present worth): $7,809,000.

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 has promulgated 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 to select a site remedy. This section presents 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 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 a remedy will meet all of the ARARs or other federal and state environmental laws and/or provide grounds for invoking a waiver.

Primary Balancing Criteria

Once an alternative satisfies the threshold criteria, the following five criteria are used to compare and evaluate the elements of one alternative to another:

3. *Long-term effectiveness and permanence* addresses the criteria that are used 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 TMV through treatment* addresses the degree to which alternatives use recycling or treatment that reduces TMV, 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, O&M, and present-worth costs.

Modifying Criteria

The following modifying criteria are used in the final evaluation of remedial alternatives generally after public comments on the RI and FS Reports and Proposed Plan are reviewed:

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 and FS Reports. Community acceptance of the Proposed Plan for Zone 1 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 are presented in Tables 5.3-1 through 5.3-3 of the Zone 1 FS Report.

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 is shown in Table 30 (Appendix A).

The following subsections present the nine criteria, including the two modifying criteria not discussed in the Zone 1 FS Report; a brief narrative summary of the alternatives; and the strengths and weaknesses of each alternative according to the detailed comparative analysis.

A. Overall Protection of Human Health and the Environment

Alternatives MM-1 (no action) and MM-2 (limited action) would provide protection over the long term because it is expected that cleanup goals would be achieved over the long term through natural attenuation and biodegradation processes. Alternative MM-3 involves extraction and treatment of contaminated groundwater and, as a result, would likely achieve cleanup goals in a shorter time frame than Alternatives MM-1 and MM-2, potentially decreasing the duration of monitoring and institutional controls. Implementation of Alternative MM-3, however, would likely cause impacts on the surrounding wetlands as a result of changes in water table elevation. These impacts on the wetlands would exist for as long as the groundwater extraction system were operational.

B. Compliance with ARARs

The no-action alternative would not comply with ARARs over the short term. Alternative MM-2 or MM-3 would comply with all ARARs in the short term. Alternative MM-3 would likely attain ARARs sooner than other alternatives because it involves extraction and treatment of groundwater. However, the Air Force has modeled the contaminant plume and has estimated that the ARARs would be achieved in 11 years through natural attenuation (no treatment) and 5 years through groundwater extraction and treatment.

C. Long-Term Effectiveness and Permanence

Alternative MM-2 would provide short- and long-term protection to human receptors by eliminating the potential for direct contact with contaminated groundwater via implementation of institutional controls. Long-term groundwater monitoring would track

contaminant levels and would provide early warning of potential contaminant migration outside the boundary of the GMZ.

Alternative MM-3 also would provide short- and long-term protection to human receptors by implementation of institutional controls. However, because this alternative involves extraction and treatment of contaminated groundwater, it is likely that contaminant levels would be reduced to acceptable levels in a shorter time frame than the no-action and limited-action alternatives, thereby reducing the required duration of institutional controls and monitoring. Groundwater extraction and treatment also would minimize potential impacts from groundwater contaminants to downgradient surface water, sediment, and wetlands.

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

The reduction of TMV for Alternatives MM-1 and MM-2 would be through natural attenuation processes. Alternative MM-3 would reduce the TMV of groundwater contaminants via extraction and treatment. However, natural attenuation and groundwater extraction and treatment both will reduce the TMV of groundwater contaminants in relatively short time periods (5 and 11 years, respectively).

E. Short-Term Effectiveness

Implementation of Alternatives MM-1 and MM-2 would not be expected to cause adverse impacts on the environment, the surrounding community, or site workers. However, there would continue to be the potential for contaminated groundwater to discharge to surface water where it could cause potential future risks to ecological receptors.

Implementation of Alternative MM-3 would not be expected to cause any impacts on the community or site workers. The groundwater treatment plant will use UV chemical oxidation, which produces little to no volatile air emissions. However, Alternative MM-3 would impact the surrounding wetlands via lowering of the water table. Treated

groundwater would be reinjected to offset these impacts, but the net impact to wetlands would remain significant.

F. Implementability

All of the alternatives evaluated are implementable from a technical standpoint and have been used successfully at other sites. The major difference among alternatives in this category is the length of time necessary to implement the remediation. From a regulatory perspective, the no-action alternative would not be implementable because it would not comply with federal and state requirements.

G. Cost

The estimated present-worth costs of the alternatives are as follows:

Remedial Alternative	Capital Cost	Present-Worth O&M Cost at Year 30	Total Present-Worth Cost
1. No Action	Not costed	Not costed	Not costed
2. Limited Action/Natural Attenuation and Biodegradation of Contaminated Groundwater/Institutional Controls/ GMZ	$0	$2,054,000	$2,054,000
3. Collection of Zone 1 Groundwater and On-Base Treatment Using Metals Precipitation/UV Chemical Oxidation/Carbon Adsorption, On-Base Disposal of Groundwater Through Recharge Trenches, and Institutional Controls	$1,947,100	$5,861,400	$7,809,000

H. State Acceptance

NHDES has been involved in the environmental activities at Pease AFB since the mid-1980s, as summarized in Section II. The RI was performed with an Air Force lead, with NHDES 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 provided in Appendix B.

I. Community Acceptance

The comments received during the public comment period and the public hearing on the Zone 1 Proposed Plan are summarized in the Responsiveness Summary (see Appendix C). The selected remedy has not been significantly modified from that presented in the Proposed Plan.

X. THE SELECTED REMEDY

The selected remedy (Alternative MM-2) involves the removal of groundwater contaminants in Zone 1 in the vicinity of the LF-5 source area by natural physical and chemical attenuation processes, such as biodegradation, volatilization, and dilution. The remedy also includes the placement of deed restrictions on the use of groundwater in a GMZ and monitoring of groundwater in this GMZ. The selected remedy is a comprehensive one in that it minimizes exposure to site contaminants and attains the overall Zone 1 objectives of managing the migration of contaminated groundwater.

A. Methodology for Cleanup Level Determination

Cleanup levels were evaluated for each medium of concern in Zone 1. Cleanup goals have been established for chemicals of concern identified in the risk assessment section of the Draft Final Zone 1 RI Report (G-623) and for contaminants detected at levels exceeding ARARs, risk-based concentrations, or background values.

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 Draft Final Zone 1 RI Report (G-623). 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 submitted. In summary, risk-based concentrations were derived from the chemicals of concern in each medium, based on the most reasonable maximally exposed human receptor (current or future) for the medium.

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., noncancer risk).

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

In general, where ARARs were available and deemed appropriate, the ARARs were selected as cleanup goals. Where ARARs were not available, or if the basis on which the ARAR was established was not consistent with Zone 1 exposure scenarios, a risk-based concentration or background value was selected as the cleanup goal. When ARARs were selected as the cleanup goals, a human health risk was calculated for the ARAR concentration. Cleanup goals were not established for chemicals detected at maximum concentrations that were lower than appropriate ARARs or risk-based concentrations. Cleanup goals for media in Zone 1 are summarized in the subsections that follow.

B. Groundwater Cleanup Goals

The results of the evaluation of the human health risk assessment for groundwater indicated that LF-5 groundwater posed cancer and noncancer risks to future on-zone residents in excess of EPA threshold criteria. A comparison of maximum detected concentrations in groundwater with ARARs indicated the several chemical-specific ARARs were exceeded. Therefore, risk-based concentrations, chemical-specific ARARs, and background levels (inorganics only) were evaluated in the development of cleanup goals for LF-5 groundwater. Based on a similar evaluation of groundwater at LF-2, LF-4, and the PCDA, no cleanup goals were established. Therefore, no further action is proposed for LF-2, LF-4, and the PCDA groundwater under CERCLA.

The list of groundwater contaminants that were evaluated for establishing groundwater cleanup goals was limited to groundwater chemicals of concern at LF-5. The groundwater cleanup goal selection tables on pages 80 and 81 present the maximum detected concentration, chemical-specific ARARs, risk-based concentrations, and the cleanup goals established for each contaminant. Cleanup goals were established for 10 contaminants in LF-5 groundwater. Contaminants for which cleanup goals were established consist of six organics, one PCB, and three inorganics.

C. Soil Cleanup Goals

The results of the human health risk assessment indicated that no unacceptable health effects (cancer risks greater than 10^{-4}, or hazard indices greater than 1) to human receptors resulting from incidental ingestion of, or dermal contact with, contaminated soil at LF-2, LF-4, or the PCDA are expected. At LF-2, LF-4, and the PCDA, the ecological risk assessment and addendum to the ecological risks (G-696) revealed several soil contaminants that posed ecological risk exceeding EPA benchmark values; however, the levels of ecological risk posed by detected contaminant concentrations were in a range in which the necessity of remedial action was questionable given the uncertainty inherent in calculating ecological risk values.

Based on the preceding information, cleanup goals for soil in Zone 1 are not necessary and have not been established.

D. Description of Remedial Components

The selected remedy (Alternative MM-2) for Zone 1 will involve the following key components:

Cleanup Goal Selection – Water Table Groundwater

Chemical	Cleanup Goal
Organics (µg/L)	
Benzene[a]	5.0
Bis(2-ethylhexyl) phthalate[a]	6.0
Dichloroethane (1,1-)[a]	8.1
Tetrachloroethene[a]	5.0
Trichloroethene[a]	5.0
Vinyl chloride[a]	2.0
Pesticides/PCBs (µg/L)	
Aroclor-1260[a]	0.5
Inorganics (mg/L)	
Arsenic[b]	0.05
Manganese[c]	0.942
Thallium[b]	0.002

[a]Risk-based value.
[b]Regulatory-based value.
[c]Maximum background concentration.

Cleanup Goal Selection — Deep Bedrock Groundwater

Chemical	Cleanup Goal
Organics (µg/L)	
Benzene[a]	5
Bis(2-ethylhexyl) phthalate[a]	6
Dichloroethane (1,1-)[a]	8.1
Tetrachloroethene[a]	5
Trichloroethene[a]	5
Inorganics (mg/L)	
Arsenic[b]	0.05
Thallium[b]	0.002

[a]Risk-based value.
[b]Regulatory-based value.

- Natural attenuation and biodegradation of residual-contaminated groundwater in Zone 1 in the vicinity of the LF-5 source area.
- Placement of deed restrictions on future use of groundwater in Zone 1 in the vicinity of the LF-5 source area.
- Establishment of a GMZ in Zone 1 in the vicinity of the LF-5 source area.
- Long-term environmental monitoring in the zone to allow the continued evaluation of the magnitude of contamination, including groundwater, surface water, and sediment sampling and analysis.

Detailed descriptions of the various components follow.

Institutional Controls

Alternative MM-2 involves the establishment of a GMZ and placement of deed restrictions on the use of groundwater within the GMZ in the vicinity of the LF-5 source area. Deed restrictions will prohibit the use of groundwater by any current or future landowner(s). Preventing the use of groundwater will reduce the potential for human receptor contact with and ingestion of potentially contaminated groundwater. It is expected that these restrictions will remain in effect until groundwater cleanup goals are achieved.

Environmental Monitoring

A long-term environmental monitoring plan, including groundwater, surface water, and sediment sampling and analysis, will be implemented to allow for the continued evaluation of the effectiveness of the selected remedial action in Zone 1. Groundwater will be monitored to support the establishment of the GMZ, and to satisfy state landfill closure requirements (NH Env-Wm 2507.00 et seq.).

Groundwater samples will be collected from monitor wells located at or near the perimeter of the GMZ. Analytes will include VOCs, SVOCs, and metals. Within the GMZ, monitor wells selected to evaluate the LF-5 source area also will be sampled. Per CERCLA guidance, it is assumed that monitoring will continue for 30 years, or until determined

otherwise during the SARA review process. However, the sampling program will be conducted until cleanup goals are achieved.

Modifications to the monitoring plan will be expected over time, based on interpretation of the analytical results. In addition, over the long term, it is likely that fewer monitoring locations would be required because of the effectiveness of the remedial action in removing the source materials in LF-5 and eliminating contact of these materials with groundwater.

XI. STATUTORY DETERMINATION

The remedial action selected for implementation for Zone 1 is consistent with CERCLA and the NCP. The selected remedy is protective of human health and the environment, attains ARARs, and is cost effective.

A. The Selected Remedy Is Protective of Human Health and the Environment

The remedy at Zone 1 will permanently reduce the risks posed to human health and the environment by eliminating, reducing, or controlling exposures to human and ecological receptors through treatment, engineering controls, and institutional controls. Specifically, this will be accomplished through the natural attenuation and biodegradation of contaminated groundwater, the establishment of a GMZ, and deed restrictions on groundwater use in Zone 1 within the established GMZ.

B. The Selected Remedy Attains ARARs

This remedy will attain all applicable or relevant and appropriate federal and state requirements that apply to Zone 1. Environmental laws from which ARARs for the selected remedial action are derived, and the specific ARARs include:

- Chemical-specific ARARs.
  - Safe Drinking Water Act (SDWA).
  - State of New Hampshire Regulations.
- Location-specific ARARs.
  - Executive Order 11888, Protection of Floodplains.
  - Executive Order 11990 (40 CFR 6, Appendix A), Protection of Wetlands.
  - Fish and Wildlife Coordination Act (FWCA).
  - State of New Hampshire Regulations.

- Action-specific ARARs.

  - Resource Conservation and Recovery Act (RCRA).
  - State of New Hampshire Regulations.

The basewide ARARs document (G-614) identifies ARARs for Pease AFB and provides a detailed discussion of ARARs. Table 31 (Appendix A) provides a complete list of ARARs and to be considered (TBC) criteria for Alternative MM-2, including regulatory citations, requirement synopses, actions to be taken to attain the requirements, and determinations as to whether the requirement is applicable, relevant, and appropriate, or to be considered.

C. The Selected Remedy Is Cost Effective

The Air Force considers the selected remedy to be cost effective (i.e., the remedy affords overall effectiveness proportional to its cost). Once alternatives that are 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.

A summary of the costs of each remedial alternative follows. All costs are presented in net present-worth costs.

Remedial Alternative	Capital Cost	Present-Worth O&M Cost at Year 30	Total Present-Worth Cost
1. No Action	Not costed	Not costed	Not costed
2. Limited Action/Natural Attenuation and Biodegradation of Contaminated Groundwater/Institutional Controls/GMZ	$0	$2,054,000	$2,054,000

Remedial Alternative	Capital Cost	Present-Worth O&M Cost at Year 30	Total Present-Worth Cost
3. Collection of Zone 1 Groundwater and On-Base Treatment Using Metals Precipitation/UV Chemical Oxidation/Carbon Adsorption, On-Base Disposal of Groundwater Through Recharge Trenches, and Institutional Controls/GMZ	$1,947,100	$5,861,400	$7,809,000

Alternative MM-2 is the most cost effective, and the relationship of its overall effectiveness to its cost is proportional. A summary of the costs of key elements associated with Alternative MM-2 (in net present-worth costs) is presented as follows:

Component of Remedy	Present-Worth Cost
Groundwater Sample Collection and Data Reporting	$553,600
Laboratory Analyses	$1,305,000
Monitor Well Maintenance	$64,700
SARA Review	$130,700
Total	$2,054,000

D. The Selected Remedy Uses 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 the alternative that uses 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 most favorable balance in consideration of the following factors: (1) long-term effectiveness and permanence; (2) reduction of TMV through treatment; (3) short-term effectiveness; (4) implementability; and (5) cost. The balancing test emphasized long-term effectiveness and permanence, the reduction of TMV through treatment, community and state acceptance, and the preference

for treatment as principal element and community and state acceptance. Of the alternatives evaluated, the selected remedy provides the most favorable balance of the factors considered.

Alternative MM-3 includes treatment of contaminated groundwater, and, based on an emphasis on the reduction of TMV through treatment, this alternative slightly outranks Alternatives MM-1 and MM-2. Over the long term, however, it is expected that Alternatives MM-1, MM-2, and MM-3 will achieve the same level of reduction in TMV. However, the cost of Alternative MM-3 exceeds those of Alternative MM-2 by 500%.

E. The Selected Remedy Satisfies the Preference for Treatment That Permanently and Significantly Reduces the Toxicity, Mobility, or Volume of the Hazardous Substances as a Principal Element

The principal element of the selected remedy is the management of groundwater contamination. Treatment is not the principal element of the selected alternative because treatment does not significantly reduce the amount of time necessary to achieve cleanup goals. Furthermore, treatment is not cost effective, given that reduction in TMV through natural attenuation is an available option.

XII. DOCUMENTATION OF SIGNIFICANT CHANGES

The Draft Final Zone 1 FS Report (G-622) was submitted in December 1993. The description of Alternative MM-2 was presented in the Zone 1 Proposed Plan (G-697). No changes to the Zone 1 selected remedy have occurred since issuance of the Zone 1 Proposed Plan.

XIII. STATE ROLE

NHDES has reviewed the various alternatives and has indicated its support for the selected remedy. NHDES also has reviewed the Zone 1 RI and FS Reports, including the risk assessment, to determine whether the selected remedy is in compliance with applicable or relevant and appropriate state environmental laws and regulations. NHDES concurs with the selected remedy for Zone 1. A copy of the Declaration of Concurrence is provided in Appendix B.

REFERENCES

G-84 CH_2M Hill. 1984. Installation Restoration Program Records Search for Pease AFB, NH.

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LIST OF ACRONYMS

AFB	Pease Air Force Base
AFCEE/ESB	Air Force Center for Environmental Excellence Base Closure Division
AHCs	aromatic hydrocarbons
ARARs	applicable or relevant and appropriate requirements
BAFs	bioaccumulation factors
BFSA	Bulk Fuel Storage Area
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CTVs	critical toxicity values
DEQPPM	Defense Environmental Quality Program Policy Memorandum
DOD	Department of Defense
DOI	Department of the Interior
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FFA	Federal Facilities Agreement
ft BGS	feet below ground surface
FWCA	Fish and Wildlife Coordination Act
GMZ	Groundwater Management Zone
GT	Glacial Till
HHCs	halogenated hydrocarbons
HQ AFBCA	Headquarters Air Force Base Conversion Agency
IRM	Interim Remedial Measure
IRP	Installation Restoration Program
ITPO	intensive test pit operation
ITR	Interim Technical Report
LF-2	Landfill 2
LF-3	Landfill 3
LF-4	Landfill 4
LF-5	Landfill 5
MCLs	Maximum Contaminant Levels
MOU	Memorandum of Understanding
NCP	National Contingency Plan
NFADD	No Further Action Decision Document
NHANG	New Hampshire Air National Guard
NHDES	New Hampshire Department of Environmental Services
NPL	National Priorities List
O&M	operation and maintenance
OHCs	Oxygenated hydrocarbons
OUs	operable units
PA/SI	Preliminary Assessment/Site Investigation
PA/SI	Preliminary Assessment/Site Inspection
PAHs	Polynuclear aromatic hydrocarbons
PCB	polychlorinated biphenyl
PCDA	Paint Can Disposal Area
PCE	tetrachloroethene

LIST OF ACRONYMS
(Continued)

PDA	Pease Development Authority
PEA	3 letter site code
Pease AFB	Pease Air Force Base
QAPP	Quality Assurance Project Plan
RAOs	remedial action objectives
RCRA	Resource Conservation and Recovery Act of 1976
RfD	reference dose
RI/FS	Remedial Investigation/Feasibility Study
RI	Remedial Investigation
RME	reasonable maximally exposed
ROD	Record of Decision
ROs	remedial objectives
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SVOCs	semivolatile organic compounds
TBC	to be considered
TCE	Trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
TMV	toxicity, mobility, or volume
TPHs	Total petroleum hydrocarbons
TRC	Technical Review Committee
USAFOEHL	U.S. Air Force Occupational and Environmental Health Laboratory
UST	Underground Storage Tank
VOC	volatile organic compound
WESTON®	Roy F. Weston, Inc.

APPENDIX A

TABLES

Table 1

Summary of Stage 1 Through Stage 4 Activities
Zone 1, Pease AFB, NH

Stage 1 Activities			
Date	**Activity**	**Sampling Points**	**Purpose**
11/84	Surface water sampling	SW-1, 2, 3, 4, 5, 6, 7, 8, 9	Evaluate surface water for TOX, TOC, O&G (1-9) cyanide, phenols, metals, and lindane (2-9).
11/84-2/85	Monitor well installation and development	501 through 509	Establish groundwater monitoring points around LF-2, LF-4, LF-5, and the BFSA.
2/85-3/85	Slug test	501, 502, 503, 504, 506, 507, 509	Evaluate hydraulic conductivity.
3/85	Surface water sampling	SW-1, 2, 3, 4, 5, 6, 7, 8, 9	Evaluate surface water for TOX, TOC, O&G (1-9), cyanide, phenols, metals, and lindane (2-4, 6-9 only).
3/85-4/85	Groundwater sampling (round 1)	501 through 509	Evaluate groundwater for TOX, TOC, O&G, cyanide (501 through 509), phenols, metals, and lindane (505 through 509 only).
4/85-5/85	Groundwater sampling (round 2)	501 through 509	Same as round 1.
5/85	Surveying	501 through 509	Determine elevations and locations.
8/85-9/85	Surface water resampling	SW-1, 2, 3, 4, 5, 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	505	Re-evaluate groundwater for phenols, cyanide, and lindane because holding times were exceeded.

Table 1

Summary of Stage 1 Through Stage 4 Activities
Zone 1, Pease AFB, NH
(Continued)

Stage 2 Activities			
Date	**Activity**	**Scope**	**Purpose**
10/87-1/88	Aerial photograph review	Photographs from 1952, 1960, and 1976	Evaluate areal extent of and surface topography of Zone 1 sites.
10/87-1/88	Magnetometer survey	25- x 50-ft grids 10- x 10-ft subgrids (Landfill-2, -3, -4, -5)	Evaluate areas of buried ferrous material (i.e., drums).
10/87-1/88	GPR survey	10- x 10-ft subgrids (Landfills -2, -4, -5)	Verify anomalous magnetometer readings.
Begin 11/87	Water-level measurements (quarterly)	Stage 1 wells, Stage 2 wells, piezometers, gages as installed	Evaluate hydrologic characteristics.
12/87	Resurvey	Monitor wells 501 through 509	Verify locations and elevations.
3/88-4/88	Test pit excavation	02-905 through 908 03-909, 910 04-911 through 914 05-915 through 929	Investigate magnetic and GPR anomalies; determine depth and character of fill.
3/88-4/88	Piezometer installation	02-905 03-910 04-911, 914 05-916, 919, 920, 924, 929n, 929s	Obtain water-level measurements.
4/88	Soil borings	03-700, 768, 769	Characterize soil contamination.
4/88	Piezometer installation	03-700, 769	Obtain water-level measurements.

Table 1

Summary of Stage 1 Through Stage 4 Activities
Zone 1, Pease AFB, NH
(Continued)

Stage 2 Activities (Continued)			
Date	**Activity**	**Scope**	**Purpose**
4/88	Staff gage installation	26-818 through 824 23-813	Obtain water-level measurements; establish surface water and sediment sampling locations.
4/88-5/88	Survey	Test pits, borings, gages, and piezometers	Determine elevations and locations.
9/88-10/88	Water table and bedrock well installation and development	02-537 03-538 05-604, 605, 606	Evaluate overburden and bedrock water quality.
10/88	Test pit excavation	02-968, 969, 970 04-971, 972, 973, 980, 981 05-974, 975, 976	Evaluate refuse type and saturated thickness.
10/88	Piezometer installation	04-972, 981	Obtain water-level measurements.
11/88-12/88	Survey	Monitor wells and test pits	Determine elevations and locations.
11/88	Surface water and sediment sampling	23-813 26-818 through 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.
11/88	Minirate pumping test	05-604	Estimate hydraulic conductivity.
11/88-12/88	Round 1 groundwater sampling	02-506, 507 03-538 04-508, 509 05-505, 604, 605, 606 13-501, 502, 503, 504	Evaluate groundwater for VOCs, SVOCs, pesticides/PCBs, herbicides, dissolved metals, common anions, total hardness, and nitrate/nitrite.

Table 1

Summary of Stage 1 Through Stage 4 Activities
Zone 1, Pease AFB, NH
(Continued)

Stage 2 Activities (Continued)			
Date	**Activity**	**Scope**	**Purpose**
5/89	Surface water and sediment sampling	23-813 26-818 through 824	Evaluate surface water for VOCs, pesticides/PCBs, total metals, BOD, and ammonia/nitrogen. Evaluate sediment for cyanide.
5/89	Round 2 groundwater sampling	02-506, 507, 537 03-538 04-508, 509 05-505, 604 13-501, 502, 503, 504	Evaluate groundwater for VOCs, SVOCs, pesticides/PCBs, herbicides, dissolved metals, common anions, total hardness, nitrate/nitrite.
Stage 3 Activities			
9/89	Sediment and surface water sampling	10 locations (818 through 824, 826 through 828)	Evaluate surface water quality and measure its potential effect on macroinvertebrate populations.
10/89	Stratigraphic boring	05-7000	Optimize monitor well location and screen depth.
10/89	Water table well installation	05-567, 05-568	Evaluate overburden groundwater quality.
10/89-1/90	Drum removal IRM	1-acre tract; southeastern section of landfill.	IRM performed to remove possible contaminant source.
11/89-12/89	Bedrock well installation	05-625 through 05-630	Evaluate bedrock groundwater quality.
11/89-4/90	Column leaching test	405, 406, 407, 408	Evaluate effect of soil contamination on groundwater quality.
1/90	Chemical analysis hand auger boring	05-7011	Obtain laboratory analysis during drum removal.
2/90	Minirate pumping tests	05-625, 05-627 through 05-630	Evaluate aquifer characteristics.

Table 1

Summary of Stage 1 Through Stage 4 Activities
Zone 1, Pease AFB, NH
(Continued)

Stage 3 Activities (Continued)			
Date	**Activity**	**Scope**	**Purpose**
3/90, 10/90, 6/91, 8/91, 10/91	Groundwater sampling	See groundwater analyte summary table (Appendix B).	Characterize bedrock and overburden groundwater quality in the LF-5 area.
9/90	Water table well installation	05-578	Evaluate overburden groundwater quality west of LF-5. Paired with bedrock well 629 to calculate vertical hydraulic gradient.
5/91	Test pit excavation	44-9001 through 44-9010	Investigate potential PCE source upgradient of LF-5.
5/91	Landfill cover soil sampling	32 locations (336 through 367) 200- x 200-ft grid	Characterize landfill cover material to assess air, direct contact, and surface runoff pathways.
5/91	Stratigraphic borings	03-7054, 05-7055, 05-7056, 05-7079, 13-7053, 44-7049 through 44-7052	Optimize locations and screen intervals for overburden monitor wells.
5/91-6/91	Piezometer installation	03-7054, 05-7040 through 05-7046, 13-7053, 44-7049 through 44-7052	Monitor water levels in overburden.
5/91-6/91	Borehole permeability borings	05-7039 through 05-7048	Installed to conduct borehole permeability tests within LF-5.
5/91-6/91	Borehole permeability tests	05-7039 through 05-7048	Further delineate landfill solid waste and establish permeability values in the underlying material.
5/91-7/91	Bedrock well installation	05-6003 through 05-6006	Evaluate bedrock water quality in/near LF-5.
5/91-7/91	Water table well installation	05-5007, 13-5008, 44-5015	Evaluate extent of PCE in groundwater.

Table 1

Summary of Stage 1 Through Stage 4 Activities
Zone 1, Pease AFB, NH
(Continued)

Stage 3 Activities (Continued)			
Date	**Activity**	**Scope**	**Purpose**
5/91-7/91	Water table well installation	05-5009 through 05-5011, 05-5014	Monitor overburden water quality. Paired with bedrock wells to calculate vertical hydraulic gradient.
5/91-7/91	Water table well installation	05-5012, 05-5013	Monitor water quality hydraulically downgradient of the northern trench area.
5/91-7/91	Bedrock well installation	44-6001, 44-6002	Evaluate bedrock water quality upgradient of LF-5. Delineate potential PCE source.
6/91	Sediment and surface water sampling	17 locations (818 through 824, 827, 828, 8031 through 8038)	Evaluate surface water quality and measure potential impacts to macroinvertebrate populations from surface water/sediment contamination.
6/91, 10/91	Wetlands delineation	In and adjacent to LF-5	Identify wetlands areas.
7/91	Pumping test	48-hour test on well 05-630	Estimate hydraulic conductivity of the bedrock aquifer beneath the landfill.
9/91	Test pit excavation and soil sampling	05-9012 through 05-9021	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 through 8074, 8079)	Further characterize known contamination.
11/91	Surface soil sampling	46-372 through 46-377	Evaluate herbicide usage along railroad tracks.

Table 1

Summary of Stage 1 Through Stage 4 Activities
Zone 1, Pease AFB, NH
(Continued)

Stage 4 Activities			
Date	**Activity**	**Scope**	**Purpose**
8/91	Surface soil samples	02-3009 through 3011 04-3012 through 3017	Characterize landfill cover material to assess air, direct contact, and surface runoff pathways.
9/91 to 11/91	Stratigraphic, characterization, and exploratory borings	13-7280 through 7299; 7350 through 7369; 7453	Characterize soil quality and determine lithology.
9/91 to 10/91	Piezometer installation	13-7280, 7284d, 7284s, 7285, 7287, 7291, 7294, 7299, 7353, 7354, 7355, 7358, 7359, 7360, 7361, 7363, 7369	Characterize overburden groundwater flow direction.
11/91	Water table/bedrock well installation	13-5045, 5047, 6036, 6037	Evaluate groundwater quality and flow direction adjacent to the BFSA.
5/92	Stratigraphic borings	04-7461, 7467, 7464, 7465	Characterize lithology and optimize monitor well/piezometer placement.
5/92	Piezometer installation	04-7462, 7466	Evaluate overburden groundwater quality downgradient of LF-4.
5/92	Bedrock well installation	04-6052	Evaluate bedrock groundwater quality downgradient of LF-4.
6/92	Water table well installation	13-5069	Evaluate overburden groundwater quality downgradient of the BFSA.
6/92-8/92	Intensive test pit operation (ITPO)	44-9029 through 9049	Characterize the PCDA soil and debris. Remove drums and contaminated soil.
8/92	Test pits	02-9072 through 9084 04-9063 through 971	Characterize soil and debris in LF-2 and LF-4.

Table 1

Summary of Stage 1 Through Stage 4 Activities
Zone 1, Pease AFB, NH
(Continued)

Stage 4 Activities (Continued)			
Date	**Activity**	**Scope**	**Purpose**
8/92	Surface water samples	26-8106, 8110, 8111, 8114 13-8157	Evaluate surface water quality and further delineate known contamination.
8/92	Sediment samples	23-8118, 8120 through 8125 26-818A, 819A, 821A, 8106 through 8117, 8119 13-8157	Evaluate sediment quality and further delineate known contamination.
8/92	Water table well installation	13-5097	Evaluate overburden groundwater quality.
8/92-9/92	Stratigraphic borings	13-7514, 7515, 7517, 7518, 7519, 7540, 7546, 7549, 7550, 7558, 7560, 7562 44-7572	Characterize lithology and optimize monitor well placement.
8/92-9/92	Piezometer installation	13-7517, 7546	Characterize overburden groundwater flow.
9/92	Surface soil sampling	44-3044 through 3049	Characterize surface soil to assess air, direct contact, and surface water pathway.
10/92-11/92	Bedrock well installation	44-6087, 6088, 6089, 6091	Evaluate groundwater quality in fractured and competent bedrock. Characterize bedrock flow direction.
10/92-11/92	Stratigraphic borings	44-7627, 7644, 7646, 7647, 7652, 7657, 7666, 7675, 7681, 7700, 7710, 7718, 7721, 5098	Characterize lithology.
10/92-11/92	Piezometer installation	44-7644, 7646, 7647, 7652, 7657, 7675, 7710, 7718, 7721	Characterize overburden groundwater flow direction and groundwater quality.

Table 1

Summary of Stage 1 Through Stage 4 Activities
Zone 1, Pease AFB, NH
(Continued)

Stage 4 Activities (Continued)			
Date	**Activity**	**Scope**	**Purpose**
11/92-12/92	Bedrock well installation	02-6094, 6100 04-6102 05-6101 13-6090, 6092, 6093, 6095, 6096, 6104, 6105	Evaluate bedrock groundwater quality.
11/92-12/92	Water table well installation	05-5113	Evaluate overburden groundwater quality.
11/92-12/92	Stratigraphic borings	02-7755, 7774, 7775, 7783, 7787 04-7788, 7789, 7791 13-7723, 7734, 7758, 7759, 7763, 7764, 7793, 7794	Characterize lithology and optimize monitor well placement.
11/92-12/92	Piezometer installation	02-7755, 7775, 7783 04-7789, 7791 13-7723, 7759, 7793, 7794	Characterize lithology and monitor water levels in overburden.
12/92	Surface water/sediment samples	8177, 8178, 8179	Evaluate surface water/sediment quality and further delineate known contamination.
12/92	Groundwater sampling	See Subsection 2.4.7.2	Assess potential groundwater contamination.
1/93	Groundwater sampling	See Subsection 2.4.7.2	Assess potential groundwater contamination.
1/93	HydroPunch® borings	44-7833 through 7836, 7838 through 7840, 7842 through 7845	Evaluate groundwater quality.
1/93	Stratigraphic borings	44-7832, 7841	Characterize lithology.

Table 1

Summary of Stage 1 Through Stage 4 Activities
Zone 1, Pease AFB, NH
(Continued)

Stage 4 Activities (Continued)			
Date	**Activity**	**Scope**	**Purpose**
1/93	Piezometer installation	13-7837	Replace 13-7280, which was inadvertently destroyed and subsequently abandoned.
1/93	Pumping test	48-hour test on well 13-6104	Evaluate aquifer characteristics within Zone 1.
1/93-2/93	Slug tests	02-6100, 6094, 7775, 7783 04-6102 05-5113, 6101 13-5069, 6090, 6092, 6096, 6104, 6105, 7723 44-6091, 7644, 7646, 7647, 7652, 7657, 7675, 7710	Evaluate overburden and bedrock aquifer characteristics.
6/93	Test pits	13-9174 through 9193; 9203 through 9205	Evaluate the extent of contamination.
6/93	Groundwater sampling	See Subsection 2.4.7.2 of the Zone 1 RI Report	Assess potential groundwater contamination

Table 2

Summary of Highest Organics Concentrations in Soils — LF-2 Zone 1, Pease AFB, NH

Compound	Maximum Concentration Detected (mg/kg)	Sample ID	Sampling Interval (ft BGS)
Volatile Organics Aromatic Hydrocarbons			
Xylene (total)	0.011 J	3009-S001	0-1.0
Oxygenated Hydrocarbons			
Diethyl ether	0.003 J	9080-S002 9079-S003	2.0 3.0
Semivolatile Organics PAHs			
Acenaphthene	0.98 J	3009-S001	0-1.0
Acenaphylene	1.3 J	3009-S001	0-1.0
Anthracene	4.0	3009-S001	0-1.0
Benzo(a)anthracene	8.8	3009-S001	0-1.0
Benzo(a)pyrene	9.4	3009-S001	0-1.0
Benzo(b)fluoranthene	7.4	3009-S001	0-1.0
Benzo(g,h,i)perylene	6.9	3009-S001	0-1.0
Benzo(k)fluoranthene	7.8	3009-S001	0-1.0
Chrysene	9.9	3009-S001	0-1.0
Dibenzo(a,h)anthracene	2.9 J	3009-S001	0-1.0
Dibenzofuran	1.9 J	3009-S001	0-1.0
Fluoranthene	22	3009-S001	0-1.0
Fluorene	4.0	3009-S001	0-1.0
Indeno(1,2,3-cd)pyrene	5.8	3009-S001	0-1.0
2-Methylnaphthalene	1.7 J	3009-S001	0-1.0
Naphthalene	1.5 J	3009-S001	0-1.0
Phenanthrene	26.0	3009-S001	0-1.0
Pyrene	22.0	3009-S001	0-1.0

Table 2

Summary of Highest Organics Concentrations in Soils — LF-2 Zone 1, Pease AFB, NH (Continued)

Compound	Maximum Concentration Detected (mg/kg)	Sample ID	Sampling Interval (ft BGS)
PCBs			
Arochlor-1248	11.0	9079-S003	3.0
Arochlor-1254	18.0	9079-S003	3.0
Other			
Benzoic acid	0.42 J	3009-S001	0-1.0

J = Estimated concentration compound detected below laboratory quantification limits.

Shading = Location where maximum detected concentration exceeded the background value.

Table 3

Summary of Highest Metals Concentrations in Soils — LF-2 Zone 1, Pease AFB, NH

Element	Maximum Concentration Detected (mg/kg)	Sample ID	Sampling Interval (ft BGS)
Aluminum	12,200	9079-S003	3.0
Arsenic	10.2	3009-S001	0-1.0
Boron	26.1 J	9079-S003	3.0
Barium	50.4	9079-S003	3.0
Beryllium	0.79	3009-S001	0-1.0
Calcium	1,580	3009-S001	0-1.0
Chromium	17.5	9079-S003	3.0
Cobalt	15.7	3009-S001	0-1.0
Copper	25.8	9079-S003	3.0
Iron	22,800	9079-S003	3.0
Lead	44.6	3010-S002	2.0
Magnesium	3,630	9079-S003	3.0
Manganese	512	3009-S001	0-1.0
Nickel	41.1	9079-S003	3.0
Silicon	1,580	3009-S001	0-1.0
Vanadium	23.6	3009-S001	0-1.0
Zinc	60.2	9079-S003	3.0

J = Estimated concentration compound detected below laboratory quantification limits.

Table 4

Summary of Highest Concentrations of Organics in Soils — LF-4 Zone 1, Pease AFB, NH

Compound	Maximum Concentration Detected (mg/kg)	Sample ID	Sampling Interval (ft BGS)
Volatile Organics Aromatic Hydrocarbons			
1,4-Dichlorobenzene	0.035	9069-S003	3.0
Toluene	0.85	9069-S003	3.0
Chlorobenzene	0.002 J	9069-S003	3.0
Ethylbenzene	0.018	9069-S003	3.0
Xylene (total)	0.043	9069-S003	3.0
Oxygenated Hydrocarbons			
Diethyl ether	0.003 J	9069-S003	3.0
Semivolatile Organics PAHs			
Acenaphthene	0.43 J	9067-S002	2.0
Anthracene	0.41	9068-S012	9.0-13.0
Benzo(a)anthracene	2.6	9067-S002	2.0
Benzo(a)pyrene	2.5	9067-S002	2.0
Benzo(b)fluoranthene	2.4	9067-S002	2.0
Benzo(g,h,i)perylene	1.8	9067-S002	2.0
Benzo(k)fluoranthene	2.4	9067-S002	2.0
Chrysene	2.7	9067-S002	2.0
Dibenzo(a,h)anthracene	0.61	9067-S002	2.0
Dibenzofuran	0.27 J	9068-S012	9.0-13.0
Fluorene	0.49	9068-S012	9.0-13.0
Fluoranthene	6.0	9067-S002	2.0
Indeno(1,2,3-c,d)pyrene	1.7	9067-S002	2.0
2-Methylnaphthalene	0.30 J	9069-S003	3.0
Naphthalene	0.57 J	9069-S003	3.0

Table 4

Summary of Highest Concentrations of Organics in Soils — LF-4 Zone 1, Pease AFB, NH (Continued)

Compound	Maximum Concentration Detected (mg/kg)	Sample ID	Sampling Interval (ft BGS)
Semivolatile Organics (continued)			
Phenanthrene	4.1	9067-S002	2.0
Pyrene	4.9 J	9067-S002	2.0
Phthalates			
Bis(2-ethylhexyl) phthalate	8.9	9069-S003	3.0
Di-n-butylphthalate	0.055 J	3016-S002	0-2.0
Diethylphthalate	0.054 J	9068-S012	9.0-13.0
Phenols			
4-Methylphenol	0.091 J	9069-S003	3.0
4-Nitrophenol	0.16 J	3014-S002	0-2.0
2,4-Dinitrophenol	0.14 J	3014-S002	0-2.0
Nitrogenated Semivolatiles			
n-Nitrosodiphenylamine	0.074 J	9068-S012	9.0-13.0
Pesticides			
4,4'-DDD	0.0025 J	3017-S002	0-2.0
4,4'-DDE	0.0014 J	3013-S002	0-20
4,4'-DDT	0.0041 J	3016-S002	0-2.0
gamma-BHC (lindane)	0.00036 J	3013-S002	0-2.0
PCBs			
Aroclor-1232	2.3	9069-S003	3.0
Aroclor-1242	3.1 J	9068-S012	9.0-13.0
Aroclor-1254	0.31 J	9069-S003	3.0

Table 4

Summary of Highest Concentrations of Organics in Soils — LF-4 Zone 1, Pease AFB, NH (Continued)

Compound	Maximum Concentration Detected (mg/kg)	Sample ID	Sampling Interval (ft BGS)
Other			
Benzoic acid	0.37 J	3014-S002	0-2.0
Total petroleum hydrocarbons (E418.1)	11,500	911-S001	0-1.0
TPH (SW8100)	34.2	9069-S003	3.0

J = Estimated concentration compound detected below laboratory quantification limits.
Shading = Location where maximum detected concentration exceeded the background value.

Table 5

Summary of Highest Metals Concentrations in Soils – LF-4 Zone 1, Pease AFB, NH

Element	Maximum Concentration Detected (mg/kg)	Sample ID	Sampling Interval (ft BGS)
Aluminum	14,200	3012-S002	0-2.0
Arsenic	15.0 J	9068-S112	9.0-13.0
Boron	40.4 J	9067-S002	2.0
Barium	98.3	9068-S112	9.0-13.0
Beryllium	0.75	9067-S002	2.0
Calcium	3,220 J	9068-S112	9.0-13.0
Cadmium	5.2	911-S001	0.1.0
Cobalt	25.6 J	9068-S112	9.0-13.0
Chromium	35.4	911-S001	0-1.0
Copper	35.8	9068-S112	9.0-13.0
Iron	31,900	9067-S002	2.0
Lead	138	911-S001	0-1.0
Magnesium	5,730	9066-S001	1.0
Manganese	1,090 J	9068-S112	9.0-13.0
Mercury	2.5	911-S001	0-1.0
Nickel	83.0 J	9068-S112	9.0-13.0
Potassium	1,520	3013-S002	-0-2.0
Silicon	2,770	3014-S002	0-2.0
Sodium	109	9069-S003	3.0
Vanadium	27.2	9067-S002	2.0
Zinc	191	9069-S003	3.0

J = Estimated concentration compound detected below laboratory quantification limits.
Shading = Location where maximum detected concentration exceeded the background value.

Table 6

Summary of Highest Concentrations of Organics in Water Table Groundwater Zone 1, Pease AFB, NH

Organics Compounds	Maximum Detected Concentration (µg/L)	Location ID
Volatile Organics		
Aromatic Hydrocarbons		
Benzene	9.0	5014-M001
sec-Butylbenzene	4.0	5008-M002
tert-Butylbenzene	0.9 J	5008-M002
Chlorobenzene	22.0	502-M007
1,2-Dichlorobenzene	2.0	567-M004
1,4-Dichlorobenzene	32.0	567-M004
Isopropylbenzene	1.0	5014-M001
4-Isopropyltoluene	0.20 J	5008-M101 5014-M001 7844-M001
N-Propylbenzene	1.0	5014-M001
M,P-Xylene	0.3 J	5008-M002
Methylene chloride	54.0 J *	7835-M001
Toluene	0.8 J	7845-M001
1,2,4-Trichlorobenzene	0.20 J	567-M004
1,2,4-Trimethylbenzene	0.10 J	502-M007
1,3,5-Trimethylbenzene	0.10	502-M008
Halogenated Hydrocarbons		
Chloroethane	3.0	502-M007
cis-1,2-Dichloroethene	9.0	502-M007
Dichlorodifluoromethane	20.0 J	502-M001
1,1-Dichloroethane	7.2	502-M005
1,2-Dichloroethane	0.50 J	502-M007
trans-1,2-Dichloroethene	0.10 J	502-M007
Total-1,2-Dichloroethene	6.90 J	502-M102
Methyl chloride	3.0	5007-M101
Methylethyl ketone (2-butanone)	13.0	7675-M002
Tetrachloroethene (PCE)	56.0	502-M005
Trichloroethene (TCE)	46.0	502-M005
Trichlorofluoromethane	0.20 J	6087-M001
Vinyl chloride	8.10	502-M005
Oxygenated Hydrocarbons		
Diethyl ether	40.0	502-M102
Semivolatile Organics		
PAHs		
Fluoranthene	1.0 J	578-M001
Pyrene	3.0 J	7644-M002
Naphthalene	2.0 J	502-M007
Phthalates		
Benzyl-butyl phthalate	25.0	7644-M002
Bis(2-ethylhexyl) phthalate	1,100	7644-M002
Diethyl phthalate	2.0 J	567-M002 502-M003
Di-n-butyl phthalate	2.0 J	578-M001

Table 6

Summary of Highest Concentrations of Organics in Water Table Groundwater Zone 1, Pease AFB, NH (Continued)

Organics Compounds	Maximum Detected Concentration (µg/L)	Location ID
Semivolatile Organics (continued)		
Diethyl phthalate	1.0 J	5012-M001
Phenols		
4-Chloro-3-methylphenol	10 J	5014-M001
Pesticides/PCBs		
Alpha BHC	0.06	5008-M101
Aroclor-1260	1.80	7646-M002
4-4'-DDD	0.03 J	567-M004
Heptachlor	0.04 J	502-M005
Herbicides		
2,4,5-TP (Silvex)	0.05 J	5008-M001

*Exceeds proposed primary MCL.

J = Estimated concentration. Compound detected below laboratory quantification limits.
Shading = Location where the maximum detected concentration exceeds the MCL value.

Table 7

Summary of Highest Concentrations of Metals Detected in Water Table Groundwater Zone 1, Pease AFB, NH

Analyte	Maximum Detected Concentration (µ/L)	Location ID (µ/L)
Aluminum, soluble	0.439[a]	508-M001
Aluminum, total	82.3 J[a]	5007-M101
Arsenic, soluble	0.194[a]	567-M004
Arsenic, total	0.353[a]	567-M004
Barium, soluble	0.0599	5014-M001
Barium, total	0.638	7647-M002
Beryllium, total	0.0057[a]	7647-M002
Boron, soluble	0.15[a]	5008-M003
Boron, total	0.405	7647-M002
Cadmium, total	0.0053	7646-M002
Calcium, soluble	167.0	567-M003
Calcium, total	149.0	7652-M002
Chromium, total	0.462 J[a]	5007-M101
Cobalt, soluble	0.0796	5014-M001
Cobalt, total	0.226	7647-M002
Copper, soluble	0.0158	568-M001
Copper, total	0.188[a]	7647-M002
Iron, soluble	55.3[a]	5014-M001
Iron, total	232.0[a]	7647-M002
Lead, soluble	0.007	567-M002
Lead, total	0.165*[a]	7647-M002
Magnesium, soluble	46.3[a]	567-M003
Magnesium, total	68.5 J[a]	5007-M101
Manganese, soluble	13.9[a]	7675-M002
Manganese, total	13.2[a]	7675-M002
Mercury, soluble	0.0002	508-M001
Molybdenum, total	0.136	7675-M102
Nickel, soluble	0.046[a]	5014-M001
Nickel, total	0.457*[a]	7657-M002
Potassium, soluble	13.1[a]	567-M002
Potassium, total	20.4[a]	7647-M002
Silicon, soluble	21.7[a]	567-M004
Silicon, total	95.7 J[a]	5007-M101
Sodium, soluble	54.0 J[a]	506-M003
Sodium, total	52.0[a]	506-M004
Thallium, soluble	0.589 J	567-M002
Vanadium, total	0.212[a]	7647-M002
Zinc, soluble	0.144 J	509-M002
Zinc, total	0.403[a]	5007-M101

[a]Above background (G-563).
*Exceeds proposed primary MCL.

J = Estimated concentration. Compound detected below laboratory quantification limits.
Shading = Location where the maximum detected concentration exceeded the MCL/SMCL value.

Table 8

Summary of Highest Concentrations of Organic Compounds in Deep Bedrock Groundwater Zone 1, Pease AFB, NH

Organic Compound	Maximum Detected Concentration (µg/L)	Location ID
Volatile Organic Compounds		
Aromatic Hydrocarbons		
1,2 – Dichlorobenzene	32 J	605–M001
1,2,4 – Trichlorobenzene	0.3 J	606–M004
1,2,4 – Trimethylbenzene	4.0 J	604–M005
1,2 – Xylene	0.7 J	6005–M001
1,3,5 – Trimethylbenzene	0.4 J	6005–M002
1,3 – Dichlorobenzene	0.7 J	630–M103
4–Isopropyl toluene	0.5 J	6005–M002
Benzene	59.0	6105–M001
Chlorobenzene	80.0	605–M004
Ethylbenzene	4.0	6005–M001
Isopropylbenzene	2.0	6005–M002 6005–M001 606–M004
M,P–Xylene	2.0	6005–M002 604–M005
N–Butylbenzene	0.7 J	630–M003 630–M103
N–Propylbenzene	3.0	604–M005
P–Dichlorobenzene	38.0	606–M004
sec–Butylbenzene	3.0	606–M004
tert–Butylbenzene	0.9 J	6005–M001
Toluene	2.0	6102–M001
Xylenes (total)	5.7 J	604–M003
Halogenated Hydrocarbons		
1,1,1–Trichloroethane	2.0 J	6094–M001
1,1–Dichloroethane	15.0	6005–M001
1,2 – Dichoroethane	2.2 J	605–M003
Chloroform	0.2 J	6100–M001
cis–1,2–Dichloroethane	0.9 J	6005–M001
Dichlorodifluoromethane	23.0	6005–M002
Methyl chloride	3.3 J	604–M001
Tetrachloroethene	5.3 J	604–M001
Trichloroethene	8.0	6006–M001
Total–1,2–dichloroethene	2.4 J	630–M001
Trichlorofluoromethane	3.0	6002–M002
Vinyl chloride	1.0 J	6005–M001
Semivolatile Organic Compounds		
PAHs		
Naphthalene	10.0	604–M005
Phenols		
4–Chloro–3–methylphenol	10.0	605–M101

Table 8

Summary of Highest Concentrations of Organic Compounds in Deep Bedrock Groundwater Zone 1, Pease AFB, NH (Continued)

Organic Compound	Maximum Detected Concentration (µg/L)	Location ID
Phthalates		
Bis(2-ethylhexyl) phthalate	8.0 J	605-M101
Di-n-butyl phthalate	6.0 J	604-M004
Diethylphthalate	11.0	630-M003
Dimethylphthalate	8.0 J	628-M004
Pesticides		
Alpha endosulfan	0.02 J	605-M101
Beta BHC	0.01 J	605-M001
DDT	0.02 J	605-M001
Delta BHC	0.04 J	605-M101
4,4-DDD	0.1	605-M004

J = Estimated concentration. Compound detected below laboratory quantification limits.
Shading = Location where the maximum detected concentration exceeded the MCL value.

Table 9

Summary of Highest Concentrations of Metals Detected in Bedrock Groundwater Zone 1, Pease AFB, NH

Metal	Maximum Detected Concentration (mg/L)	Location Sample ID
Aluminum, soluble	0.349	6088-M002
Aluminum, total	1.66	626-M104
Arsenic, soluble	0.187 J[a]	6005-M001
Arsenic, total	0.195 J[a]	6005-M001
Barium, soluble	0.107 [a]	6005-M001
Barium, total	0.111	6005-M001
Boron, soluble	0.336 [a]	605-M001
Boron, total	0.269	605-M004
Cadmium, soluble	0.0051 [a]	627-M001
Cadmium, total	0.0056	6100-M002
Calcium, soluble	150	606-M003
Calcium, total	108	605-M004
Chromium, total	0.0103	626-M004
Cobalt, soluble	0.0602	606-M003
Cobalt, total	0.0636	630-M103
Copper, total	0.01	6001-M001
Iron, soluble	64.8	604-M005
Iron, total	130	626-M104
Lead, soluble	0.0087 *	625-M006
Lead, total	0.0308 *J	630-M103
Magnesium, soluble	39.1 J[a]	604-M004
Magnesium, total	34.2	6006-M002
Manganese, soluble	6.02 [a]	630-M001
Manganese, total	4.04	630-M003
Mercury, soluble	0.0007 J	630-M102
Mercury, total	0.00014	6003-M002
Nickel, soluble	0.122 *[a]	606-M003
Nickel, total	0.0903	605-M004
Potassium, soluble	17.7 [a]	606-M002
Potassium, total	15.4 [a]	606-M004
Silicon, soluble	24.9 [a]	606-M001
Sodium, soluble	119 [a]	6101-M002
Sodium, total	110 [a]	6101-M002
Thallium, soluble	0.579 J	606-M002
Vandium, soluble	0.0488	6005-M001
Vanadium, total	0.0489	6005-M001
Zinc, soluble	0.078 J	6094-M001
Zinc, total	0.132 J	6004-M002

[a]Above background (G-563).
*Exceeds proposed primary MCL.

J = Estimated concentration. Compound detected below laboratory quantification limits.
Shading = Location where the maximum detected concentration exceeded the MCL/SMCL value.

Table 10

Chemicals of Concern in Site 2 Soil (0 to 2 feet deep)[a]
Zone 1, Pease AFB, NH

Chemical	Frequency of Detection[b,c]	Range of Sample Quantitation Limits (mg/kg)	Range of Detected Concentrations[b] (mg/kg)	Mean Concentration[b,d] (mg/kg)	Upper 95% Confidence Limit of the Mean Concentration (mg/kg)
Organics					
Benzoic acid	2/3	1.8	0.063-0.42	0.46[e]	1.2[e]
Dibenzofuran	1/3	0.36-0.43	1.9	0.77	2.4[e]
2-Methylnaphthalene	1/3	0.36-0.43	1.7	0.70	2.2[e]
Naphthalene	1/3	0.36-0.43	1.5	0.63	1.9[e]
PAHs					
Acenaphthene	1/3	0.36-0.43	0.98	0.46	1.2[e]
Acenaphthylene	1/3	0.36-0.43	1.3	0.57	1.6[e]
Anthracene	1/3	0.36-0.43	4.0	1.5	5.2[e]
Benzo(a)anthracene	2/3	0.43	0.041-8.8	3.0	11[e]
Benzo(a)pyrene	2/3	0.43	0.052-9.4	3.2	12[e]
Benzo(b)fluoranthene	2/3	0.43	0.046-7.4	2.6	9.6[e]
Benzo(g,h,i)perylene	2/3	0.43	0.041-6.9	2.4	9.0[e]
Benzo(k)fluoranthene	2/3	0.43	0.038-7.8	2.7	10[e]
Chrysene	2/3	0.43	0.049-9.9	3.4	13[e]
Dibenzo(a,h)anthracene	1/3	0.36-0.43	2.9	1.1	3.7[e]
Fluoranthene	2/3	0.43	0.059-22	7.4	29[e]
Fluorene	1/3	0.36-0.43	4.0	1.5	5.2[e]
Indeno(1,2,3-c,d)pyrene	1/3	0.36-0.43	5.8	2.1	7.5[e]
Phenanthrene	2/3	0.43	0.038-26	8.8	34[e]
Pyrene	2/3	0.43	0.069-22	7.4	29[e]
Xylenes (total)	1/3	0.006	0.0010	0.0023[e]	0.0043[e]

[a]The listed chemicals were selected as chemicals of concern for both the human health and ecological risk assessments.
[b]There was only one sample for each sampling location. Therefore, the summary statistics were based on the detected concentrations.
[c]Number of sampling locations at which the chemical was detected compared with the total number of sampling locations.
[d]Arithmetic mean.
[e]Exceeds the maximum detected concentration.

Table 11

Chemicals of Concern in Site 4 Soil (0 to 2 feet deep)[a]
Zone 1, Pease AFB, NH

Chemical	Frequency of Detection[b]	Range of Sample Quantitation Limits (mg/kg)	Range of Averaged (Detected) Concentrations[c] (mg/kg)	Mean Concentration[d] (mg/kg)	Upper 95% Confidence Limit of the Mean Concentration (mg/kg)
Organics					
Benzoic acid[e]	8/8	1.9	0.040-0.37	0.11	0.27
Bis(2-ethylhexyl) phthalate[e]	1/9	0.36-0.62	0.19	0.21[f]	0.23[f]
4,4'-DDD[g]	2/9	0.009-2.4	0.002-0.003	0.089[f]	7.7[f]
4,4'-DDE[g]	1/9	0.018-2.4	0.001	0.097[f]	6.5[f]
4,4'-DDT[g]	2/9	0.009-2.4	0.003-0.009	0.085[f]	5.0[f]
Dibenzofuran	2/8	0.37-0.42	0.064-0.17	0.18[f]	0.26[f]
Di-n-butyl phthalate[e]	2/9	0.36-0.62	0.050-0.055	0.19[f]	0.34[f]
2,4-Dinitrophenol	1/9	1.8-2.8	0.14	1.0[f]	2.0[f]
Naphthalene	2/9	0.37-0.62	0.036-0.076	0.19[f]	0.35[f]
4-Nitrophenol	1/9	0.53-0.93	0.16	0.31[f]	0.38[f]
n-Nitrosodiphenylamine	1/8	0.37-0.51	0.041	0.19[f]	0.35[f]
PAHs					
Acenaphthene	3/9	0.37-0.62	0.045-0.43	0.22	0.40
Anthracene[e]	2/9	0.37-0.62	0.075-0.36	0.23	0.32
Benzo(a)anthracene	4/9	0.37-0.62	0.16(0.086)-2.6	0.49	1.5
Benzo(a)pyrene	4/9	0.37-0.62	0.16(0.081)-2.5	0.45	1.2
Benzo(b)fluoranthene	4/9	0.37-0.62	0.18(0.086)-2.4	0.45	1.2
Benzo(g,h,i)perylene	4/9	0.37-0.62	0.11(0.054)-1.8	0.39	0.97
Benzo(k)fluoranthene	4/9	0.37-0.62	0.15(0.089)-2.4	0.43	1.1
Chrysene	4/9	0.37-0.62	0.19(0.095)-2.7	0.51	1.5
Dibenzo(a,h)anthracene	3/9	0.37-0.62	0.087-0.61	0.26	0.41
Fluoranthene	5/9	0.39-0.62	0.073-6.0	0.97	9.3[f]
Fluorene	3/9	0.37-0.62	0.039-0.41	0.22	0.41
Indeno(1,2,3-c,d)pyrene	4/9	0.37-0.62	0.11(0.051)-1.7	0.38	0.96
Phenanthrene	5/9	0.39-0.62	0.040-4.1	0.68	6.7[f]
Pyrene[e]	5/9	0.39-0.62	0.040-2.1	0.44	1.7

Table 11

Chemicals of Concern in Site 4 Soil (0 to 2 feet deep)[a]
Zone 1, Pease AFB, NH
(Continued)

Chemical	Frequency of Detection[b]	Range of Sample Quantitation Limits (mg/kg)	Range of Averaged (Detected) Concentrations[c] (mg/kg)	Mean Concentration[d] (mg/kg)	Upper 95% Confidence Limit of the Mean Concentration (mg/kg)
Inorganics					
Cadmium	1/9	1.8-3.1	5.2	1.4	2.3
Copper	9/9	3.0[h]	13-54	24	36
Lead	9/9	20[h]	0.51-138	45	669[f]
Mercury	4/9	0.054-0.12	0.14-2.5	0.24	2.0
Nickel	9/9	5.0[h]	20-63	33	45
Zinc	9/9	1.0[h]	30-139	52	75

[a]The listed chemicals were selected as chemicals of concern for both the human health and ecological risk assessments.
[b]Number of sampling locations at which the chemical was detected compared with the total number of sampling locations.
[c]If the minimum or maximum detected concentration differed from the respective minimum or maximum averaged concentration, the detected concentration is given in parentheses.
[d]The mean was calculated, based on the averaged concentrations, using the minimum variance unbiased estimation approach for lognormally distributed data (G-262).
[e]Chemical was not detected above background.
[f]Exceeds the maximum detected and/or averaged concentrations.
[g]Selected as a chemical of concern for the ecological risk assessment only.
[h]Sample quantitation limits were not available. The method detection limit is indicated (G-563).

Table 12

Chemicals of Concern in Site 44 Soil (0 to 2 feet deep)[a]
Zone 1, Pease AFB, NH

Chemical	Frequency of Detection[b]	Range of Sample Quantitation Limits (mg/kg)	Range of Averaged (Detected) Concentrations[c] (mg/kg)	Mean Concentration[d] (mg/kg)	Upper 95% Confidence Limit of the Mean Concentration (mg/kg)
Organics					
Benzoic acid[e]	1/8	1.7-1.9	0.39	0.84[f]	1.1[f]
Bis(2-ethylhexyl) phthalate[e]	1/8	0.34-0.48	0.19(0.16-0.22)	0.19	0.20[f]
4,4'-DDD[e]	1/8	0.017-0.084	0.042	0.019	0.038
4,4'-DDE	4/8	0.017-0.18	0.006-0.042	0.026	0.083[f]
4,4'-DDT	6/8	0.017-0.018	0.025-0.081	0.038	0.10[f]
Dibenzofuran	1/8	0.34-0.48	0.23	0.19	0.21
Dieldrin[g]	1/8	0.017-0.018	0.004	0.022[f]	0.089[f]
Di-n-butyl phthalate[e]	1/8	0.34-0.38	0.095	0.17[f]	0.20[f]
2-Methylnaphthalene	1/8	0.34-0.48	0.080	0.18[f]	0.23[f]
Naphthalene	1/8	0.34-0.48	0.10	0.18[f]	0.22[f]
PAHs					
Acenaphthene	1/8	0.34-0.48	0.082	0.18[f]	0.23[f]
Acenaphthylene[e]	1/8	0.34-0.48	0.17	0.19[f]	0.20[f]
Anthracene	2/8	0.34-0.48	0.056-0.45	0.21	0.36
Benzo(a)anthracene[e]	4/8	0.35-0.37	0.081-0.53	0.21	0.37
Benzo(a)pyrene[e]	4/8	0.35-0.37	0.081-0.46	0.20	0.33
Benzo(b)fluoranthene[e]	4/8	0.35-0.37	0.087-0.43	0.21	0.35
Benzo(g,h,i)perylene[e]	4/8	0.35-0.37	0.053-0.36	0.18	0.34
Benzo(k)fluoranthene[e]	4/8	0.35-0.37	0.11-0.46	0.21	0.33
Chrysene[e]	4/8	0.35-0.37	0.11-0.64	0.25	0.44
Dibenzo(a,h)anthracene[e]	2/8	0.34-0.48	0.049-0.11	0.16[f]	0.26[f]
Fluoranthene[e]	5/8	0.35-0.36	0.057-1.7	0.40	1.7
Fluorene	1/8	0.34-0.48	0.41	0.21	0.27
Indeno(1,2,3-c,d)pyrene[e]	4/8	0.35-0.37	0.064-0.34	0.17	0.31

Table 12

Chemicals of Concern in Site 44 Soil (0 to 2 feet deep)[a]
Zone 1, Pease AFB, NH
(Continued)

Chemical	Frequency of Detection[b]	Range of Sample Quantitation Limits (mg/kg)	Range of Averaged (Detected) Concentrations[c] (mg/kg)	Mean Concentration[d] (mg/kg)	Upper 95% Confidence Limit of the Mean Concentration (mg/kg)
Organics (continued)					
Phenanthrene	4/8	0.35-0.37	0.073-1.7	0.32	1.1
Pyrene[e]	5/8	0.35-0.36	0.053-0.98	0.30	0.93
Inorganics					
Chromium	8/8	4.0[h]	19-41(45)	26	31
Lead	8/8	20[h]	2.4(1.9)-178	61	929[f]
Manganese	8/8	1.0[h]	205-1,480	604	1,048
Mercury	2/3	0.11	0.070-0.31	0.14	537[f]
Nickel	8/8	5.0[h]	17-59	31	43
Titanium	1/1	20[h]	673	673[i]	NA
Vanadium	8/8	4.0[h]	13-87	28	49

[a]The listed chemicals were selected as chemicals of concern for both the human health and ecological risk assessments.
[b]Number of sampling locations at which the chemical was detected compared with the total number of sampling locations.
[c]If the minimum or maximum detected concentration differed from the respective minimum or maximum averaged concentration, the detected concentration is given in parentheses.
[d]Unless otherwise indicated, the mean was calculated using the minimum variance unbiased estimation approach for lognormally distributed data (G-262).
[e]Chemical was not detected above background.
[f]Exceeds the maximum detected and/or averaged concentrations.
[g]Selected as a chemical of concern for the ecological risk assessment only.
[h]Sample quantitation limits were not available. The method detection limit is indicated (G-563).
[i]Arithmetic mean. The maximum variance unbiased estimation approach cannot be used to calculate a mean based on one data point.

NA = Not applicable. An upper 15% confidence limit of the mean concentration cannot be calculated based on one data point.

Table 13

Chemicals of Concern in Site 44 Soil (0 to 15 feet deep)[a]
Zone 1, Pease AFB, NH

Chemical	Frequency of Detection[b]	Range of Sample Quantitation Limits (mg/kg)	Range of Averaged (Detected) Concentrations[c] (mg/kg)	Mean Concentration[d] (mg/kg)	Upper 95% Confidence Limit of the Mean Concentration (mg/kg)
Organics					
Benzoic acid[e]	5/16	1.7-1.9	0.045-0.47(0.39)	0.83[f]	1.9[f]
Bis(2-ethylhexyl) phthalate[e]	3/16	0.34-0.48	0.051(0.048)-0.19(0.22)	0.17	0.21[f]
4,4'-DDD[e]	1/16	0.016-0.092	0.030(0.042)	0.018	0.026
4,4'-DDE	5/16	0.016-0.18	0.004-0.042	0.020	0.033
4,4'-DDT	6/16	0.016-0.092	0.025-0.063 (0.081)	0.026	0.043
Dibenzofuran	1/16	0.34-0.48	0.23	0.19	0.19
Di-n-butyl phthalate[e]	1/16	0.34-0.39	0.095	0.17[f]	0.19[f]
2-Methylnaphthalene	1/16	0.34-0.48	0.080	0.18[f]	0.20[f]
Naphthalene	1/16	0.34-0.48	0.10	0.18[f]	0.19[f]
PAHs					
Acenaphthene	1/16	0.34-0.48	0.082	0.18[f]	0.20[f]
Acenaphthylene[e]	2/16	0.34-0.48	0.049-0.17	0.18[f]	0.21[f]
Anthracene	3/16	0.34-0.48	0.080(0.056)-0.45	0.19	0.22
Benzo(a)anthracene[e]	9/16	0.34-0.37	0.045-0.83	0.20	0.31
Benzo(a)pyrene[e]	8/16	0.34-0.37	0.081(0.048)-0.79	0.21	0.28
Benzo(b)fluoranthene[e]	8/16	0.34-0.37	0.087(0.055)-0.92	0.21	0.29
Benzo(g,h,i)perylene[e]	7/16	0.34-0.37	0.053(0.044)-0.58	0.19	0.26
Benzo(k)fluoranthene[e]	8/16	0.34-0.37	0.11(0.053)-0.62	0.20	0.26
Chrysene[e]	9/16	0.34-0.37	0.055-0.83	0.22	0.33
Dibenzo(a,h)anthracene[e]	3/16	0.34-0.48	0.11(0.049)-0.18	0.17	0.19[f]
Fluoranthene[e]	10/16	0.34-0.36	0.057(0.044)-1.7	0.32	0.61

Table 13

Chemicals of Concern in Site 44 Soil (0 to 15 feet deep)[a]
Zone 1, Pease AFB, NH
(Continued)

Chemical	Frequency of Detection[b]	Range of Sample Quantitation Limits (mg/kg)	Range of Averaged (Detected) Concentrations[c] (mg/kg)	Mean Concentration[d] (mg/kg)	Upper 95% Confidence Limit of the Mean Concentration (mg/kg)
Organics (continued)					
Fluorene	1/16	0.34-0.48	0.41	0.20	0.22
Indeno(1,2,3-c,d)pyrene[e]	7/16	0.34-0.37	0.064(0.038)-0.57	0.19	0.25
Phenanthrene	7/16	0.34-0.37	0.056-1.7	0.24	0.39
Pyrene[e]	10/16	0.34-0.36	0.053(0.039)-1.6	0.27	0.49
Inorganics					
Lead	16/16	20[g]	2.4(1.9)-149(178)	47	186[f]
Manganese	16/16	1.0[g]	205(204)-1,480	532	953
Mercury	3/11	0.051-0.12	0.060(0.070)-0.31	0.085	0.45[f]
Nickel	16/16	5.0[g]	18(17)-59	24	27
Titanium	1/1	20[g]	673	673[h]	NA
Vanadium	16/16	4.0[g]	9.2-87	18	46

[a]The listed chemicals were selected as chemicals of concern for the human health risk assessment only.
[b]Number of sampling locations at which the chemical was detected compared with the total number of sampling locations.
[c]If the minimum or maximum detected concentration differed from the respective minimum or maximum averaged concentration, the detected concentration is given in parentheses.
[d]Unless otherwise indicated, the mean was calculated using the minimum variance unbiased estimation approach for lognormally distributed data (G-262).
[e]Chemical was not detected above background.
[f]Exceeds the maximum detected and/or averaged concentrations.
[g]Sample quantitation limits were not available. The method detection limit is indicated (G-563).
[h]Arithmetic mean. The minimum variance unbiased estimation approach cannot be used to calculate a mean based on one data point.
NA = Not applicable. An upper 95% confidence limit of the mean concentration cannot be calculated based on one data point.

Table 14

Chemicals of Concern in Site 2 Groundwater — Water Table[a]
Zone 1, Pease AFB, NH

Chemical	Frequency of Detection[b]	Range of Sample Quantitation Limits (μg/L)	Range of Averaged (Detected) Concentrations[c] (μg/L)	Mean Concentration[d] (μg/L)	Upper 95% Confidence Limit of the Mean Concentration (μg/L)
Organics					
Trichloroethene	1/2	0.60-1.0	0.57(0.50-0.60)	0.50	0.92[e]
Trichlorofluoromethane	1/2	1.0-5.0	0.37(0.10)	0.77[e]	3.3[e]
Inorganics					
Sodium (filtered)	2/3	4,220-8,180	6,827(7,360)-27,967(48,300)	12,301	35,516[e]

[a]The listed chemicals were selected as chemicals of concern for the human health risk assessment only.
[b]Number of wells at which the chemical was detected compared with the total number of wells.
[c]If the minimum or maximum detected concentration differed from the respective minimum or maximum averaged concentration, the detected concentration is given in parentheses.
[d]Arithmetic mean based on the averaged concentrations.
[e]Exceeds the maximum detected and/or averaged concentrations.
[f]Sample quantitation limits were unavailable. The method detection limit is indicated (G-563).

Table 15

Chemicals of Concern in Site 4 Groundwater – Water Table[a]
Zone 1, Pease AFB, NH

Chemical	Frequency of Detection[b]	Range of Sample Quantitation Limits (µg/L)	Range of Averaged (Detected) Concentrations[c] (µg/L)	Mean Concentration[d] (µg/L)	Upper 95% Confidence Limit of the Mean Concentration (µg/L)
Organics					
Bis(2-ethylhexyl) phthalate	1/4	10	3.0(1.0)	4.5[e]	5.7[e]
1,2-Dichloroethane	1/4	0.20-1.0	0.30	0.38[e]	0.48[e]
Naphthalene	1/4	1.0	0.45(0.40)	0.49[e]	0.52[e]
Inorganics					
Aluminum (filtered)	1/4	200	185(439)	121	171
Iron (filtered)	1/4	40	290(1,090)	89	246
Lead (filtered)	2/4	3.0	4.0(6.0)-5.1(7.0)	3.1	5.3[e]
Mercury (filtered)	1/4	0.1-0.2	0.1(0.2)	0.1	0.1
Silicon (filtered)	4/4	300[f]	4,883(5,250)-6,560	5,545	6,398
Sodium (filtered)	4/4	8,250-10,800	5,520-14,600(15,600)	9,197	13,847

[a]The listed chemicals were selected as chemicals of concern for the human health risk assessment only.
[b]Number of wells at which the chemical was detected compared with the total number of wells.
[c]If the minimum or maximum detected concentration differed from the respective minimum or maximum averaged concentration, the detected concentration is given in parentheses.
[d]Arithmetic mean based on the averaged concentrations.
[e]Exceeds the maximum detected and/or averaged concentrations.
[f]Sample quantitation limits were not available. The method detection limit is indicated (G-563).

Table 16

Chemicals of Concern in Site 4 Groundwater — Deep Bedrock[a]
Zone 1, Pease AFB, NH

Chemical	Frequency of Detection[b,c]	Range of Sample Quantitation Limits (µg/L)	Range of Detected Concentrations[b] (µg/L)	Mean Concentration[b,d] (µg/L)	Upper 95% Confidence Limit of the Mean Concentration (µg/L)
Organics					
Di-n-butyl phthalate	1/2	10	1.0	3.0[e]	16[e]
Ethylbenzene	1/2	1.0	0.10	0.30[e]	1.6[e]
Toluene	1/2	1.0	2.0	1.3	6.0[e]
m,p-Xylenes (total)	1/2	1.0	0.70	0.60	1.2[e]
o-Xylene	1/2	1.0	0.30	0.40[e]	1.0[e]
Inorganics					
Sodium (filtered)	2/2	900[f]	3,830-27,800	15,815	91,488[e]
(total)	2/2	900[f]	3,920-28,800	16,360	94,906[e]

[a]The listed chemicals were selected as chemicals of concern for the human health risk assessment only.
[b]There was only one sample for each sample location (well). Therefore, the summary statistics were based on the detected concentrations.
[c]Number of wells at which the chemical was detected compared with the total number of wells.
[d]Arithmetic mean.
[e]Exceeds the maximum detected concentration.
[f]Sample quantitation limits were not available. The method detection limit is indicated (G-653).

Table 17

Chemicals of Concern in Site 5 Groundwater – Water Table[a]
Zone 1, Pease AFB, NH

Chemical	Frequency of Detection[b]	Range of Sample Quantitation Limits (µg/L)	Range of Averaged (Detected) Concentrations[c] (µg/L)	Mean Concentration[d] (µg/L)	Upper 95% Confidence Limit of the Mean Concentration (µg/L)
Organics					
Benzene	3/11	0.70-1.0	0.34(0.30)-9.0	1.3	2.7
Bis(2-ethylhexyl) phthalate	3/11	10-12	1.0-31(160)	7.0	11
sec-Butylbenzene	3/11	1.0	0.40(0.20)-2.0	0.66	0.91
Chlorobenzene	4/11	1.0-1.2	0.50-12(22)	3.0	5.5
Chloroethane	1/11	2.0-3.0	1.9(2.0-3.0)	1.2	1.3
4-Chloro-3-methylphenol	2/11	10-11	2.5(2.0)-10	5.4	6.3
1,2-Dichlorobenzene	2/11	0.50-2.0	0.42(0.20)-0.8 3(2.0)	0.49	0.56
1,4-Dichlorobenzene	3/11	0.50-1.0	16(6.7)-28(32)	6.6	13
Dichlorodifluoromethane	2/11	2.0-9.0	3.7(3.0)-6.1(20)	2.4	3.3
1,1-Dichloroethane	2/11	0.40-1.0	0.35(0.50)-6.0(7.6)	0.93	1.9
cis-1,2-Dichloroethene	3/11	1.0	0.20-7.3(9.0)	1.2	2.3
Diethyl ether	1/3	2.0	19(35-40)	7.1	25[e]
Diethyl phthalate	2/11	10-12	3.8(2.0)-4.6(2.0)	5.1[e]	5.3[e]
Dimethyl phthalate	1/11	10-12	1.0	4.9[e]	5.6[e]
Di-n-butyl phthalate	1/11	10-12	3.8(2.0)	5.1[e]	5.4[e]
Isopropylbenzene	2/11	1.0	0.90-1.0	0.58	0.68
Naphthalene	2/11	1.0	0.30-1.0(2.0)	0.53	0.62
PAHs					
Fluoranthene	1/11	10-12	3.3(1.0)	5.1[e]	5.4[e]
n-Propylbenzene	2/11	1.0	0.20-1.0	0.52	0.62
Tetrachloroethene	3/11	0.20-1.0	1.9(1.0)-22(56)	3.6	7.5
Trichloroethene	2/11	0.60-1.0	1.3(0.51)-27(46)	2.9	7.2
Vinyl chloride	1/11	0.20-2.0	2.5(1.0-8.1)	0.91	1.2

Table 17

Chemicals of Concern in Site 5 Groundwater — Water Table[a]
Zone 1, Pease AFB, NH
(Continued)

Chemical		Frequency of Detection[b]	Range of Sample Quantitation Limits (μg/L)	Range of Averaged (Detected) Concentrations[c] (μg/L)	Mean Concentration[d] (μg/L)	Upper 95% Confidence Limit of the Mean Concentration (μg/L)
Inorganics						
Arsenic	(filtered)	5/11	5.0-10	5.0(6.0)-153(194)	22	47
Boron	(filtered)	2/11	100	150-253	78	113
Cobalt	(filtered)	1/11	40-50	80	26	36
Iron	(filtered)	8/11	40-295	34(42)-55,300	7,764	17,192
Lead	(filtered)	2/11	3.0-15	3.3(5.0-7.0)	1.9	2.3
Manganese	(filtered)	10/11	10-24	10(14)-3,875(4,970)	1,130	1,848
Nickel	(filtered)	4/11	15-40	15(16)-46	16	22
Silicon	(filtered)	11/11	4,410-4,820	3,926(4,000)-21,700	10,116	13,101
Thallium	(filtered)	3/11	10-200	43(120)-215(589)	40	74

[a]The listed chemicals were selected as chemicals of concern for the human health risk assessment only.
[b]Number of wells at which the chemical was detected compared with the total number of wells.
[c]If the minimum or maximum detected concentration differed from the respective minimum or maximum averaged concentration, the detected concentration is given in parentheses.
[d]Arithmetic mean based on the averaged concentrations.
[e]Exceeds the maximum detected and/or averaged concentrations.
[f]Sample quantitation limits were not available. The method detection limit is indicated (G-563).

Table 18

Chemicals of Concern in Site 5 Groundwater — Deep Bedrock[a]
Zone 1, Pease AFB, NH

Chemical	Frequency of Detection[b]	Range of Sample Quantitation Limits (µg/L)	Range of Averaged (Detected) Concentrations[c] (µg/L)	Mean Concentration[d] (µg/L)	Upper 95% Confidence Limit of the Mean Concentration (µg/L)
Organics					
Acetone	1/3	10	46	19	59[e]
Benzene	6/15	0.70-1.0	0.40(0.60)-8.9(14)	1.5	2.6
Bis(2-ethylhexyl) phthalate	4/15	10-13	2.0(1.0)-6.2(8.0)	4.9	5.4
sec-Butylbenzene	6/15	1.0	0.30(0.10)-3.0	0.82	1.2
Chlorobenzene	8/15	1.0-1.2	0.40(0.30)-50(80)	6.7	13
4-Chloro-3-methylphenol	4/15	10-13	4.0(2.0)-7.7(10)	5.4	5.8
1,2-Dichlorobenzene	6/15	0.50-2.0	0.30(0.20)-8.9(32)	1.5	2.6
1,4-Dichlorobenzene	7/15	0.50-1.0	0.35(0.20)-20(38)	5.6	8.9
Dichlorodifluoromethane	2/15	2.0-9.0	3.9(2.0)-13(23)	3.0	4.3
1,1-Dichloroethane	3/15	0.40-1.0	0.42(0.99)-14(15)	1.7	3.3
1,2-Dichloroethane	6/15	0.20-1.0	0.23(0.20)-0.93(2.2)	0.41	0.49
Diethyl phthalate	5/15	10-13	4.0(1.0)-6.5(11)	5.1	5.4
Dimethyl phthalate	4/15	10-13	4.6(2.0)-6.2(8.0)	5.3	5.4
Di-n-butyl phthalate	1/15	10-13	5.6(6.0)	5.3	5.4
Ethylbenzene	1/15	1.0	2.5(0.90-4.0)	0.63	0.86
Methyl chloride	1/15	0.40-2.0	0.98(3.3)	0.77	0.89
Naphthalene	3/15	1.0	0.55(0.40)-10	1.2	2.4
n-Propylbenzene	5/15	1.0	0.20-3.0	0.76	1.1
Tetrachloroethene	3/15	0.20-1.0	0.35(0.20)-1.2(5.3)	0.43	0.54
Trichloroethene	5/15	0.60-1.0	0.35(0.20)-4.3(8.0)	0.74	1.2
1,2,4-Trimethylbenzene	4/15	1.0	0.10-4.0	0.73	1.1

Table 18

Chemicals of Concern in Site 5 Groundwater – Deep Bedrock[a]
Zone 1, Pease AFB, NH
(Continued)

Chemical	Frequency of Detection[b]	Range of Sample Quantitation Limits (μg/L)	Range of Averaged (Detected) Concentrations[c] (μg/L)	Mean Concentration[d] (μg/L)	Upper 95% Confidence Limit of the Mean Concentration (μg/L)
Inorganics					
Arsenic (filtered)	8/15	5.0-10	3.0(5.0)-135(187)	38	62
(total)	7/15	5.0	5.0(7.0)-146(195)	44	71
Boron (filtered)	6/15	100	82(113)-304(340)	100	139
(total)	5/15	100	99(142)-269	93	126
Iron (filtered)	13/15	40-291	40(45)-36,150(64,800)	8,764	15,092
(total)	15/15	40[f]	5,710(4,600)-105,450(130,000)	30,606	44,612

[a]The listed chemicals were selected as chemicals of concern for the human health risk assessment only.
[b]Number of wells at which the chemical was detected compared with the total number of wells.
[c]If the minimum or maximum detected concentration differed from the respective minimum or maximum averaged concentration, the detected concentration is given in parentheses.
[d]Arithmetic mean based on the averaged concentrations.
[e]Exceeds the maximum detected and/or averaged concentrations.
[f]Sample quantitation limits were not available. The method detection limit is indicated (G-563).

Table 19

Chemicals of Concern in Site 44 Groundwater — Water Table[a]
Zone 1, Pease AFB, NH

Chemical	Frequency of Detection[b]	Range of Sample Quantitation Limits (µg/L)	Range of Averaged (Detected) Concentrations[c] (µg/L)	Mean Concentration[d] (µg/L)	Upper 95% Confidence Limit of the Mean Concentration (µg/L)
Organics					
Aroclor-1260	1/9	1.0-1.1	1.8	0.67	0.93
Bis(2-ethylhexyl) phthalate	5/9	10-12	1.0-1,100	126	352
2-Butanone	1/11	10	13	5.7	7.0
Butyl benzyl phthalate	1/9	10-12	25	7.3	11
Dichlorodifluoromethane	1/12	2.0	0.40	0.95[e]	1.0[e]
1,2-Dichloroethane	1/12	1.0	0.20	0.48[e]	0.52[e]
Methyl chloride	1/12	2.0	1.5(3.0)	1.0	1.1
PAHs					
Pyrene	1/9	10-12	3.0	4.9[e]	5.3[e]
Tetrachloroethene	3/12	1.0	0.20-16	1.7	4.1
Trichloroethene	2/12	1.0	0.20-0.80(2.0)	0.50	0.57
Trichlorofluoromethane	3/12	1.0	0.10-0.40(0.20)	0.43[e]	0.50[e]
Inorganics					
Calcium (filtered)	9/9	200[f]	4,970-150,000	43,474	70,259
Iron (filtered)	6/8	40	55(42)-35,100	4,440	12,740
Magnesium (filtered)	9/9	200[f]	747-28,300	8,907	14,154
Manganese (filtered)	9/9	10	23(21)-13,900	1,901	4,708
Potassium (filtered)	1/9	5,000	4,305(7,710-8,120)	2,701	3,074
Silicon (filtered)	9/9	300[f]	3,650-6,193(6,840)	5,273	5,810
Sodium (filtered)	9/9	6,240	3,890-35,800	15,956	22,577

[a]The listed chemicals were selected as chemicals of concern for the human health risk assessment only.
[b]Number of wells at which the chemical was detected compared with the total number of wells.
[c]If the minimum or maximum detected concentration differed from the respective minimum or maximum averaged concentration, the detected concentration is given in parentheses.
[d]Arithmetic mean based on the averaged concentrations.
[e]Exceeds the maximum detected and/or averaged concentrations.
[f]Sample quantitation limits were not available. The method detection limit is indicated (G-563).

Table 20

Chemicals of Concern in Site 44 Groundwater – Deep Bedrock[a]
Zone 1, Pease AFB, NH

Chemical	Frequency of Detection[b]	Range of Sample Quantitation Limits (µg/L)	Range of Averaged (Detected) Concentrations[c] (µg/L)	Mean Concentration[d] (µg/L)	Upper 95% Confidence Limit of the Mean Concentration (µg/L)
Organics					
Bis(2-ethylhexyl) phthalate	1/4	10	4.0(1.0)	4.8[e]	5.3[e]
1,4-Dichlorobenzene	1/4	0.50-1.0	0.43(0.60)	0.48[e]	0.52[e]
Dichlorodifluoromethane	1/4	2.0-9.0	2.3(1.0-2.0)	1.3	2.1[e]
Tetrachloroethene	1/4	0.20-1.0	0.54(0.40-1.0)	0.51	0.53
1,1,1-Trichloroethane	1/4	0.20-1.0	0.43(0.40-0.90)	0.48[e]	0.52[e]
Trichlorofluoromethane	1/4	1.0-5.0	1.8(3.0)	0.98	1.7[e]
Inorganics					
Iron (filtered)	2/4	40	526(58)-1,310	469	1,186
(total)	4/4	40[f]	9,740-72,050(104,000)	32,685	66,935
Sodium (filtered)	4/4	900[f]	4,200(4,160)-10,080(12,400)	6,138	9,391
(total)	4/4	900[f]	4,445(3,890)-32,000	16,309	30,597

[a]The listed chemicals were selected as chemicals of concern for the human health risk assessment only.
[b]Number of wells at which the chemical was detected compared with the total number of wells.
[c]If the minimum or maximum detected concentration differed from the respective minimum or maximum averaged concentration, the detected concentration is given in parentheses.
[d]Arithmetic mean based on the averaged concentrations.
[e]Exceeds the maximum detected and/or averaged concentrations.
[f]Sample quantitation limits were not available. The method detection limit is indicated (G-563).

Table 21

Summary of Chemicals of Concern by Medium[a]
Zone 1, Pease AFB, NH

Chemical	Soil				Groundwater[b]						
	Site 2	Site 4	Site 44		Site 2	Site 4		Site 5		Site 44	
	0–2 ft	0–2 ft	0–2 ft	0–15 ft	WT	WT	DB	WT	DB	WT	DB
Organics											
Acetone									x		
Aroclor–1260										x	
Benzene								x	x		
Benzoic acid	x	x[c]	x[c]	x[c]							
gamma–BHC (lindane)											
Bis(2–ethylhexyl) phthalate		x[c]	x[c]	x[c]		x		x	x	x	x
2–Butanone										x	
sec–Butylbenzene								x	x		
Butyl benzyl phthalate										x	
alpha–Chlordane											
gamma–Chlordane											
Chlordane (total)											
Chlorobenzene								x	x		
Chloroethane								x			
4–Chloro–3–methylphenol								x	x		
4,4'–DDD		x[d]	x[c]	x[c]							
4,4'–DDE		x[d]	x	x							
4,4'–DDT		x[d]	x	x							
Dibenzofuran	x	x	x	x							
1,2–Dichlorobenzene								x	x		
1,4–Dichlorobenzene								x	x		x
Dichlorodifluoromethane								x	x	x	x
1,1–Dichloroethane								x	x		
1,2–Dichloroethane						x			x	x	
cis–1,2–Dichloroethene								x			
1,2–Dichloroethene (total)											
Dieldrin			x[d]								
Diethyl ether								x			
Diethyl phthalate								x	x		
Dimethyl phthalate								x	x		
Di–n–butyl phthalate		x[c]	x	x[c]			x	x	x		
2,4–Dinitrophenol		x									
Ethylbenzene							x		x		
Heptachlor epoxide											
Isopropylbenzene								x			
Methyl chloride									x	x	
2–Methylnaphthalene	x		x	x							
Naphthalene	x	x	x	x		x		x	x		
4–Nitrophenol		x									
n–Nitrosodiphenylamine		x									
PAHs											
Acenaphthene	x	x	x	x							
Acenaphthylene	x		x[c]	x[c]							
Anthracene	x	x[c]	x	x							
Benzo(a)anthracene	x	x	x[c]	x[c]							
Benzo(a)pyrene	x	x	x[c]	x[c]							

Table 21

Summary of Chemicals of Concern by Medium[a]
Zone 1, Pease AFB, NH
(Continued)

Chemical	Soil				Groundwater[b]						
	Site 2	Site 4	Site 44		Site 2	Site 4		Site 5		Site 44	
	0–2 ft	0–2 ft	0–2 ft	0–15 ft	WT	WT	DB	WT	DB	WT	DB
Organics (continued)											
Benzo(b)fluoranthene	x	x	x[c]	x[c]							
Benzo(g,h,i)perylene	x	x	x[c]	x[c]							
Benzo(k)fluoranthene	x	x	x[c]	x[c]							
Chrysene	x	x	x[c]	x[c]							
Dibenzo(a,h)anthracene	x	x	x[c]	x[c]							
Fluoranthene	x	x	x[c]	x[c]				x			
Fluorene	x	x	x	x							
Indeno(1,2,3–cd)pyrene	x	x	x[c]	x[c]							
Phenanthrene	x	x	x	x							
Pyrene	x	x[c]	x[c]	x[c]						x	
n–Propylbenzene								x	x		
Tetrachloroethene								x	x	x	x
Toluene							x				
1,1,1–Trichloroethane											x
Trichloroethene					x			x	x	x	
Trichlorofluoromethane					x					x	x
1,2,4–Trimethylbenzene									x		
1,3,5–Trimethylbenzene											
Vinyl chloride								x			
m,p–Xylenes (total)							x				
o–Xylene							x				
Xylenes (total)	x										
Inorganics											
Aluminum						x					
Arsenic								x	x		
Barium											
Beryllium											
Boron								x	x		
Cadmium		x									
Calcium										x	
Chromium			x								
Cobalt								x			
Copper		x									
Iron						x		x	x	x	x
Lead		x	x	x		x		x			
Magnesium										x	
Manganese			x	x				x		x	
Mercury		x	x	x		x					
Nickel		x	x	x				x			
Potassium										x	
Selenium											
Silicon						x		x		x	
Sodium					x	x	x			x	x
Thallium								x			
Titanium			x	x							
Vanadium			x	x							
Zinc		x									

[a]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.
[b]Selected as chemicals of concern for the human health risk assessment only.
[c]Chemical was not detected above background.
[d]Selected as a chemical of concern for the ecological risk assessment only.

DB=Deep bedrock.
WT=Water table.

Table 22

Most Reasonable Maximally Exposed Receptor (RME)/
Other Primary Potential Receptors
Zone 1, Pease AFB, NH

Pathway/ Data Set	Current Scenario		Future Scenario	
	RME	Others	RME	Others
Soil				
Site 2	Maintenance worker	Trespasser	Maintenance worker	Trespasser
Site 4	Maintenance worker	Trespasser	Maintenance worker	Trespasser
Site 44	Maintenance worker	Trespasser	Maintenance worker	Building worker, trespasser
Groundwater				
LF-2 Water Table	None	None	On-zone resident	On-zone worker
LF-2 Deep Bedrock	None	None	On-zone resident	On-zone worker
LF-4 Water Table	None	None	On-zone resident	On-zone worker
LF-5 Water Table	None	None	On-zone resident	On-zone worker
LF-5 Deep Bedrock	None	None	On-zone resident	On-zone worker
PCDA Water Table	None	None	On-zone resident	On-zone worker
PCDA Deep Bedrock	None	None	On-zone resident	On-zone worker

Table 23

Summary of Total Lifetime Cancer Risks and Hazard Indices
Zone 1, Pease AFB, NH

Medium	RME	Total Lifetime Cancer Risk[a,b]			Total Hazard Index[a,c]		
		Mean	Upper 95% Confidence Limit	Maximum	Mean	Upper 95% Confidence Limit	Maximum
Soil[d]							
LF-2 (0 to 2 feet deep)	Current maintenance worker	8E-07 (ALL) 8E-07 (BG)	2E-06 (ALL) 2E-06 (BG)	2E-06 (ALL) 2E-06 (BG)	3E-05 (ALL) 3E-05 (BG)	8E-05 (ALL) 8E-05 (BG)	8E-05 (ALL) 8E-05 (BG)
	Future maintenance worker	2E-06 (ALL) 2E-06 (BG)	5E-06 (ALL) 5E-06 (BG)	5E-06 (ALL) 5E-06 (BG)	6E-05 (ALL) 6E-05 (BG)	2E-04 (ALL) 2E-04 (BG)	2E-04 (ALL) 2E-04 (BG)
LF-4 (0 to 2 feet deep)	Current maintenance worker	1E-07 (ALL) 1E-07 (BG)	4E-07 (ALL) 4E-07 (BG)	7E-07 (ALL) 7E-07 (BG)	6E-04 (ALL) 6E-04 (BG)	2E-03 (ALL) 2E-03 (BG)	2E-03 (ALL) 2E-03 (BG)
	Future maintenance worker	3E-07 (ALL) 3E-07 (BG)	7E-07 (ALL) 7E-07 (BG)	1E-06 (ALL) 1E-06 (BG)	1E-03 (ALL) 1E-03 (BG)	4E-03 (ALL) 4E-03 (BG)	4E-03 (ALL) 4E-03 (BG)
PCDA (0 to 2 feet deep)	Current maintenance worker	6E-08 (ALL) 6E-11 (BG)	1E-07 (ALL) 1E-10 (BG)	1E-07 (ALL) 1E-10 (BG)	9E-04 (ALL) 9E-04 (BG)	2E-03 (ALL) 2E-03 (BG)	2E-03 to 3E-03 (ALL)[e] 2E-03 to 3E-03 (BG)[e]
	Future maintenance worker	3E-06 (ALL) 3E-09 (BG)	4E-06 (ALL) 6E-09 (BG)	6E-06 (ALL) 6E-09 (BG)	4E-02 (ALL) 4E-02 (BG)	1E-01 (ALL) 1E-01 (BG)	1E-01 (ALL) 1E-01 (BG)
PCDA (0 to 15 feet deep)	Future maintenance worker	3E-06 (ALL) 2E-09 (BG)	4E-06 (ALL) 4E-09 (BG)	9E-06 (ALL) 5E-09 (BG)	3E-02 (ALL) 3E-02 (BG)	8E-02 (ALL) 8E-02 (BG)	9E-02 (ALL) 9E-02 (BG)
Groundwater[f]							
LF-2 Water Table	Future on-zone resident	1E-07 (filtered)	1E-07 (filtered)	1E-07 (filtered)	2E-03 (filtered)	3E-03 (filtered)	3E-03 (filtered)

Table 23

Summary of Total Lifetime Cancer Risks and Hazard Indices
Zone 1, Pease AFB, NH
(Continued)

Medium	RME	Total Lifetime Cancer Risk[a,b]			Total Hazard Index[a,c]		
		Mean	Upper 95% Confidence Limit	Maximum	Mean	Upper 95% Confidence Limit	Maximum
Groundwater[f] (Continued)							
LF-4 Water Table	Future on-zone resident	8E-07 (filtered)	8E-07 (filtered)	8E-07 (filtered)	3E-01 (filtered)	5E-01 (filtered)	5E-01 (filtered)
LF-2 Deep Bedrock	Future on-zone resident	NA	NA	NA	8E-04 (filtered) 8E-04 (total)	1E-03 (filtered) 1E-03 (total)	1E-03 (filtered) 1E-03 (total)
LF-5 Water Table	Future on-zone resident	5E-04 (filtered)	1E-03 (filtered)	3E-03 (filtered)	9E+00 (filtered)	1E+01 (filtered)	4E+01 (filtered)
LF-5 Deep Bedrock	Future on-zone resident	8E-04 (filtered) 9E-04 (total)	1E-03 (filtered) 1E-03 (total)	3E-03 (filtered) 3E-03 (total)	4E+00 (filtered) 4E+00 (total)	6E+00 (filtered) 7E+00 (total)	1E+01 (filtered) 2E+01 (total)
PCDA Water Table	Future on-zone resident	8E-05 (filtered)	1E-04 (filtered)	4E-04 (filtered)	1E+01 (filtered)	3E+01 (filtered)	8E+01 (filtered)
PCDA Deep Bedrock	Future on-zone resident	7E-07 (filtered) 7E-07 (total)	7E-07 (filtered) 7E-07 (total)	7E-07 (filtered) 7E-07 (total)	4E-03 (filtered) 4E-03 (total)	5E-03 (filtered) 5E-03 (total)	5E-03 (filtered) 5E-03 (total)

[a]Values are rounded to one significant figure.
[b]Maximum cancer risk at hazardous waste sites is regulated in the range of 1E-06 to 1E-04 (10^{-6} to 10^{-4}). Risks of less than 1E-06 (10^{-6}) are generally not of concern.

Table 23

Summary of Total Lifetime Cancer Risks and Hazard Indices
Zone 1, Pease AFB, NH
(Continued)

[c]A hazard index of 1 (1E+00) or greater is usually considered the benchmark of potential concern.
[d]ALL = Includes all evaluated chemicals of concern.
BG = Includes only the evaluated chemicals of concern that were detected above background.
[e]The first and second values are based on the assumption that chromium is present entirely as chromium III and chromium VI, respectively. A range is present only if the two values differed after rounding to one significant figure.
[f]Filtered and total values are based on organics data plus inorganics data for filtered and unfiltered (total) samples, respectively.
NA = Not applicable. There were no carcinogenic chemicals of concern.

Table 24

Summary of Hazard Quotients and Hazard Indices for the Short-tailed Shrew, Site 2 Zone 1, Pease AFB, NH

Chemical	Hazard Quotients for Invertebrate Ingestion		Hazard Quotients for Soil Ingestion		Total Hazard Indices	
	Average	Maximum	Average	Maximum	Average	Maximum
Organics						
Benzoic acid	NE	NE	1.75E-04	3.03E-04	1.75E-04	3.03E-04
Dibenzofuran	NE	NE	NE	NE	NE	NE
2-Methylnaphthalene	NE	NE	7.73E-03	1.88E-02	7.73E-03	1.88E-02
Naphthalene	NE	NE	5.57E-04	1.32E-03	5.57E-04	1.32E-03
PAHs						
Acenaphthene	1.94E-03	4.14E-03	9.45E-05	2.02E-04	2.03E-03	4.34E-03
Acenaphthylene	NE	NE	NE	NE	NE	NE
Anthracene	2.83E-04	7.69E-04	5.31E-05	1.44E-04	3.36E-04	9.14E-04
Benzo(a)anthracene	9.23E-01	2.69E+00	7.27E-02	2.12E-01	9.96E-01	2.90E+00
Benzo(a)pyrene	1.71E-01	4.98E-01	4.84E-03	1.41E-02	1.76E-01	5.12E-01
Benzo(b)fluoranthene	NE	NE	NE	NE	NE	NE
Benzo(g,h,i)perylene	NE	NE	NE	NE	NE	NE
Benzo(k)fluoranthene	NE	NE	NE	NE	NE	NE
Chrysene	NE	NE	NE	NE	NE	NE
Dibenzo(a,h)anthracene	NE	NE	NE	NE	NE	NE
Fluoranthene	1.76E-02	5.21E-02	2.14E-03	6.36E-03	1.97E-02	5.84E-02
Fluorene	8.70E-03	2.37E-02	4.25E-04	1.16E-03	9.12E-03	2.48E-02
Indeno(1,2,3-cd)pyrene	NE	NE	NE	NE	NE	NE
Phenanthrene	2.77E+00	8.24E+00	2.26E-01	6.71E-01	3.00E+00	8.91E+00
Pyrene	3.37E-02	9.98E-02	3.58E-03	1.06E-02	3.73E-02	1.10E-01
Xylenes (total)	NE	NE	2.02E-07	2.02E-07	2.02E-07	2.02E-07
			Cumulative Hazard Index:		**4.25E+00**	**1.25E+01**

NE - Not evaluated due to lack of dose and/or CTV.

Table 25

Summary of Hazard Quotients and Hazard Indices for the Short-tailed Shrew, Site 4 Zone 1, Pease AFB, NH

Chemical	Hazard Quotients for Invertebrate Ingestion		Hazard Quotients for Soil Ingestion		Total Hazard Indices	
	Average	Maximum	Average	Maximum	Average	Maximum
Organics						
Benzoic acid[a]	NE	NE	8.16E-05	2.67E-04	8.16E-05	2.67E-04
Bis(2-ethylhexyl)phthalate[a]	NE	NE	2.73E-04	2.74E-04	2.73E-04	2.74E-04
4,4'-DDD[a]	1.81E-04	2.18E-04	2.11E-07	2.53E-07	1.82E-04	2.18E-04
4,4'-DDE[a]	1.17E-02	1.17E-02	1.50E-05	1.50E-05	1.17E-02	1.17E-02
4,4'-DDT[a]	2.02E+00	2.20E+00	1.89E-03	2.06E-03	2.02E+00	2.20E+00
Dibenzofuran	NE	NE	NE	NE	NE	NE
Di-n-butyl phthalate[a]	NE	NE	1.52E-05	1.59E-05	1.52E-05	1.59E-05
2,4-Dinitrophenol	NE	NE	5.06E-04	5.06E-04	5.06E-04	5.06E-04
Naphthalene	NE	NE	4.93E-05	6.69E-05	4.93E-05	6.69E-05
n-Nitrosodiphenylamine	NE	NE	2.96E-05	2.96E-05	2.96E-05	2.96E-05
p-Nitrophenol	NE	NE	7.60E-03	7.60E-03	7.60E-03	7.60E-03
PAHs						
Acenaphthene	9.47E-04	1.82E-03	4.62E-05	8.87E-05	9.93E-04	1.91E-03
Anthracene	4.33E-05	6.92E-05	8.13E-06	1.30E-05	5.14E-05	8.22E-05
Benzo(a)anthracene	1.49E-01	7.95E-01	1.17E-02	6.26E-02	1.60E-01	8.57E-01
Benzo(a)pyrene	2.39E-02	1.33E-01	6.79E-04	3.76E-03	2.46E-02	1.36E-01
Benzo(b)fluoranthene	NE	NE	NE	NE	NE	NE
Benzo(g,h,i)perylene	NE	NE	NE	NE	NE	NE
Benzo(k)fluoranthene	NE	NE	NE	NE	NE	NE
Chrysene	NE	NE	NE	NE	NE	NE
Dibenzo(a,h)anthracene	NE	NE	NE	NE	NE	NE
Fluoranthene	2.30E-03	1.42E-02	2.81E-04	1.73E-03	2.58E-03	1.59E-02
Fluorene	1.33E-03	2.43E-03	6.47E-05	1.18E-04	1.39E-03	2.54E-03
Indeno(1,2,3-cd)pyrene	NE	NE	NE	NE	NE	NE
Phenanthrene	2.16E-01	1.30E+00	1.75E-02	1.06E-01	2.33E-01	1.41E+00
Pyrene	2.00E-03	9.53E-03	2.12E-04	1.01E-03	2.21E-03	1.05E-02
Inorganics						
Cadmium	1.12E+02	4.05E+02	1.37E-01	4.94E-01	1.12E+02	4.05E+02
Copper	4.18E-01	9.52E-01	1.10E-02	2.50E-02	4.29E-01	9.77E-01
Lead	1.04E+04	3.21E+04	2.30E+00	7.12E+00	1.04E+04	3.21E+04
Mercury	3.08E+00	3.26E+01	2.03E-02	2.15E-01	3.10E+00	3.28E+01
Nickel	1.69E+01	3.26E+01	1.18E-01	2.28E-01	1.70E+01	3.28E+01
Zinc	1.08E+02	2.90E+02	1.15E-01	3.08E-01	1.08E+02	2.90E+02
		Cumulative Hazard Index:			1.06E+04	3.29E+04
		Cumulative Hazard Index: (Above Background)			1.06E+04	3.28E+04

NE – Not evaluated due to lack of dose and/or CTV.

a – Soil concentration below background level.

Table 26

Summary of Hazard Quotients and Hazard Indices for the Short-tailed Shrew, Site 44 Zone 1, Pease AFB, NH

Chemical	Hazard Quotients for Invertebrate Ingestion		Hazard Quotients for Soil Ingestion		Total Hazard Indices	
	Average	Maximum	Average	Maximum	Average	Maximum
Organics						
Benzoic acid[a]	NE	NE	2.82E-04	2.82E-04	2.82E-04	2.82E-04
Bis(2-ethylhexyl)phthalate[a]	NE	NE	2.61E-04	2.74E-04	2.61E-04	2.74E-04
4,4'-DDD	1.38E-03	3.05E-03	1.60E-06	3.54E-06	1.38E-03	3.05E-03
4,4'-DDE	2.11E-01	4.92E-01	2.71E-04	6.32E-04	2.11E-01	4.92E-01
4,4'-DDT	2.09E+01	4.45E+01	1.96E-02	4.18E-02	2.09E+01	4.45E+01
Dibenzofuran	NE	NE	NE	NE	NE	NE
Dieldrin	1.48E+01	1.48E+01	1.44E-02	1.44E-02	1.48E+01	1.48E+01
Di-n-butyl phthalate[a]	NE	NE	2.74E-05	2.74E-05	2.74E-05	2.74E-05
2-Methylnaphthalene	NE	NE	8.86E-04	8.86E-04	8.86E-04	8.86E-04
Naphthalene	NE	NE	8.81E-05	8.81E-05	8.81E-05	8.81E-05
PAHs						
Acenaphthene	3.47E-04	3.47E-04	1.69E-05	1.69E-05	3.63E-04	3.63E-04
Acenaphthylene[a]	NE	NE	NE	NE	NE	NE
Anthracene	3.98E-05	8.65E-05	7.48E-06	1.63E-05	4.73E-05	1.03E-04
Benzo(a)anthracene[a]	6.36E-02	1.62E-01	5.01E-03	1.28E-02	6.86E-02	1.75E-01
Benzo(a)pyrene[a]	1.03E-02	2.44E-02	2.93E-04	6.92E-04	1.06E-02	2.51E-02
Benzo(b)fluoranthene[a]	NE	NE	NE	NE	NE	NE
Benzo(g,h,i)perylene[a]	NE	NE	NE	NE	NE	NE
Benzo(k)fluoranthene[a]	NE	NE	NE	NE	NE	NE
Chrysene[a]	NE	NE	NE	NE	NE	NE
Dibenzo(a,h)anthracene[a]	NE	NE	NE	NE	NE	NE
Fluoranthene[a]	9.51E-04	4.02E-03	1.16E-04	4.91E-04	1.07E-03	4.51E-03
Fluorene	1.27E-03	2.43E-03	6.21E-05	1.18E-04	1.33E-03	2.54E-03
Indeno(1,2,3-cd)pyrene[a]	NE	NE	NE	NE	NE	NE
Phenanthrene	1.01E-01	5.39E-01	8.23E-03	4.38E-02	1.09E-01	5.83E-01
Pyrene[a]	1.34E-03	4.45E-03	1.43E-04	4.72E-04	1.49E-03	4.92E-03
Inorganics						
Chromium	3.17E+01	5.05E+01	3.87E-01	6.17E-01	3.21E+01	5.12E+01
Lead	1.42E+04	4.14E+04	3.16E+00	9.18E+00	1.43E+04	4.14E+04
Manganese	5.51E-01	1.35E+00	2.69E-02	6.60E-02	5.78E-01	1.42E+00
Mercury	1.81E+00	4.04E+00	1.20E-02	2.67E-02	1.82E+00	4.07E+00
Nickel	1.63E+01	3.05E+01	1.13E-01	2.13E-01	1.64E+01	3.08E+01
Titanium	NE	NE	NE	NE	NE	NE
Vanadium	NE	NE	5.00E+00	1.57E+01	5.00E+00	1.57E+01
		Cumulative Hazard Index:			1.43E+04	4.15E+04
		Cumulative Hazard Index: (Above Background)			1.43E+04	4.15E+04

NE – Not evaluated due to lack of dose and/or CTV.
a – Soil concentration below background level.

Table 27

Summary of Hazard Quotients and Hazard Indices for the Robin, Site 2 Zone 1, Pease AFB, NH

Chemical	Hazard Quotients for Invertebrate Ingestion		Hazard Quotients for Soil Ingestion		Hazard Quotients for Surface Water Ingestion		Total Hazard Indices	
	Average	Maximum	Average	Maximum	Average	Maximum	Average	Maximum
Organics								
Benzoic acid	NE	NE	NE	NE	NE	NE	NE	NE
Bis(2-ethylhexyl)phthalate	NE	NE	NE	NE	NE	NE	NE	NE
Chlorobenzene	NE	NE	NE	NE	NE	NE	NE	NE
4,4'-DDD	NE	NE	NE	NE	4.71E-04	2.34E-03	4.71E-04	2.34E-03
4,4'-DDE	NE	NE	NE	NE	2.08E-04	1.03E-03	2.08E-04	1.03E-03
4,4'-DDT	NE	NE	NE	NE	2.22E-04	4.31E-04	2.22E-04	4.31E-04
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
1,4-Dichlorobenzene	NE	NE	NE	NE	NE	NE	NE	NE
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE	NE
cis-1,2-Dichloroethene	NE	NE	NE	NE	NE	NE	NE	NE
2-Methylnaphthalene	NE	NE	NE	NE	NE	NE	NE	NE
Naphthalene	NE	NE	NE	NE	NE	NE	NE	NE
PAHs								
Acenaphthene	NE	NE	NE	NE	NE	NE	NE	NE
Acenaphthylene	3.63E-04	7.78E-04	7.27E-05	1.56E-04	NE	NE	4.36E-04	9.33E-04
Anthracene	4.48E-04	1.03E-03	8.97E-05	2.06E-04	NE	NE	5.38E-04	1.24E-03
Benzo(a)anthracene	3.03E-04	8.25E-04	2.33E-04	6.35E-04	NE	NE	5.37E-04	1.46E-03
Benzo(a)pyrene	1.49E-03	4.33E-03	4.79E-04	1.40E-03	NE	NE	1.97E-03	5.73E-03
Benzo(b)fluoranthene	4.40E-03	1.28E-02	5.11E-04	1.49E-03	NE	NE	4.91E-03	1.43E-02
Benzo(g,h,i)perylene	3.24E-03	9.40E-03	4.05E-04	1.17E-03	NE	NE	3.64E-03	1.06E-02
Benzo(k)fluoranthene	2.31E-03	6.68E-03	3.79E-04	1.10E-03	NE	NE	2.69E-03	7.78E-03
Chrysene	2.68E-03	7.80E-03	4.25E-04	1.24E-03	NE	NE	3.11E-03	9.04E-03
Dibenzo(a,h)anthracene	2.37E-03	6.91E-03	5.38E-04	1.57E-03	NE	NE	2.91E-03	8.49E-03
Fluoranthene	1.61E-03	4.23E-03	1.75E-04	4.60E-04	NE	NE	1.78E-03	4.70E-03
Fluorene	2.36E-03	6.98E-03	1.18E-03	3.49E-03	NE	NE	3.53E-03	1.05E-02
Indeno(1,2,3-cd)pyrene	1.17E-03	3.17E-03	2.33E-04	6.35E-04	NE	NE	1.40E-03	3.81E-03
Phenanthrene	3.61E-04	1.01E-03	3.29E-04	9.21E-04	NE	NE	6.90E-04	1.93E-03
Pyrene	4.17E-03	1.24E-02	1.39E-03	4.13E-03	NE	NE	5.56E-03	1.65E-02
Tetrachloroethene	NE	NE	NE	NE	NE	NE	NE	NE
Trichloroethene	NE	NE	NE	NE	NE	NE	NE	NE
Vinyl chloride	NE	NE	NE	NE	NE	NE	NE	NE
Xylenes (total)	NE	NE	1.80E-06	1.80E-06	NE	NE	1.80E-06	1.80E-06
Inorganics								
Aluminum	NE	NE	NE	NE	NE	NE	NE	NE
Arsenic	NE	NE	NE	NE	3.49E-01	4.24E+00	3.49E-01	4.24E+00
Barium	NE	NE	NE	NE	NE	NE	NE	NE
Beryllium	NE	NE	NE	NE	NE	NE	NE	NE
Boron	NE	NE	NE	NE	4.06E-02	1.19E-01	4.06E-02	1.19E-01
Cadmium	NE	NE	NE	NE	7.25E-04	2.51E-03	7.25E-04	2.51E-03
Chromium (trivalent)	NE	NE	NE	NE	3.76E-03	2.69E-02	3.76E-03	2.69E-02
Chromium (hexavalent)	NE	NE	NE	NE	4.17E-03	2.99E-02	4.17E-03	2.99E-02
Cobalt	NE	NE	NE	NE	NE	NE	NE	NE
Copper	NE	NE	NE	NE	8.95E-03	1.92E-01	8.95E-03	1.92E-01
Iron	NE	NE	NE	NE	3.21E-01	1.06E+01	3.21E-01	1.06E+01
Lead	NE	NE	NE	NE	1.30E-03	2.60E-02	1.30E-03	2.60E-02
Manganese	NE	NE	NE	NE	1.85E-01	3.49E+00	1.85E-01	3.49E+00
Mercury	NE	NE	NE	NE	4.74E-05	4.74E-04	4.74E-05	4.74E-04
Nickel	NE	NE	NE	NE	9.88E-04	1.02E-02	9.88E-04	1.02E-02
Thallium	NE	NE	NE	NE	NE	NE	NE	NE
Vanadium	NE	NE	NE	NE	1.22E-01	1.56E+00	1.22E-01	1.56E+00
Zinc	NE	NE	NE	NE	1.01E-02	2.20E-01	1.01E-02	2.20E-01
					Cumulative Hazard Index:		1.08E+00	2.06E+01

NE - Not evaluated due to lack of dose and/or CTV.

Table 28

Summary of Hazard Quotients and Hazard Indices for the Robin, Site 4 Zone 1, Pease AFB, NH

Chemical	Hazard Quotients for Invertebrate Ingestion		Hazard Quotients for Soil Ingestion		Hazard Quotients for Surface Water Ingestion		Total Hazard Indices	
	Average	Maximum	Average	Maximum	Average	Maximum	Average	Maximum
Organics								
Benzoic acid[a]	NE	NE	NE	NE	NE	NE	NE	NE
Bis(2-ethylhexyl)phthalate[a]	NE	NE	NE	NE	NE	NE	NE	NE
gamma-BHC	NE	NE	NE	NE	7.15E-05	8.04E-05	7.15E-05	8.04E-05
Chlorobenzene	NE	NE	NE	NE	NE	NE	NE	NE
4,4'-DDD[a]	8.82E-03	1.06E-02	4.20E-05	5.04E-05	3.57E-06	6.16E-06	8.87E-03	1.06E-02
4,4'-DDE[a]	1.27E-02	1.27E-02	6.67E-05	6.67E-05	4.42E-05	4.89E-05	1.28E-02	1.28E-02
4,4'-DDT[a]	1.12E-01	1.22E-01	4.32E-04	4.70E-04	2.17E-04	6.03E-04	1.13E-01	1.23E-01
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Di-n-butyl phthalate[a]	NE	NE	NE	NE	NE	NE	NE	NE
1,4-Dichlorobenzene	NE	NE	NE	NE	NE	NE	NE	NE
2,4-Dinitrophenol	NE	NE	NE	NE	NE	NE	NE	NE
Naphthalene	NE	NE	NE	NE	NE	NE	NE	NE
n-Nitrosodiphenylamine	NE	NE	NE	NE	NE	NE	NE	NE
p-Nitrophenol	NE	NE	NE	NE	NE	NE	NE	NE
PAHs								
Acenaphthene	1.78E-04	3.41E-04	3.56E-05	6.83E-05	NE	NE	2.13E-04	4.10E-04
Anthracene	4.64E-05	7.43E-05	3.57E-05	5.71E-05	NE	NE	8.21E-05	1.31E-04
Benzo(a)anthracene	2.39E-04	1.28E-03	7.71E-05	4.13E-04	NE	NE	3.16E-04	1.69E-03
Benzo(a)pyrene	6.16E-04	3.41E-03	7.16E-05	3.97E-04	NE	NE	6.87E-04	3.81E-03
Benzo(b)fluoranthene	5.65E-04	3.05E-03	7.06E-05	3.81E-04	NE	NE	6.36E-04	3.43E-03
Benzo(g,h,i)perylene	3.76E-04	1.74E-03	6.16E-05	2.86E-04	NE	NE	4.37E-04	2.03E-03
Benzo(k)fluoranthene	4.30E-04	2.40E-03	6.83E-05	3.81E-04	NE	NE	4.98E-04	2.78E-03
Chrysene	3.53E-04	1.89E-03	8.02E-05	4.29E-04	NE	NE	4.33E-04	2.31E-03
Dibenzo(a,h)anthracene	3.78E-04	8.91E-04	4.11E-05	9.68E-05	NE	NE	4.19E-04	9.88E-04
Fluoranthene	3.09E-04	1.90E-03	1.54E-04	9.52E-04	NE	NE	4.63E-04	2.86E-03
Fluorene	1.78E-04	3.25E-04	3.56E-05	6.51E-05	NE	NE	2.13E-04	3.90E-04
Indeno(1,2,3-cd)pyrene	6.69E-05	2.97E-04	6.08E-05	2.70E-04	NE	NE	1.28E-04	5.67E-04
Phenanthrene	3.24E-04	1.95E-03	1.08E-04	6.51E-04	NE	NE	4.32E-04	2.60E-03
Pyrene	1.61E-04	7.67E-04	7.00E-05	3.33E-04	NE	NE	2.31E-04	1.10E-03
Tetrachloroethene	NE	NE	NE	NE	NE	NE	NE	NE
Inorganics								
Aluminum	NE	NE	NE	NE	NE	NE	NE	NE
Barium	NE	NE	NE	NE	NE	NE	NE	NE
Boron	NE	NE	NE	NE	2.37E-02	7.11E-02	2.37E-02	7.11E-02
Calcium	NE	NE	NE	NE	NE	NE	NE	NE
Cadmium	2.19E+00	7.91E+00	1.10E-02	3.96E-02	NE	NE	2.20E+00	7.95E+00
Copper	4.02E+00	9.15E+00	4.32E-01	9.84E-01	6.61E-03	2.27E-02	4.45E+00	1.02E+01
Iron	NE	NE	NE	NE	3.25E-02	1.37E-01	3.25E-02	1.37E-01
Lead	6.97E+01	2.16E+02	6.34E-02	1.96E-01	NE	NE	6.98E+01	2.16E+02
Magnesium	NE	NE	NE	NE	7.32E-03	1.07E-02	7.32E-03	1.07E-02
Mercury	1.13E-01	1.20E+00	3.05E-03	3.23E-02	NE	NE	1.16E-01	1.23E+00
Nickel	2.07E+00	3.99E+00	5.92E-02	1.14E-01	NE	NE	2.13E+00	4.10E+00
Silicon	NE	NE	NE	NE	NE	NE	NE	NE
Zinc	7.35E+01	1.97E+02	3.20E-01	8.56E-01	8.44E-03	3.30E-02	7.39E+01	1.98E+02
					Cumulative Hazard Index:		1.53E+02	4.38E+02
					Cumulative Hazard Index: (Above Background)		1.53E+02	4.38E+02

NE - Not evaluated due to lack of dose and/or CTV.

a - Soil concentration below background level.

Table 29

Summary of Hazard Quotients and Hazard Indices for the Robin, Site 44 Zone 1, Pease AFB, NH

Chemical	Hazard Quotients for Invertebrate Ingestion		Hazard Quotients for Soil Ingestion		Total Hazard Indices	
	Average	Maximum	Average	Maximum	Average	Maximum
Organics						
Benzoic acid[a]	NE	NE	NE	NE	NE	NE
Bis(2-ethylhexyl)phthalate[a]	NE	NE	NE	NE	NE	NE
4,4'-DDD	6.70E-02	1.48E-01	3.19E-04	7.06E-04	6.74E-02	1.49E-01
4,4'-DDE	2.28E-01	5.32E-01	1.20E-03	2.80E-03	2.29E-01	5.35E-01
4,4'-DDT	1.16E+00	2.48E+00	4.47E-03	9.53E-03	1.17E+00	2.49E+00
Dibenzofuran	NE	NE	NE	NE	NE	NE
Dieldrin	1.36E-01	1.36E-01	5.45E-04	5.45E-04	1.37E-01	1.37E-01
Di-n-butyl phthalate[a]	NE	NE	NE	NE	NE	NE
2-Methylnaphthalene	NE	NE	NE	NE	NE	NE
Naphthalene	NE	NE	NE	NE	NE	NE
PAHs						
Acenaphthene	6.51E-05	6.51E-05	1.30E-05	1.30E-05	7.81E-05	7.81E-05
Acenaphthylene[a]	1.35E-04	1.35E-04	2.70E-05	2.70E-05	1.62E-04	1.62E-04
Anthracene	4.27E-05	9.29E-05	3.29E-05	7.14E-05	7.56E-05	1.64E-04
Benzo(a)anthracene[a]	1.02E-04	2.61E-04	3.30E-05	8.41E-05	1.35E-04	3.45E-04
Benzo(a)pyrene[a]	2.66E-04	6.28E-04	3.10E-05	7.30E-05	2.97E-04	7.01E-04
Benzo(b)fluoranthene[a]	2.72E-04	5.46E-04	3.40E-05	6.83E-05	3.06E-04	6.14E-04
Benzo(g,h,i)perylene[a]	1.74E-04	3.49E-04	2.86E-05	5.71E-05	2.03E-04	4.06E-04
Benzo(k)fluoranthene[a]	2.14E-04	4.60E-04	3.40E-05	7.30E-05	2.48E-04	5.33E-04
Chrysene[a]	1.74E-04	4.47E-04	3.95E-05	1.02E-04	2.13E-04	5.49E-04
Dibenzo(a,h)anthracene[a]	1.16E-04	1.61E-04	1.26E-05	1.75E-05	1.29E-04	1.78E-04
Fluoranthene[a]	1.28E-04	5.40E-04	6.38E-05	2.70E-04	1.91E-04	8.10E-04
Fluorene	1.71E-04	3.25E-04	3.41E-05	6.51E-05	2.05E-04	3.90E-04
Indeno(1,2,3-cd)pyrene[a]	3.06E-05	5.94E-05	2.78E-05	5.40E-05	5.83E-05	1.13E-04
Phenanthrene	1.52E-04	8.10E-04	5.06E-05	2.70E-04	2.03E-04	1.08E-03
Pyrene[a]	1.08E-04	3.58E-04	4.70E-05	1.56E-04	1.55E-04	5.13E-04
Inorganics						
Chromium	6.65E+01	1.06E+02	3.32E+00	5.30E+00	6.98E+01	1.11E+02
Lead	9.59E+01	2.78E+02	8.71E-02	2.53E-01	9.59E+01	2.79E+02
Manganese	9.13E+00	2.24E+01	1.83E+00	4.47E+00	1.10E+01	2.68E+01
Mercury	6.65E-02	1.48E-01	1.80E-03	4.01E-03	6.83E-02	1.52E-01
Nickel	1.99E+00	3.74E+00	5.68E-02	1.07E-01	2.05E+00	3.84E+00
Titanium	NE	NE	NE	NE	NE	NE
Vanadium	NE	NE	3.58E+00	1.13E+01	3.58E+00	1.13E+01
		Cumulative Hazard Index:			1.84E+02	4.35E+02
		Cumulative Hazard Index: (Above Background)			1.84E+02	4.35E+02

NE – Not evaluated due to lack of dose and/or CTV.

a – Soil concentration below background level.

Table 30

Summary of Detailed Alternatives Evaluation[a]
Zone 1, Pease AFB, NH

Remedial Alternative		Short-Term Effectiveness Ranking	Long-Term Effectiveness Ranking	Reduction in TMV Through Treatment Ranking	Implementability Ranking	Protection of Human Health and Environment Ranking	Compliance with ARARs Ranking	Cost Analysis[b] (in $1,000)
MM-1	No action.	AB	BC	C	AB	C	C	Not estimated
MM-2	Limited action/institutional controls/Groundwater Management Zone (GMZ). Includes monitoring of groundwater in Zone 1 to track potential plume migration.	AB	AB	C	B	A	AB	$2,054.
MM-3	Groundwater Extraction and On-base Treatment and Disposal (UV Oxidation Technology with Carbon Adsorption).	B	A	AB	B	A	AB	$7,804.

[a] The letter 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.

Table 31

Documentation of ARARs for Groundwater Management of Migration — Alternative MM-2 Limited Action/Natural Attenuation and Biodegradation of Contaminated Groundwater/Institutional Controls/GMZ Zone 1, Pease AFB, NH

Media	Requirement	Requirement Synopsis	Action to be Taken to Attain Requirements	Basis
	Chemical-Specific			
Groundwater	FEDERAL-SDWA-Maximum Contaminant Levels (MCLs) (40 CFR 141.11-141.16)	MCLs have been promulgated for a number of common organic and inorganic contaminants. These levels regulate the contaminants in public drinking water supplies, but may also be considered relevant and appropriate for groundwater aquifers potentially used for drinking water.	Primary MCLs have been set as the cleanup goals when the primary MCL was available. See Section VII for groundwater cleanup goals. Deed restrictions will protect public health by prohibiting use of contaminated groundwater. Source removal, as set forth in the LF-5 Source Removal ROD, and natural attenuation will be relied upon to achieve cleanup goals. GMZ monitoring will be performed to confirm compliance with cleanup goals. It is estimated that cleanup goals will be attained within approximately 11 years under this alternative.	Applicable
Groundwater	FEDERAL-SDWA-Maximum Contaminant Level Goals (MCLGs) (40 CFR 141.50-141.51)	MCLGs are nonenforceable health-based goals for public water systems. MCLGs are set at levels that would result in no known or anticipated adverse health effects with an adequate margin of safety.	Non-zero MCLGs were considered when selecting cleanup goals. See Section VII for groundwater cleanup goals. Deed restrictions will protect public health by prohibiting use of contaminated groundwater. Source removal, as set forth in the LF-5 Source Removal ROD, and natural attenuation will be relied upon to achieve cleanup goals. GMZ monitoring will be performed to confirm compliance with cleanup goals. It is estimated that cleanup goals will be attained within approximately 11 years under this alternative.	Relevant and Appropriate

Table 31

Documentation of ARARs for Groundwater Management of Migration — Alternative MM-2 Limited Action/Natural Attenuation and Biodegradation of Contaminated Groundwater/Institutional Controls/GMZ Zone 1, Pease AFB, NH (Continued)

Media	Requirement	Requirement Synopsis	Action to be Taken to Attain Requirements	Basis
Groundwater	STATE NH Admin Code Env-Ws 410.05, Ambient Groundwater Quality Standards and Criteria	Standards for quality of ambient groundwater.	Available MCLs, MCLGs, and other health-based limits have been used as appropriate to set cleanup levels. See Section VII for groundwater cleanup goals. Deed restrictions will protect public health by prohibiting use of contaminated groundwater. Source removal, as set forth in the LF-5 Source Removal ROD, and natural attenuation will be relied upon to achieve cleanup goals. GMZ monitoring will be performed to confirm compliance with cleanup goals. It is estimated that cleanup goals will be attained within approximately 11 years under this alternative.	Applicable
Groundwater	STATE-New Hampshire Primary Drinking Water Criteria (MCLs and MCLGs) under RSA Ch. 485, Promulgated as Env-Ws 316, 317, and 318	Standards for public drinking water systems. Used as cleanup standards for aquifers and surface water bodies that are potential drinking water sources.	Available MCLs, MCLGs, and other health-based limits have been used as appropriate to set cleanup levels. See Section VII for groundwater cleanup goals. Deed restrictions will protect public health by prohibiting use of contaminated groundwater. Source removal, as set forth in the LF-5 Source Removal ROD, and natural attenuation will be relied upon to achieve cleanup goals. GMZ monitoring will be performed to confirm compliance with cleanup goals. It is estimated that cleanup goals will be attained within approximately 11 years under this alternative.	Relevant and Appropriate, to the extent these limits are more stringent than federal MCLs and MCLGs.

Table 31

Documentation of ARARs for Groundwater Management of Migration — Alternative MM-2 Limited Action/Natural Attenuation and Biodegradation of Contaminated Groundwater/Institutional Controls/GMZ Zone 1, Pease AFB, NH (Continued)

Media	Requirement	Requirement Synopsis	Action to be Taken to Attain Requirements	Basis
	Location-Specific			
Groundwater	STATE-NH Admin. Code Env-Ws 410.18 State of New Hampshire Groundwater Protection Rules	For sites with contaminated groundwater or unlined landfills, requires delineation of a Groundwater Management Zone (GMZ) based on hydrogeologic data.	A GMZ will be established in accordance with this rule.	Applicable
	Action-Specific			
Groundwater	STATE-NH Admin. Code Env-Ws 410.26, State of New Hampshire Groundwater Protection Rules	Groundwater quality within a GMZ shall not be degraded outside the GMZ. GMZ boundaries must be clearly marked by physical features (such as reproducible survey markers, travis rods, or monitor well rods) or property lines. Extraction of groundwater from wells within the GMZ must be restricted by easements, and an alternative water supply must be provided for wells within the GMZ that are in service.	Land use restrictions will prevent the use of contaminated groundwater from within the GMZ. Source control, as set forth in the LF-5 Source Control ROD, and natural attenuation will be relied upon to restore groundwater quality, and it is estimated that compliance will be attained in 11 years. Groundwater monitoring will be conducted at the boundaries of the GMZ to ensure that compliance is attained.	Applicable
Hazardous Waste	FEDERAL-RCRA, Subtitle C, 40 CFR Part 264, Hazardous Waste Regulations	RCRA Subtitle C establishes standards applicable to treatment, storage, transport, and disposal of hazardous waste, and to closure of hazardous waste facilities.	Management of hazardous waste as part of a CERCLA response must comply with substantive Subtitle C regulations.	Relevant and Appropriate. Has effect through state hazardous waste requirements that operate in lieu of direct federal regulation. See discussion of these requirements below.

Table 31

Documentation of ARARs for Groundwater Management of Migration — Alternative MM-2 Limited Action/Natural Attenuation and Biodegradation of Contaminated Groundwater/Institutional Controls/GMZ Zone 1, Pease AFB, NH (Continued)

Media	Requirement	Requirement Synopsis	Action to be Taken to Attain Requirements	Basis
Hazardous Waste	FEDERAL-RCRA 40 CFR 264.90-264.101 (Subpart F), Releases from Solid Waste Management Units	Identifies procedures to be followed to ensure that groundwater standards are met. These regulations establish requirements for groundwater monitoring, and, if necessary, corrective action at hazardous waste facilities.	Source reduction, as set forth in the LF-5 Source Area ROD, will be relied upon to meet cleanup goals. These goals will be achieved in an estimated 11 years under this alternative.	Relevant and Appropriate
Hazardous Waste	STATE-NH Admin. Code Env-Wm 708.02(j), Monitoring Requirements for Owners and Operators of Hazardous Waste Facilities	Identifies procedures to be followed to ensure that groundwater standards are met. These regulations establish requirements for groundwater monitoring, and, if necessary, corrective action at hazardous waste facilities.	GMZ monitoring will be conducted in accordance with these requirements.	Relevant and Appropriate
Hazardous Waste	STATE-RSA Ch 147-A, New Hampshire Hazardous Waste Management Act and Hazardous Waste Rules, Env-Wm Chapter 100-1000. Specific requirements discussed below.	Standards for management of hazardous waste and closure of hazardous waste facilities. Operates in lieu of federal RCRA Subtitle C requirements and, as such, the substantive standards of these rules must be complied with in the management of hazardous waste as part of a CERCLA response.	Applicable requirements will be satisfied. See discussion of specific provisions below.	See analysis of specific provisions below.
Hazardous Waste	STATE-NH Admin. Code Env-Wm 702.11, Groundwater Monitoring	Specifies the types of hazardous waste treatment facilities that must monitor migration of hazardous waste as specified.	GMZ monitoring will be conducted in compliance with these requirements.	Relevant and Appropriate
Hazardous Waste	STATE-NH Admin. Code Env-Wm 702.12, Other Monitoring	Requires groundwater monitoring by certain types of facilities.	GMZ monitoring will be conducted in compliance with any applicable requirements.	Relevant and Appropriate
Groundwater	STATE-NH Admin. Code Env-We 604, Abandonment of Wells	Imposes requirements for closure of wells.	If any groundwater wells will be abandoned, these well closure requirements will be satisfied.	Applicable

Table 31

Documentation of ARARs for Groundwater Management of Migration — Alternative MM-2 Limited Action/Natural Attenuation and Biodegradation of Contaminated Groundwater/Institutional Controls/GMZ Zone 1, Pease AFB, NH (Continued)

Media	Requirement	Requirement Synopsis	Action to be Taken to Attain Requirements	Basis
Groundwater	STATE-NH Admin. Code Env-Ws 410.03, Groundwater Quality Criteria	Compliance with Env-Ws 410.03 requires action to ensure that groundwater is suitable for drinking water, does not violate Ambient Groundwater Quality Standards, and does not cause surface water quality violations (unless as a result of natural conditions or exempt under Env-Ws 410.04).	Remedial action will be conducted in accordance with the requirements.	Applicable
Groundwater	STATE-NH Admin. Code Env-Ws 410.20, Notification to Landowners	Requires the permittee to provide notice of the permit to all owners of lots of records within the GMZ within 30 days of the date of approval of the groundwater management permit.	Action will be taken in accordance with this requirement.	Substantive requirements are applicable
Groundwater	STATE-NH Admin. Code Env-Ws 410.21, Recordation	Regulates recordation of notice of the groundwater management permit in the registry of deeds in the chain of title for each lot within the GMZ.	Remedial action will be conducted in accordance with the requirement.	Substantive requirements are applicable
Groundwater	STATE-NH Admin. Code Env-Ws 410.27, Groundwater Management Permit Compliance Criteria	Specific action to be taken in case of violation of an Ambient Groundwater Quality Standard at or outside the GMZ boundary.	Remedial action will be conducted in accordance with the requirement.	Substantive requirements are applicable
Groundwater	STATE-NH Admin. Code Env-Ws 410.30, Water Quality Sampling, Analysis, and Reporting.	Specifies the requirements for monitoring groundwater quality to ensure compliance with the terms of the permit and groundwater protection rules.	Remedial action will be conducted in accordance with these regulations.	Substantive requirements are applicable

APPENDIX B

DECLARATION OF CONCURRENCE

State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES
6 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095
603-271-3503 FAX 603-271-2867
TDD Access: Relay NH 1-800-735-2964

NHDES

received
4/13/95 - ALO

April 13, 1995

Mr. Alan K. Olsen
Director, Air Force Base Conversion Agency
1700 North Moore Street, Suite 2300
Arlington, VA 22209-2802

Re: Record of Decision for Zone 1 at the Pease Air Force Base Superfund Site; Newington and Portsmouth, New Hampshire

Subj: Declaration of Concurrence

Dear Mr. Olsen:

The New Hampshire Department of Environmental Services (Department) has reviewed the "Record of Decision for Zone 1" (Zone 1 ROD) for the Pease Air Force Base Superfund Site in Newington and Portsmouth, New Hampshire. The Air Force prepared the Zone 1 ROD in accordance with the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended by the Superfund Amendments and Reauthorization Act of 1986 (CERCLA). The Zone 1 ROD documents the actions to be taken to remedy potential threats to human health, welfare and the environment resulting from releases, or threatened release, of hazardous substances at the Pease AFB sites collectively known as Zone 1. As a party to the "Pease Federal Facility Agreement Under CERCLA Section 120" (Pease FFA), the State has participated in the oversight of the Air Force's Zone 1 Remedial Investigations and Feasibility Studies The State also has provide the Air Force with updated lists of all the potential State Applicable and Relevant and Appropriate Requirements (ARARs) during the remedial planning and remedy selection processes.

Modification #1 to the Pease FFA (March 1993) established Zone 1 to be the geographic grouping of sites (mostly landfills and ditches separated by forests and wetlands), located entirely within the Town of Newington, New Hampshire. The original Pease FFA (April 1991) designated Landfills 2, 3, 4, 5, and the Bulk Fuel Storage Area (Sites 2, 3, 4, 5, and 13) to be Areas of Concern (AOCs) which required investigations and evaluations under Superfund. Additional evaluations of Pauls Brook and Flagstone Brook (Sites 23 and 26) were required to determine if they should become AOCs. In the Pease FFA Modification #1 the Paint Can Disposal Area (Site 44) was added to the Pease FFA as an AOC and the Railroad Track Herbicide Area (Site 46) was added as a site requiring additional evaluation to determine if this area should be an AOC. Also, the Bulk Fuel Storage Area was removed from the jurisdiction of CERCLA (since the contaminants at the site are petroleum-related and exempt from CERCLA) and placed under the jurisdiction of the applicable State statutes.

In a letter dated September 16, 1993, the State concurred with the Source Area ROD for Landfill 5 which was fast-tracked in order to accelerate the implementation of the actions necessary to contain the primary source of groundwater contamination in Zone 1. The State also concurred with the decision to incorporate Pauls Brook and Flagstone Brook into a basewide surface water operable unit (intended to ensure the potential threats to human health and the environment are thoroughly investigated) and with the no further action decisions for Landfill 3 and the Railroad Tracks Herbicide Area.

Consistency with State Remediation Policy and Rules

In accordance with the requirements of CERCLA, the Zone 1 ROD documents the analyses of facts which support the selection of the environmental response action necessary to protect human health and environment due to the potential threats posed by contaminants at Landfill 2, Landfill 4, the Paint Can Disposal Area, and contaminated groundwater in Zone 1. While no further action under CERCLA is planned for Landfill 2, Landfill 4 and the Paint Can Disposal Area, these sites are to be closed in accordance with the Department's Solid Waste Rules, in a manner that is consistent with how similar sites are addressed in the State of New Hampshire. The closure of these solid waste sites, the Bulk Fuel Storage Area and the source control actions at Landfill 5 will collectively address the sources of groundwater contamination in Zone 1.

The selected remedy for contaminated groundwater in Zone 1 includes the establishment of a Groundwater Management Zone (GMZ) in accordance with New Hampshire's Groundwater Protection Rules. The Zone 1 GMZ is the contained volume of contaminated, or potentially contaminated, groundwater that will be restored to the State's ambient groundwater quality standards through passive (natural) processes. While the State has previously expressed a concern that some sections of its Groundwater Protection Rules were not selected as ARARs in the Zone 1 ROD, consultation with EPA-New England indicates that the substantive issues of concern will be addressed utilizing EPA guidelines through the authority provided by CERCLA.

Groundwater use within the GMZ may be restricted through institutional controls while groundwater quality is restored. A notice of the GMZ must be recorded in the registry of deeds in the chain of title for each lot within the GMZ. Although not required by CERCLA, the Department will issue a Groundwater Management Permit in order to track water quality monitoring on a site specific basis. A comprehensive detailed review of all environmental monitoring data will be conducted by the Air Force, EPA-New England, and the State to ensure the remedial action provides adequate protection of human health and the environment and complies with applicable regulations.

State Concurrence

The State reviewed all information in the Zone 1 Administrative Record, evaluated the cumulative risks associated with current and future potential exposures to the contaminants at the sites addressed by the Zone 1 ROD, and determined the actions set forth in the Zone 1 ROD are consistent with the requirements of CERCLA. As a party to the Pease FFA, and acting as agent for the State of New Hampshire, the Department concurs with the no-action decisions selected under CERCLA for Sites 2, 4 and 44 and the selected remedy for the management of contaminated groundwater in Zone 1 within a Groundwater Management Zone.

In striving to achieve the maximum benefit with limited public (and private) resources, the State continues to seek reasonable and practical solutions to the often costly and complex environmental challenges associated with contaminated site cleanups. Through the partnership and dedication exhibited by all parties, the rapid implementation of the actions necessary to protect human health and the environment will serve to expedite the achievement of our mutual environmental goals and facilitate efforts to restore the local economy in order to protect the welfare of those in the communities surrounding Pease AFB. As always, the Department stands ready to provide the guidance and assistance the Air Force may require in order to take the actions necessary to protect human health and the environment in a complete and cost-effective manner.

Sincerely,

Robert W. Varney
Commissioner

cc: Philip J. O'Brien, Ph.D., Director, DES-WMD
Carl W. Baxter, P.E., DES-WMEB
Richard H. Pease, P.E., DES-WMEB
Martha A. Moore, Esq., NHDOJ-AGO
Michael J. Daly, EPA
Arthur L. Ditto, P.E., AFBCA
James Snyder, USAF

APPENDIX C

RESPONSIVENESS SUMMARY

APPENDIX C
RESPONSIVENESS SUMMARY

OVERVIEW

The Air Force issued the Zone 1 Proposed Plan to the public in July 1994. In the Zone 1 Proposed Plan the Air Force identified its preferred alternatives and disposition for the various sites contained within the boundaries of Zone 1. Zone 1 consists of the following sites and operable units: Sites 2, 3, 4, 5, 13, 23, 26, 44, and 46 and a groundwater operable unit. Additionally, the Air Force explained in the Zone 1 Proposed Plan that the ditch sites (Flagstone Brook, the Railway Ditch, and Pauls Brook) and the Bulk Fuel Storage Area (Site 13) were not included as part of the Zone 1 Proposed Plan alternatives. It was further explained that these sites would be addressed either under a separate document, as an addition to a remedial action, or under another environmental program. The selection of the Air Force's preferred alternatives was coordinated with EPA Region I and NHDES prior to being presented to the general public in the Zone 1 Proposed Plan.

BACKGROUND OF COMMUNITY INVOLVEMENT

Prior to commencement of the public comment period, the Air Force issued a fact sheet that summarized the contents of the Zone 1 Proposed Plan. Presentations on the status of work being conducted and the results of the work in the Zone 1 area were made to the Pease AFB Technical Review Committee (TRC). Additionally, the content of the Zone 1 Proposed Plan was presented to and discussed with the members of the TRC. Announcements were mailed to all individuals on the Pease AFB mailing list in July 1994 prior to the beginning of the public comment period. Newspaper announcements (advertisements) were published prior to the public hearing date of 18 August 1994.

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

During the public comment period for the Zone 1 Proposed Plan, no written comments were received, and verbal comments were made by three individuals at the Zone 1 Proposed Plan public hearing held on 18 August 1994 at the Newington Town Hall. The comments received and associated Air Force response to those comments follow:

1. Comment (verbal): This project on Zone 1, I thoroughly support. I've presented this to my board, and they concurred with the ideas of what the Air Force is doing on the cleanup.

   Response: The Air Force acknowledges the commentor's support.

2. Comment (verbal): Now I'm getting to the big question, and the question is cost and what the Air Force is doing with hiring a remediation coordinator (contractor) and the cost, the cost of $150 million.

   Response: The Air Force, as a matter of policy, has decided to hire a single contractor for each closing base to be used for implementation of the various remedial actions selected for that specific base. For Pease AFB, this basewide remedial action contract has a maximum ceiling of $150 million. Each work order issued to the contractor will be individually priced, and the Air Force will monitor the contractor's performance to ensure that the work is done in accordance with contract requirements and in a cost-efficient manner. It is not expected that the full capacity ($150 million) of this basewide remedial action contract will have to be used to complete all the necessary remedial action activities at Pease AFB.

3. Comment (verbal): In general SCOPE, at our last meeting we discussed -- which was the 2nd of August -- we discussed the Zone 1 Proposed Plan and were in general agreement that the Proposed Plan is the right way to go and that we do support the Air Force's actions in the Remedial Action.

Response: The Air Force acknowledges SCOPE's agreement with the proposed Zone 1 actions.

4. Comment (verbal): I did have a question, but I think you answered it. In the railroad bed itself, I was concerned that the investigation should have gone from the border (base) all the way up to, I think it's Dover Avenue, at the old BX, because that's where the railroad bed ended. And along in there herbicides were probably used.

Response: The railroad track herbicide usage area (Site 46) covers the total length of the railway bed, from the base boundary to the end point within the base. This site was put into Zone 1 for convenience because Zone 1 is where the railroad tracks begin on the base. The investigative work on the railroad track area covers the total length. Additionally, work in Zone 3 and at Site 32/36 also covered some of the railroad bed areas, especially at the end point identified by the commentor.

5. Comment (verbal): I've got one question you might answer later on or now, it doesn't matter. We looked at the construction of Landfill 5 and commented previously that the PDA, if they were going to build a road to the north ramp, because it is prime industrial area, that it should be, the preliminary work should be done as the construction of Landfill 5 was being done so that we don't have to come back later on and redo everything.

Response: The Air Force did take into account the future possibility of the PDA constructing an access road to the north ramp area when we designed the remedial action for Landfill (LF-5). The Air Force was able to adjust the toes (edges) of the landfill to facilitate the future road. This action did not cost the Air Force any additional money. As a result, a road can be constructed without having to do any modification to the final LF-5 cap.

6. Comment (verbal): Speaking of costs, we did address this at our August meeting, the cost of the projects, and our technical advisor was concerned of the cost of some of the projects, especially the waste water treatment plants here (Landfill 5) and out at Site 8. And we've really got, as taxpayers, we've got to watch and monitor the costs.

Response: The Air Force also is concerned about the cost of remedial actions that are being or will be implemented at Pease AFB. Along with watching costs, the Air Force must ensure that the remedial action being purchased will meet the cleanup requirements. This is a balancing process, and sometimes it is necessary to take a conservative approach to minimize the potential risk of failure of a treatment system. The water treatment plant purchased for the LF-5 work was necessary as a contingency in the event that water encountered during the excavation process required treatment. The Air Force will reuse this plant to support the Landfill 6 work, and also is considering using it at several underground storage tank sites at Pease AFB. These types of actions by the Air Force will result in an overall savings to the federal taxpayer. The Air Force

welcomes the continued oversight by the public and SCOPE on cost-management issues.

7. Comment (verbal): So I hope that, with the money that's already been appropriated for Pease and earmarked for Pease, that we put it to the best use, we don't spend a lot of money on redundancy that we may not need, on things that the state would like to see, things that the EPA would like to see, but we cannot afford.

Response: The Air Force concurs with this statement. The Air Force cannot afford, nor is it in the federal taxpayer's interest, to spend money on work or items that are not beneficial to the cleanup process at Pease AFB. Cost benefit analysis is an appropriate topic for the Pease Restoration Advisory Board to put to the Air Force and regulators as an item it considers should be taken into account when determining the need for additional expenditures.

8. Comment (verbal): I just want to say that as a resident of Newington, I feel very comfortable with the Air Force's approach on Zone 1. The presentation that was made was very thorough tonight. It gave me good confidence that the Air Force is treating this problem in a very cost-effective way and coming up with the best solution that we can with the funds available.

Response: The Air Force appreciates the confidence this commentor has in the Air Force's ability to properly address the Zone 1 issues.

9. Comment (verbal): I do have one question. My understanding from your briefing was that the opportunity for redevelopment of the Landfill 5 site would be somewhat in, in five years -- excuse me, eleven

years. If a particular company chose to, would like to develop that earlier, is it feasible that, in your estimation, that they could, if they could find a site to transport the contents of Landfill 5 to, that they could do that, and do you have any estimate of what the cost of that would be?

Response: The 11 years is the estimated time it will take the groundwater to cleanse itself (naturally attenuate). After that period, the groundwater under LF-5 would be clean, but the waste would still be there. It would be possible in the future for a developer to propose to excavate and remove the waste material from LF-5 and relocate it to another regulatory-acceptable location. Obviously, this type of action would have to comply and satisfy all regulations that may govern such an action. Based on today's regulations, it would cost many millions of dollars to do this. For instance, Alternative 5B evaluated in the LF-5 Feasibility Study involved off-site disposal of the landfill waste. The off-site waste disposal cost associated with this alternative was in excess of $150 million.

APPENDIX D

ADMINISTRATIVE RECORD INDEX

ADMINISTRATIVE RECORD FILE INDEX

FOR THE

INSTALLATION RESTORATION PROGRAM

PEASE AIR FORCE BASE
NEW HAMPSHIRE

JULY 1995

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 Conversion Agency
Operating Location A, Building 43
61 International Drive
Pease AFB, NH 03803-0157
(603) 430-2586

Dynamac Corporation assisted in the organization, establishment and on-site setup of the Administrative Record File at Pease Air Force Base.

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

Site Code	(Category #)	Entry #	Page Range
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.

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

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

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)

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

#

1.2 Notification/Site Inspection Reports

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

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

#

1.4 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) #6 001-B17
LONG TITLE: Pease AFB Railroad Tracks (Site 46) Site Investigation Letter Report
AUTHOR: Weston
RECIPIENT: USAF
DATE: 24 September 1992
TYPE: Letter Report
SECOND REFERENCE: PEA (1.6)
LOCATION: ARF, IR

#

1.5 Previous Operable Unit Information

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

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) #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
SECOND REFERENCE:	None
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

#

2.1 Sampling and Analysis Plans

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

2.2 Sampling and Analysis Data / Chain of Custody

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

2.3 EE/CA Approval Memorandum (Non-Time Critical Removals)

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

2.4 EE/CA (Engineering Evaluation / Cost Analysis)

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

2.5 Action Memorandum

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

2.6 Amendments to Action Memorandum

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

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

#

2.8 Correspondence

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

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) #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) #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) #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
DATE: 06 January 1993
TYPE: Letter Report
SECOND REFERENCE: Zone 1; Site 13
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) #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
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) #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) #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) #18 001-007
LONG TITLE: Zone 1 Groundwater Model Caliberation
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 17 May 1993
TYPE: Letter Report
SECOND REFERENCE: Zone 1
LOCATION: ARF (Section 3.2 Binder)

#

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) #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: eptember 1987
TYPE: Work Plan
SECOND REFERENCE: None
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.3) #6 001-GL.2
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, 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) #12 001-004
LONG TITLE: Groundwater Modeling Process Outline
AUTHOR: Lee deParsia
Task Manager
Roy F. Weston, Inc.
RECIPIENT: 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-C.31
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

#

DOCUMENT NUMBER: PEA (3.3) #16 001-4.1
LONG TITLE: Work Plan to Evaluate the Sediments of McIntyre Brook Flagstone
Brook, Pease AFB, NH
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: October 27, 1993
TYPE: Work Plan
SECOND REFERENCE: McIntyre Brook; Flagstone Brook
LOCATION: ARF (Section 3.3 Binder)

#

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
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.
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.
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: 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) #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) #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

#

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: USAF
DATE: April 1992
TYPE: Appendices
SECOND REFERENCE: LF-5
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) #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

#

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) #65 001-ACR.4
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Text–DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: October 1993
TYPE: Report
SECOND REFERENCE: Zone 1
LOCATION: ARF (Zone 1 Shelf)

#

DOCUMENT NUMBER: PEA (3.5) #66 001-6.4-4
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Figures–DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: October 1993
TYPE: Figures
SECOND REFERENCE: Zone 1
LOCATION: ARF (Zone 1 Shelf)

#

DOCUMENT NUMBER: PEA (3.5) #67 001-F
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Appendices A, B, C, D, E and F–DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: October 1993
TYPE: Appendices
SECOND REFERENCE: Zone 1
LOCATION: ARF (Zone 1 Shelf)

#

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 FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: April 1993 (Draft Final used to supplement)
TYPE: Appendix
SECOND REFERENCE: Zone 1
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #69 001-L
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Appendices G, H, I, and L–DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: October 1993
TYPE: Appendices
SECOND REFERENCE: Zone 1
LOCATION: ARF (Zone 1 Shelf)

#

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 (also used to supplement 10/93 DRAFT FINAL)
TYPE: Appendix
SECOND REFERENCE: Zone 1
LOCATION: ARF (Zone 1 Shelf 1)

#

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 (also used to supplement 10/93 DRAFT FINAL)
TYPE: Appendix
SECOND REFERENCE: Zone 1
LOCATION: ARF (Zone 1 Shelf)

#

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 (also used as part of 10/93 DRAFT FINAL)
TYPE: Appendix
SECOND REFERENCE: Zone 1
LOCATION: ARF (Zone 1 Shelf)

#

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 FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: October 1993
TYPE: Appendix
SECOND REFERENCE: Zone 1
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #74 001-K.6-6
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 1 Remedial Investigation Report Appendix K–DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: October 1993
TYPE: Appendix
SECOND REFERENCE: Zone 1
LOCATION: ARF (Zone 1 Shelf)

#

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 (also used to supplement 10/93 DRAFT FINAL)
TYPE: Appendix
SECOND REFERENCE: Zone 1
LOCATION: ARF (Zone 1 Shelf)

#

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

#

DOCUMENT NUMBER: PEA (3.5) #114 001-009
LONG TITLE: Letter Report to Establish Remedial Goals for Sediments in Flagstone Brook
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 19 April 1994
TYPE: Letter Report (RI)
SECOND REFERENCE: Flagstone Brook
LOCATION: ARF, 3.5 Shelf

#

DOCUMENT NUMBER: PEA (3.5) 115 001-039
LONG TITLE: Cumulative Risk Evaluation for Zone 1 through Zone 5 at Pease AFB, N.H.
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: March 1994
TYPE: Risk Evaluation Report
SECOND REFERENCE: For Zones 1 through Zone 5
LOCATION: ARF, General 3.5 Shelf

#

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. Wgston, 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) #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
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)
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) #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
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
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
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) #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) #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
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
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.
RECIPIENT: EPA
DATE: 1991
TYPE: Response to Comments
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 U.S. EPA, Region 1
RECIPIENT:	Arthur Ditto, RPM USAF, Pease AFB
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 Johanna Hunter, USEPA Roy F. Weston, Inc.
DATE:	23 April 1991
TYPE:	Fax with Attachments
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 Brooks AFB, TX 78235-5000
DATE:	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) #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) #75 001-002
LONG TITLE: EPA Pump Test Information Request to be Provided by Air Force
AUTHOR: Johanna Hunter, RPM
U.S. EPA Region 1
RECIPIENT: 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 Brooks AFB, TX 78235-5000
DATE:	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) #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 NHDES
RECIPIENT:	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
U.S. EPA, Region 1
RECIPIENT: 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) #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) #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
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) #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) #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
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) #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) #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

#

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
USAF/Pease AFB
DATE: 16 September 1992
TYPE: Letter
SECOND REFERENCE: None
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) #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

#

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) #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 Analysis Plan (SAP) Number 3
AUTHOR: 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) #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) #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
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) #170 001-008
LONG TITLE: Locations of Surface Waters of the State of New Hampshire in the Vicinity of Former Pease AFB
AUTHOR: Arthur Ditto, Pease AFB
RECIPIENT: Richard Pease, NHDES
DATE: 16 November 1993
TYPE: Letter with Attachment
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (3.6) #171 001-002
LONG TITLE: Zone 1 Draft Final Remedial Investigation Report
AUTHOR: NHDES
RECIPIENT: USAF
DATE: 24 November 1993
TYPE: Letter
SECOND REFERENCE: Zone 1
LOCATION: ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #175 001-002
LONG TITLE:	Zone 1 Draft Final Remedial Investigation Report
AUTHOR:	NHDES
RECIPIENT:	USAF
DATE:	27, November 1993
TYPE:	Letter
SECOND REFERENCE:	Zone 1
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #176 001-003
LONG TITLE:	Zone 1 Draft Final Remedial Investigation Report
AUTHOR:	NHDES
RECIPIENT:	USAF
DATE:	15 December 1993
TYPE:	Letter
SECOND REFERENCE:	Zone 1
LOCATION:	ARF (Section 3.6 Binder)

#

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

#

DOCUMENT NUMBER:	PEA (4.1) #3 001-002
LONG TITLE:	Waiverability of Env-WS 430, Surface Water Quality Regulations, as an ARAR
AUTHOR:	Arthur Ditto, Pease AFB
RECIPIENT:	Richard Pease, NHDES
DATE:	21 December 1993
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 4.1 Binder)

#

DOCUMENT NUMBER:	PEA (4.1) #4 001-025
LONG TITLE:	New Hampshire ARAR List Update
AUTHOR:	NHDES
RECIPIENT:	USAF
DATE:	23 December 1993
TYPE:	Letter with Attachment
SECOND REFERENCE:	None
LOCATION:	ARF (Section 4.1 Binder)

#

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) #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

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-I.3
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) #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) #44 001-R.4
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease AFB, Zone 1 Feasibility Study Report, Text -- DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: December 1993
TYPE: Feasibility Study
SECOND REFERENCE: Zone 1
LOCATION: ARF (Zone 1 Shelf)

#

DOCUMENT NUMBER: PEA (4.2) #45 001-J.7
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease AFB, Zone 1 Feasibility Study Report Appendices -- DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: December 1993
TYPE: Feasibility Study
SECOND REFERENCE: Zone 1
LOCATION: ARF (Zone 1 Shelf)

#

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 1.1-Figure 4
LONG TITLE: Revised Proposed Plan for IRP Site 5, Landfill 5 Source Area – Revised Draft Final
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF, EPA, NHDES, Public
DATE: July 1993
TYPE: Proposed Plan
SECOND REFERENCE: Landfill 5
LOCATION: ARF (LF-5 Shelf), IR

#

DOCUMENT NUMBER: PEA (4.3) #9 001-R.1
LONG TITLE: Installation Restoration Program, Proposed Plan for IRP Zone 1, Pease AFB, NH
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: January 1994
TYPE: Proposed Plan
SECOND REFERENCE: Zone 1
LOCATION: ARF (Zone 1 Shelf)

#

4.4 Supplements and Revisions to the Proposed Plan

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

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) #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) #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) #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
AUTHOR: USAF
RECIPIENT: Richard Pease, NHDES
DATE: 18 August 1992
TYPE: Letter
SECOND REFERENCE: Landfill 5
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) #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

#

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) #58 001-003
LONG TITLE:	Former Pease AFB, Surface Water Issues
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, Pease AFB
DATE:	29 November 1993
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 4.5 Binder)

#

5.1 ROD

DOCUMENT NUMBER:	PEA (5.1) #2 001-12.1
LONG TITLE:	U.S. Air Force Installation Restoration Program, Pease AFB, Record of Decision for a Source Area Remedial Action at Landfill 5
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	September 1993
TYPE:	ROD
SECOND REFERENCE:	LF-5
LOCATION:	ARF (LF-5 Shelf)

#

5.2 Amendments to ROD

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

5.3 Explanations of Significant Differences

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

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) #4 001-002
LONG TITLE:	Pease AFB IRP ROD Review Process
AUTHOR:	Arthur Ditto, Pease AFB
RECIPIENT:	AFBCA/NE
DATE:	15 December 1993
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 5.4 Binder)

#

DOCUMENT NUMBER:	PEA (5.4) #5 001-002
LONG TITLE:	Getting to a ROD, Revised Milestones
AUTHOR:	Arthur Ditto, Pease AFB
RECIPIENT:	Michael Daly, EPA Region I Richard Pease, NHDES
DATE:	4 February 1994
TYPE:	Letter
SECOND REFERENCE:	Zone 1; Zone 2; Zone 3; Zone 4 Site 32/36
LOCATION:	ARF (Section 5.4 Binder)

#

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

#

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
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

#

DOCUMENT NUMBER: PEA (6.2) #8 001-II.4
LONG TITLE: Modification 1 to Pease AFB Federal Facilities Agreement
AUTHOR: USAF
RECIPIENT: Michael Daly, EPA Region I
Richard Pease, NHDES
DATE: 8 September 1993
TYPE: FFA Modification
SECOND REFERENCE: None
LOCATION: ARF, (Section 6.2 Binder)

#

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
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
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
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

#

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
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) #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
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) #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

#

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

#

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. Kettenring
NHDES
Wetlands Board
P.O. Box 2008
Concord, NH 03302-2008
RECIPIENT: Art Ditto, Pease AFB
DATE: 26 May 1992
TYPE: Letter
SECOND REFERENCE: None
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

#

DOCUMENT NUMBER: PEA (6.4) #9 001-041
LONG TITLE: Quarterly Progress Report, Period of Performance July, August and September 1993
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: October 1993
TYPE: Report
SECOND REFERENCE: None
LOCATION: ARF (Section 6.4 Binder)

#

7.1 Enforcement History

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

7.2 Endangerment Assessments

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

7.3 Administrative Orders

DOCUMENT NUMBER:	PEA (7.3) #1 001-II.3
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

#

7.4 Consent Decrees

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

7.5 Affidavits

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

7.6 Documentation of Technical Discussions / Response Actions

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

7.7 Notices, Letters, and Responses

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

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

#

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

#

8.3 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

#

9.1 Notices Issued

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

9.2 Findings of Fact

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

9.3 Reports

DOCUMENT NUMBER:	PEA (9.3) #1 001-015
LONG TITLE:	Landfill 5 Closure Wetlands Assessment and Mitigation Report
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	November 1993
TYPE:	Report
SECOND REFERENCE:	Landfill 5
LOCATION:	ARF (LF-5 Shelf)

#

9.4 General Correspondence

DOCUMENT NUMBER:	PEA (9.4) #1 001-001
LONG TITLE:	Landfill 5 Wetlands Assessment and Mitigation Report
AUTHOR:	Arthur Ditto, Pease AFB
RECIPIENT:	Michael Daly, EPA Richard Pease, NHDES
DATE:	3 December 1993
TYPE:	Letter
SECOND REFERENCE:	LF-5
LOCATION:	ARF (Section 9.4 Binder)

#

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. RPM, NHDES
RECIPIENT:	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 Superfund Community Relations
RECIPIENT:	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
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) #12 001-003
LONG TITLE: Review Comments for Stage 4 Work Plan Addendum Number 2
AUTHOR: Richard H. Pease, P.E.
RPM, NHDES
RECIPIENT: 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) #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) #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) #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) #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
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) #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
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) #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) #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) #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) #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:	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) #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) #83 001-023
LONG TITLE: Review of the Air Force Installation Restoration Program, Zone 1, Initial Screening of Alternatives Report, Pease AFB
AUTHOR: USEPA, Region 1
RECIPIENT: USAF
DATE: 27 August 1993
TYPE: Comments
SECOND REFERENCE: PEA (10.10); Zone 1
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #84 001-018
LONG TITLE: Response to EPA Comments on the Zone 1 Draft Remedial Investigation Report
AUTHOR: USAF
RECIPIENT: EPA
DATE: 15 October 1993
TYPE: Response to Comments
SECOND REFERENCE: Zone 1
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #85 001-018
LONG TITLE: Response to NHDES Comments on the Zone 1 Draft Remedial Investigation Report
AUTHOR: USAF
RECIPIENT: NHDES
DATE: 15 October 1993
TYPE: Response to Comments
SECOND REFERENCE: Zone 1; PEA (10.10)
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #86 001-015
LONG TITLE: Response to the EPA Comments on the Zone 1 Draft FS Report
AUTHOR: USAF
RECIPIENT: EPA
DATE: 29 November 1993
TYPE: Response to Comments
SECOND REFERENCE: Zone 1
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #87 001-018
LONG TITLE: Response to NHDES Comments on the Zone 1 Draft FS Report
AUTHOR: USAF
RECIPIENT: NHDES

DATE: 30 November 1993
TYPE: Response to Comments
SECOND REFERENCE: Zone 1
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #107 001-001
LONG TITLE: Response to NHDES Comments on the 30% Submittal of the Remedial Design for the Landfill 5 Final Closure System
AUTHOR: USAF
RECIPIENT: NHDES
DATE: 3 November 1993
TYPE: Response to Comments
SECOND REFERENCE: Landfill 5
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #108 001-004
LONG TITLE: Response to EPA Comments on the 30% Submittal of the Remedial Design for the Landfill 5 Final Closure System
AUTHOR: USAF
RECIPIENT: EPA
DATE: 3 November 1993
TYPE: Response to Comments
SECOND REFERENCE: Landfill 5
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #109 001-006
LONG TITLE: Response to NHDES Comments on the 90% Submittal of the Remedial Design for the Excavation/Relocation Plan for Waste, Soil and Sediments; Landfills 2, 4, and 5
AUTHOR: USAF
RECIPIENT: NHDES
DATE: 3 November 1993
TYPE: Response to Comments
SECOND REFERENCE: Landfill 2; Landfill 4; Landfill 5
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #116 001-003
LONG TITLE: Review of U.S. Environmental Protection Agency Comments on Background Data for Pease AFB, NH
AUTHOR: Fred Price, Mitre Corporation
RECIPIENT: Major Charles Howell, AFCEE
DATE: 11 June 1993
TYPE: Letter
SECOND REFERENCE: None
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #118 001-004
LONG TITLE: Peer Review of Initial Screening of Alternatives, Zone 1, Pease AFB, NH
AUTHOR: Fred Price, Mitre Corporation
RECIPIENT: Major Charles Howell, AFCEE
DATE: 16 July 1993
TYPE: Letter
SECOND REFERENCE: Zone 1
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #120 001-005
LONG TITLE: Review of the Air Force Installation Restoration Program, Zone 1 Initial Screening of Alternatives Report, Pease AFB, NH
AUTHOR: EPA
RECIPIENT: USAF

DATE: 27 August 1993
TYPE: Letter with Attachment
SECOND REFERENCE: Zone 1
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #121 001-012
LONG TITLE: Pease AFB Zone 1 Draft Feasibility Study Review Comments
AUTHOR: NHDES
RECIPIENT: USAF
DATE: 1 October 1993
TYPE: Letter with Attachments
SECOND REFERENCE: Zone 1
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #126 001-002
LONG TITLE: EPA Review of McIntyre Brook and Flagstone Brook Sediment Evaluation Work Plan
AUTHOR: EPA
RECIPIENT: USAF
DATE: 16 November 1993
TYPE: Fax
SECOND REFERENCE: None
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #129 001-010
LONG TITLE: Pease AFB Zone 1 Draft Final Remedial Investigation Review Comments
AUTHOR: NHDES
RECIPIENT: USAF
DATE: 29 November 1993
TYPE: Comments
SECOND REFERENCE: Zone 1
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #131 001-002
LONG TITLE: Work Plan to Evaluate the Sediments of McIntyre Brook and Flagstone Brook Review Comments
AUTHOR: NHDES
RECIPIENT: USAF
DATE: 29 November 1993
TYPE: Comments
SECOND REFERENCE: Zone 3
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #134 001-003
LONG TITLE: Pease AFB Zone 1 Feasibility Study Report Draft Final Review Comments
AUTHOR: NHDES
RECIPIENT: USAF
DATE: 3 January 1994
TYPE: Comments
SECOND REFERENCE: Zone 1
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #136 001-010
LONG TITLE: Pease AFB, Zone 1 Draft Final Remedial Investigation
AUTHOR: NHDES
RECIPIENT: USAF
DATE: 29 November 1993
TYPE: Review Comments
SECOND REFERENCE: Zone 1; PEA (3.6)
LOCATION: ARF (Section 10.1 Binder)

#

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

#

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) #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
TYPE: Public Notice
SECOND REFERENCE: LF-2, LF-4, LF-5
LOCATION: ARF

#

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) #6 001-034
LONG TITLE: Pease AFB Official Transcript of Public Hearing for Revised Proposed Plan for Landfill 5
AUTHOR: R&R Associates, Inc.
RECIPIENT: USAF
DATE: 5 August 1993
TYPE: Transcript
SECOND REFERENCE: LF-5
LOCATION: ARF (LF-5 Shelf)

#

DOCUMENT NUMBER: PEA (10.4) #7 001-8.3
LONG TITLE: Final Summary of Pease AFB Public Hearing on the Revised Proposed Plan for the Landfill 5 Source Area and the Consolidation of Landfills 2 and 4 Within Landfill 5
AUTHOR: Dynamac Corporation
RECIPIENT: USAF

DATE: 5 August 1993
TYPE: Hearing Summary
SECOND REFERENCE: LF-5
LOCATION: ARF (LF-5 Shelf)

#

10.5 Documentation of Other Public Meetings/TRC Minutes

DOCUMENT NUMBER: PEA (10.5) #00 001-004
LONG TITLE: Meeting Minutes of the Technical Review Committee
AUTHOR: USAF
RECIPIENT: See Distribution List
DATE: 22 February 1990
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #0 001-013
LONG TITLE: Meeting Minutes of the Technical Review Committee
AUTHOR: USAF
RECIPIENT: See Distribution List
DATE: 30 March 1990
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #1 001-004
LONG TITLE: Meeting Minutes of the Technical Review Committee
AUTHOR: USAF
RECIPIENT: See Distribution List
DATE: 27 April 1990
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #2 001-010
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #3 001-008
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #4 001-005
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #5 001-005
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #6 001-012
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #7 001-008
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #8 001-004
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #9 001-003
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
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #10 001-003
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #11 001-006
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #12 001-003
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #13 001-006
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #14 001-007
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #15 001-007
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #16 001-010
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #17 001-003
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #18 001-013
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #19 001-005
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #20 001-003
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #21 001-002
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #22 001-003
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #23 001-003
LONG TITLE: Meeting Minutes of Technical Review Committee
AUTHOR: USAF
RECIPIENT: TRC Distribution List
DATE: 28 July 1992
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: Environmental Division File Room - Technical Review Committee File

#

DOCUMENT NUMBER: PEA (10.5) #24 001-005
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #25 001-013
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 (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #26 001-004
LONG TITLE: Meeting Minutes of Technical Review Committee
AUTHOR: USAF
RECIPIENT: See Distribution List
DATE: 16 December 1992
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #27 001-003
LONG TITLE: Meeting Minutes of Technical Review Committee
AUTHOR: USAF
RECIPIENT: TRC Distribution List
DATE: 17 February 1992
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #28 001-003
LONG TITLE: Meeting Minutes of Technical Review Committee
AUTHOR: USAF
RECIPIENT: TRC Distribution List
DATE: 23 March 1993
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #29 001-006
LONG TITLE: Meeting Minutes of Technical Review Committee
AUTHOR: USAF
RECIPIENT: TRC Distribution List
DATE: 27 April 1993
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #30 001-006
LONG TITLE: Meeting Minutes of Technical Review Committee
AUTHOR: USAF
RECIPIENT: TRC Distribution List

DATE: 25 May 1993
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #31 001-012
LONG TITLE: Meeting Minutes of Technical Review Committee
AUTHOR: USAF
RECIPIENT: TRC Distribution List
DATE: 29 July 1993
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #32 001-002
LONG TITLE: Meeting Minutes of Technical Review Committee
AUTHOR: USAF
RECIPIENT: TRC Distribution List
DATE: 27 July 1993
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #33 001-008
LONG TITLE: Meeting Minutes of the Technical Review Committee
AUTHOR: USAF
RECIPIENT: See Distribution List
DATE: 31 August 1993
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #34 001-009
LONG TITLE: Meeting Minutes of Technical Review Committee
AUTHOR: USAF
RECIPIENT: See Distribution List
DATE: 28 September 1993
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #35 001-010
LONG TITLE: Technical Review Committee Meeting Minutes
AUTHOR: USAF
RECIPIENT: See Distribution List
DATE: 26 October 1993
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #36 001-011
LONG TITLE: Technical Review Committee Meeting Minutes
AUTHOR: USAF
RECIPIENT: See Distribution List
DATE: 30 November 1993
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #37 001-002
LONG TITLE: Technical Review Committee Meeting Minutes
AUTHOR: USAF
RECIPIENT: See Distribution List
DATE: 11 January 1994
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #38 001-003
LONG TITLE: Meeting Minutes of Technical Review Committee
AUTHOR: USAF
RECIPIENT: TRC Distribution List
DATE: 1 March 1994
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #39 001-012
LONG TITLE: Meeting Minutes of Technical Review Committee
AUTHOR: USAF
RECIPIENT: TRC Distribution List
DATE: 26 April 1994
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

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) #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

#

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: 1991 Mailing 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: 1992 Mailing List
DATE: December 1992
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: 1993 Mailing List
DATE: January 1993
TYPE: Fact Sheet
SECOND REFERENCE: LF-5
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: 1993 Mailing 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) #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 (Section 10.6 Binder)

#

DOCUMENT NUMBER: PEA (10.6) #19 001-002
LONG TITLE: News Release, Final Plans Issued for Cleanup of Two Sites at Pease AFB
AUTHOR: USAF
RECIPIENT: Media
DATE: 27 September 1993
TYPE: News Release
SECOND REFERENCE: LF-5; Site 34
LOCATION: ARF (Section 10.6 Binder)

#

DOCUMENT NUMBER: PEA (10.6) #20 001-004
LONG TITLE: Pease AFB Environmental Reporter Volume 1, Number 1
AUTHOR: USAF
RECIPIENT: See Mailing List
DATE: January 1994
TYPE: Newsletter
SECOND REFERENCE: None
LOCATION: ARF (Section 10.6 Binder)

#

DOCUMENT NUMBER: PEA (10.6) #24 001-004
LONG TITLE: Pease AFB Environmental Reporter Volume 1, Number 2
AUTHOR: USAF
RECIPIENT: Mailing List
DATE: April 1994
TYPE: Quarterly Newsletter
SECOND REFERENCE: None
LOCATION: ARF (Section 10.6 Binder)

#

10.7 Responsiveness Summary

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

10.8 Late Comments

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

10.9 Technical Review Committee Charter

* NOTE: NO ENTRIES IN THIS SECTION AT THIS TIME

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

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
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) #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

#

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
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: 1190/91
TYPE: Guidance
SECOND REFERENCE: None
LOCATION: Art's Office

#

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

#

DOCUMENT NUMBER: PEA (11.1) #18 Deleted

#

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

#

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

#

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

#

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

#

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
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-I.3
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 Laborstory 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-BI.3
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-IX.A1.3
LONG TITLE: Recommended Sampling Procedures
AUTHOR: Air Force Occupational and Environmental Health Laborstory
RECIPIENT: Pease AFB

DATE: March 1989
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 – Deleted

#

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

#

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) #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

#

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

#

12.1 Privileged Documents (Extractions)

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