61578

Record of Decision
Site 45, Old Jet Engine Test Stand
Pease Air Force Base, New Hampshire

August 1995

95P-3606

51578

Record of Decision
for a
Remedial Action
at
Site 45, Old Jet Engine Test Stand

Pease Air Force Base, NH

August 1995

Prepared for:

Air Force Base Conversion Agency (AFBCA)
The Pentagon, Washington, DC 20330

Air Force Center for Environmental Excellence
Base Closure Division (AFCEE/ESB)
Brooks Air Force Base, TX 78235-5328

Prepared by:

Roy F. Weston, Inc.
1 Weston Way
West Chester, PA 19380-1499

Table of Contents

Table of Contents
(Continued)

Table of Contents
(Continued)

List of Figures

List of Tables

DECLARATION

SITE NAME AND LOCATION

Pease Air Force Base (Pease AFB), Site 45, Old Jet Engine Test Stand, New Hampshire

STATEMENT OF BASIS AND PURPOSE

This decision document presents a selected remedial action designed to protect human and ecological receptors at Site 45, the Old Jet Engine Test Stand (OJETS), Pease AFB, New Hampshire. This 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) (40 CFR Part 300). Through this document, the Air Force plans to remedy the threat to human health, welfare, or the environment posed by soil and groundwater contamination at the OJETS. This decision is based on the Administrative Record for the site. The Administrative Record Index as it applies to the OJETS is provided in Appendix D. The State of New Hampshire concurs with the selected remedy.

DESCRIPTION OF THE SELECTED REMEDY

The selected remedy addresses the principal threat posed by the leaching of contaminants to groundwater from soil in the OJETS source area, which is in Zone 7 at Pease AFB. The remedy also addresses the potential threat to ecological receptors from ingestion of inorganic contaminants in surface soils at the OJETS source area. Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Record of Decision (ROD) may present an imminent and substantive endangerment to human health, human welfare, or the environment.

The selected remedy involves in situ air Sparging treatment of contaminated soil below the water table; in situ soil vapor extraction treatment of contaminated vadose zone soil; and

installation of a low-permeability membrane on the ground surface in the source area. In addition, delineation, and if necessary excavation and off-site disposal of surface soils contaminated above cleanup goals for inorganics will be conducted. Following remediation of the contaminated soil (the source of groundwater contamination), natural physical and chemical attenuation processes will remove residual contamination in groundwater. This remedy is the final remedy for Site 45 (the OJETS) in Zone 7.

The selected remedy also involves the placement of land use restrictions on the use of groundwater in the vicinity of the OJETS where MCLs are exceeded for the time period during which MCLs are exceeded, and long-term environmental monitoring at the site. In addition, a Groundwater Management Zone (GMZ) will be established in accordance with 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 OJETS site reuse will be under the jurisdiction of the Pease Development Authority (PDA) to support operation of the airport at the Pease International Tradeport.

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. The remedy uses permanent solutions and alternative treatment technologies to the maximum extent practicable. The determination reflects the requirement of CERCLA 121 (b)(1) that states "Remedial actions, in which treatment that permanently and significantly reduces the volume, toxicity, or mobility of hazardous substances, pollutants, or contaminants is a principal element, are to be preferred over remedial alternatives not involving such treatment." A review will be conducted by the Air Force, 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 forgoing 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: July 29, 1995
Alan K. Olsen
Director, Air Force Base Conversion Agency

U.S. Environmental Protection Agency

By: _____ Date: August 9, 1995
for Linda M. Murphy
Director, Waste Management Division

RECORD OF DECISION SUMMARY

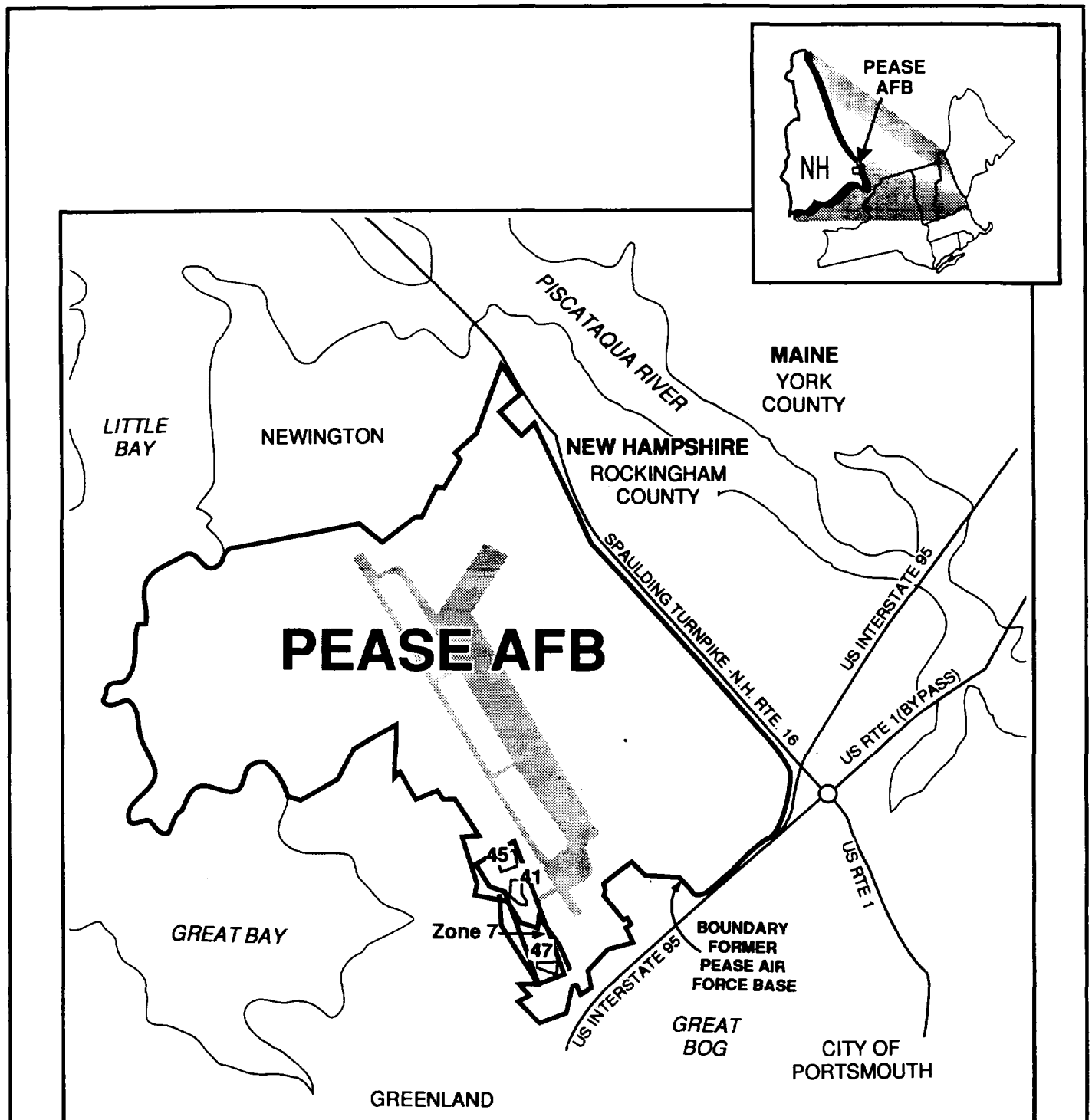
I. SITE NAME, LOCATION, AND DESCRIPTION

Pease Air Force Base (AFB), located in the Towns of Newington and Greenland and in the City of Portsmouth, Rockingham County, New Hampshire, is included on the federal National Priorities List (NPL). Based on Remedial Investigations and Feasibility Studies (RI/FSs) conducted at a number of sites at Pease AFB, several areas contain contaminated media that require remediation to limit their impact on human health and the environment. This Record of Decision (ROD) presents the selected remedial actions for Site 45 [Old Jet Engine Test Stand (OJETS)] located in the portion of Pease AFB designated as Zone 7.

As shown in Figure 1, Pease AFB is located on a peninsula in southeastern New Hampshire. The peninsula is 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 City of Portsmouth is located east and southeast of the base. Pease AFB occupies 4,365 acres and is located approximately in the center of the peninsula.

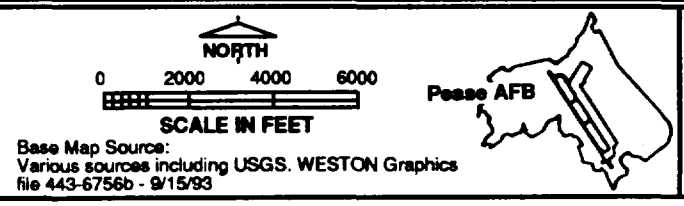
The OJETS occupies an area of approximately 0.6 acre in Zone 7. It is located in the southern portion of Pease AFB, approximately 1,000 feet from the southwestern edge of the runway and 400 feet north of the Golf Course Maintenance Area (GCMA) (see Figures 1 and 2).

At the beginning of World War II, the U.S. Navy used an airport located at the present Pease AFB. The Air Force assumed control of the site in 1951, and construction of the existing facility was completed in 1956. During its history, Pease AFB was the home of the 100th and 509th Bombardment Wings, whose mission was to maintain a combat-ready force capable of long-range bombardment operations. The New Hampshire Air National Guard (NHANG) relocated the 157th Military Airlift Group from Grenier Field in Manchester, New Hampshire, to Pease AFB in 1966. The mission of the group was changed in 1975, when it was designated as the 157th Air Refueling Group. Over time, various



LIST OF ZONE 7 SITES

IRP SITE NUMBER	SITE NAME (ABBREVIATION)
47	Golf Course Pesticide Storage and Mixing Area (GCPA)
45	Old Jet Engine Test Stand (OJETS)
41	Golf Course Maintenance Area (GCMA)

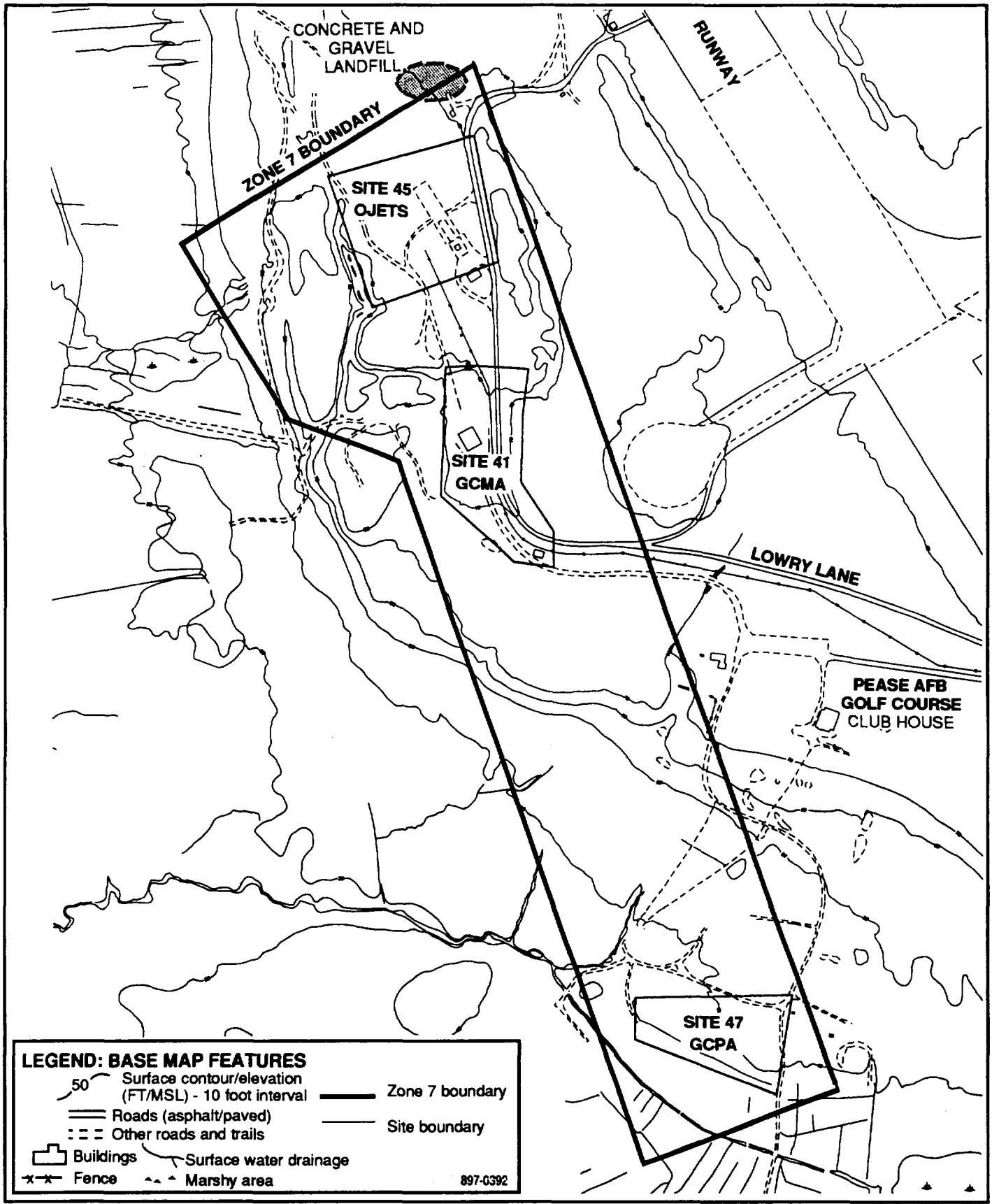


Base Map Source:
Various sources including USGS. WESTON Graphics
file 443-6756b - 9/15/93

Site 45 (OJETS)
Stage 5, Record of Decision
Pease Air Force Base, New Hampshire

FIGURE 1
LOCATION OF SITE 45 (OJETS)

S45RODF1-3/95G:\HOME\DMC\PEASE\ZONE67\ZONE7\S45ROD



Site 45 (OJETS)
Stage 5, Record of Decision
Pease Air Force Base, New Hampshire

FIGURE 2
SITE 45 (OJETS) AND VICINITY

S45RODN2(FROM PREVIOUS)-3/95.G:\HOME\DMC\PEASE\ZONE67\ZONE7\S45ROD

quantities of fuels, oils, solvents, lubricants, and protective coatings were used at the base for routine maintenance operations, and releases of contaminants into the environment occurred as a result of usage and disposal of these and other materials.

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

Land use in the vicinity of the OJETS is limited to the runway, which is approximately 1,000 feet to the northeast; the GCMA, which is 400 feet to the south; Lowry Lane, which runs along the east side; and an open field and wooded area, which are to the west of the OJETS (see Figure 2). A fence runs along the eastern edge of the site and separates the OJETS from the flightline area. The OJETS site is slated for reuse by the PDA to support operation of the Pease Airport.

There are approximately 3,700 dwellings within a 1-mile radius of Pease AFB. Based on water usage surveys conducted in 1988 and 1992 and on available U.S. Geological Survey (USGS) and New Hampshire Department of Environmental Services (NHDES) information, a number of these dwellings have wells and/or springs located on their properties. A compilation of area springs and wells for Pease AFB, based on available information, is presented in the Pease AFB Off-Base Well Inventory Letter Report (G-599). The OJETS is relatively isolated from the off-base residential areas. The closest dwelling downgradient of the OJETS that has a well or spring is approximately 3,500 feet away.

Surface water runoff from the OJETS is minimal because the site is relatively flat and the soils are highly permeable. All rainfall and snowmelt at the OJETS infiltrates into the subsurface at, or immediately downgradient of, the site. There is no surface water body that receives runoff from the OJETS.

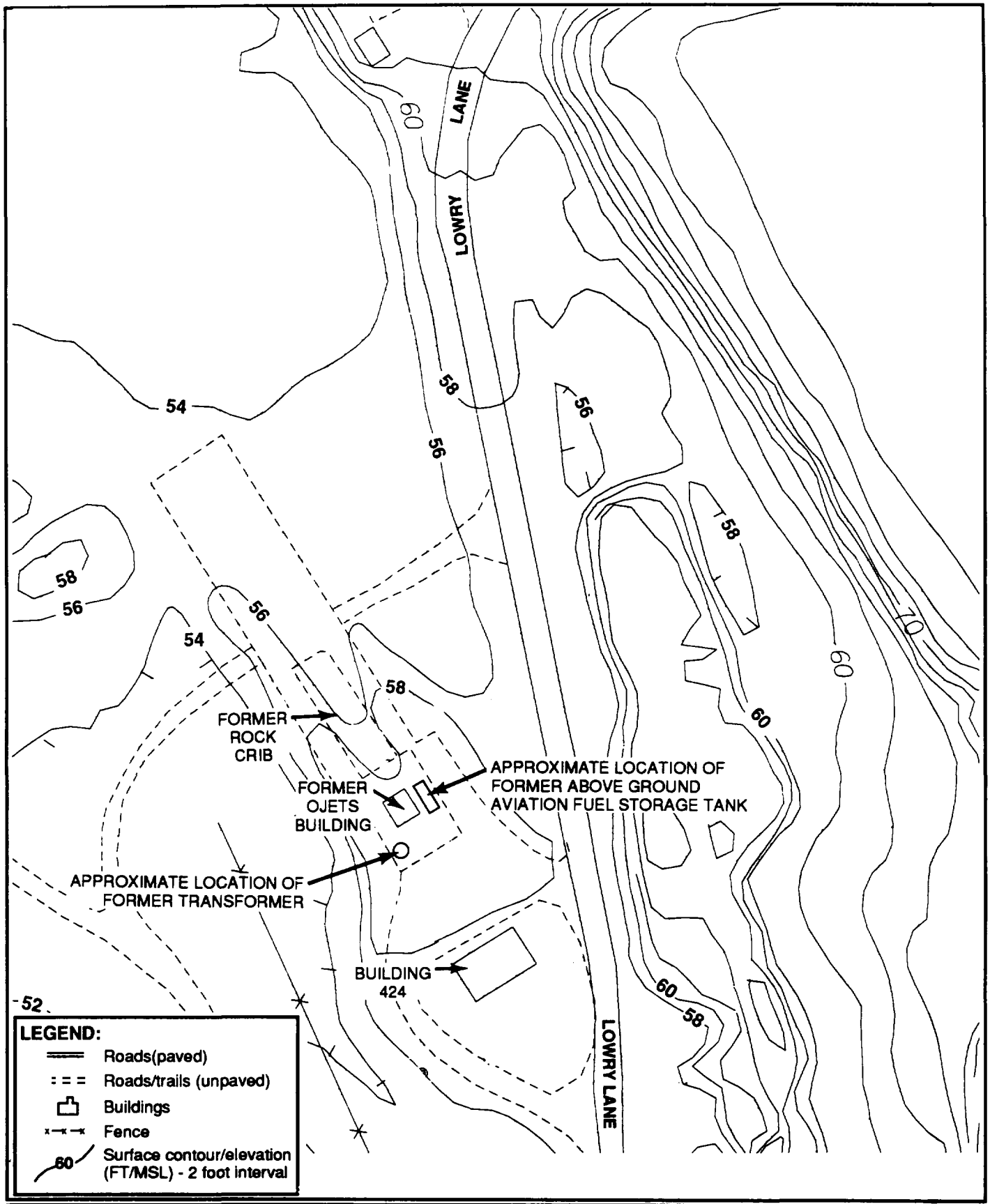
II. SITE HISTORY AND ENFORCEMENT ACTIVITIES

A. Site Use and Response History

The OJETS was constructed in approximately 1958 and consisted of a partially enclosed engine test stand (roof and sidewalls), an engine control room structure adjacent to the test stand, a fuel storage tank, associated pumps and piping, and a rock-filled, in-ground crib (see Figure 3). During testing, engine exhaust was directed out of the northern end of the containment structure toward the rock crib, which was designed to deflect the exhaust from engines being tested. Between 1965 and 1976, the perimeter of the rock crib was paved with asphalt.

According to interview sources (G-545), this test stand was used heavily, particularly in the mid-1960s when the base had its maximum number of aircraft. It would not have been unusual for the test stand to be operating almost full-time most days of the week because, at maximum strength, the base had up to 165 aircraft, each with four to six engines. Records related to the detailed operation of the test stand are not available; however, extensive use of petroleum products, hydraulic fluids, and solvents likely occurred at the OJETS. After the OJETS was removed from service in 1976 and prior to commencement of the Site Inspection (SI) in 1992, the engine control room, aboveground fuel storage tank, and transformer were removed from the site. The date these items were removed is unknown. As part of the Remedial Investigation (RI) the OJETS building, cement pad, and rock crib were removed in 1993.

Under the Installation Restoration Program (IRP) a Site Inspection (SI) was conducted at the OJETS between October 1992 and January 1993. The SI was designed to confirm the presence or absence of contamination in the soil and groundwater. In addition to the data collected during the SI, environmental data previously collected by WESTON and other Air Force contractors was incorporated into the overall contaminant profile for the OJETS. A summary of the findings for each of these investigations is provided in Table 1. A more detailed discussion of these results is presented in the Zone 6 and 7 SI Report (G-638).



Site 45 (OJETS)
Stage 5, Record of Decision
Pease Air Force Base, New Hampshire

FIGURE 3
FORMER FEATURES OF SITE 45 (OJETS)

S45RODF3(Z7RFS143/Z7SAMP-8/93)-3/95G:\HOME\DMC\PEASE\ZONE67\ZONE7\S45ROD

Based on the findings of the SI, the OJETS was recommended for a streamlined RI/FS in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986; and all relevant U.S. Environmental Protection Agency (EPA) guidance, including EPA's guidance for conducting RI/FSs under CERCLA. The RI was initiated at the OJETS to define the downgradient extent of dissolved contaminants in groundwater associated with the site, and to collect additional soil samples to complete the working conceptual model, a baseline risk assessment, and FS. The RI field work was performed between 15 April and 8 November 1993. An FS was conducted during the third and fourth quarters of 1993 to establish cleanup goals and evaluate remedial alternatives for the site. The findings of the RI/FS are presented in the Draft Final OJETS RI/FS Report (G-637) issued 21 December 1993 and the Site 45 Feasibility Study Supplement (G-751) issued February 1995.

A pilot-scale soil vapor extraction/air sparging (SVE/AS) treatability study was conducted at the OJETS between 12 September and 3 November 1994. The objective of the treatability study was to determine whether SVE/AS are effective remedial technologies for treatment of contaminated vadose zone and saturated zone soil at the OJETS. The results of the treatability study indicate that SVE/AS would be effective technologies for remediation of soils at the site, and are detailed in the OJETS Treatability Study Letter Report (G-737). The results of the treatability study will also be used to establish design criteria for a full-scale SVE/AS system at the site. Following completion of the pilot study, operation of the pilot SVE/AS system was continued on an interim basis from 4 November 1994 through 17 May 1995. The purpose of the interim operations was to continue remediation of soils in the zone of influence of the pilot system.

B. Enforcement History

The enforcement history relative to Pease AFB, including the OJETS, 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 (RCRA) of 1976, 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 a Federal Facilities Agreement (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.

The OJETS, located in Zone 7, was not originally part of the FFA, but was added during a modification to the FFA (Modification 1). Under this modification, the OJETS was identified as requiring further characterization to determine if the site should be designated as an Area of Concern (AOC). Based on data collected during the SI, the Air Force decided to conduct an RI/FS at the OJETS.

III. COMMUNITY PARTICIPATION

Throughout the history of IRP activities at Pease AFB, the local community has been actively involved and informed. EPA, NHDES, and the Air Force have kept the community and other interested parties apprised of zone environmental 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 of 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 public and other concerned parties apprised of developments and milestones in the Pease IRP. The fact sheets released to date that concern Zone 7 are summarized as follows:

Fact Sheet	Release Date
Pease AFB Installation Restoration Program Update	October 1991
Pease AFB Installation Restoration Program Update	December 1992
Proposed Plan for the OJETS	March 1995

In addition to the fact sheets, a number of public meetings have been held concerning the remedial activities at Pease AFB, including the OJETS site. The Air Force held a public hearing and information session on 11 April 1995 to present the Proposed Plan for the OJETS and to solicit comments on the selected remedy for the site. Responses to verbal comments received during the public hearing are presented in the Responsiveness Summary in Appendix C. A transcript of the public hearing is available in the Administrative Record file at Pease AFB. In addition, an official public comment period for the Proposed Plan for

the OJETS was conducted between 22 March and 21 April 1995. There were no written comments received during this period.

A complete information repository containing documents relating to the Pease AFB IRP is maintained at Pease AFB in Building 43. The 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 in Boston, Massachusetts.

IV. SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION

The OJETS is the only site in Zone 7 where a remedial action will be implemented under CERCLA. All other sites in Zone 7 have been designated for no further action. The remedy specified in this ROD is the final remedial action for the OJETS.

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 various environmental pathways. The remedy specified in this ROD is designed to remove soil contaminants that have the potential to leach to, and contaminate, groundwater. In summary, the remedy provides for the following actions:

- Institutional controls, including placement of security fence and monitoring of site groundwater until cleanup goals have been attained.
- Excavation and off-site disposal of source area surface soil with concentrations of inorganic contaminants in excess of cleanup goals.
- In situ air sparging of saturated contaminated soil to volatilize and/or biodegrade organic contaminants in soil and groundwater.
- In situ SVE treatment of unsaturated contaminated soil to extract volatile organic compounds (VOCs) and to enhance biodegradation of organic contaminants.
- Installation of a low-permeability membrane on the ground surface over the area to be treated by SVE/AS to minimize the potential for short circuiting of atmospheric air to the SVE vents.
- Natural attenuation of residual contamination remaining in groundwater after excavation, air sparging, and SVE treatment.
- Establishment of a Groundwater Management Zone (GMZ) in accordance with NHDES regulation Env-Ws 410.

The results of the risk assessment (summarized in Section VI) for Site 45 soil indicate that risks to human receptors do not exceed EPA's acceptable risk range (10^{-4} to 10^{-6} for cancer risk and a hazard index of less than 1 for noncancer risks). The results of the ecological

risk assessment indicate that some of the contaminants detected in Site 45 surface soil result in an ecological risk with a hazard index or hazard quotient greater than 1. Additionally, contaminants associated with site soil have leached to groundwater and resulted in groundwater concentrations that exceed ARARs and may present an unacceptable human health risk. To protect ecological and human receptors from these potential risks, the following remedial action objectives were developed:

- Protect ecological receptors from ingestion of surface soils and vegetation containing contaminants at concentrations that may present an unacceptable risk.

- Protect human receptors from ingestion of contaminated groundwater that may present an unacceptable health risk in exceedance of EPA's risk range of 10^{-4} to 10^{-6} (total cancer risk), or a hazard index greater than 1.

- Comply with location- and action-specific applicable or relevant and appropriate requirements (ARARs), and to be considered (TBC) criteria, and/or established background levels for specific contaminants in soil, as appropriate.

To meet these objectives, the Air Force has established site-specific cleanup levels for contaminated soil and groundwater at Site 45. Cleanup goals were established for contaminants that exceeded either human health risk-based, ecological risk-based, or regulatory-based concentrations at the site.

V. SUMMARY OF SITE CHARACTERISTICS

A conceptual model has been developed for the OJETS that incorporates available applicable data, including geological, hydrological, and analytical data and field measurements and visual observations. The salient points of the model are summarized as follows:

- The soil beneath the OJETS building and upper portion of the rock crib is the primary contaminant source area at the OJETS. Soil contamination consists of aromatic VOCs and total petroleum hydrocarbons (TPHs) and heavy metals. In addition, chlorinated VOCs [trichloroethylene (TCE), tetrachlorethene (PCE), and chlorobenzene] were detected in the soil.

- The distribution of the soil organic contaminants suggests that the sources for these contaminants were associated with leakage of aviation gasoline (AVGAS) from underground piping and the exhaust of combustion products of AVGAS (which were directed into the rock crib) during jet engine testing. The chlorinated VOCs were detected discontinuously across the site. The irregular distribution and relatively low concentrations of these chlorinated VOCs suggest that only relatively moderate amounts of degreasing solvents were likely used to clean jet engine parts, and that only small quantities of these solvents were spilled or otherwise released. The source of metals contamination in the surface soil is unknown but may have been engine testing activities at the OJETS.

- Organic soil contamination occurs from near the ground surface to a depth of approximately 20 feet beneath the former OJETS building. The organic soil contamination occurs predominantly to the north and west of the former building along the groundwater flow path, and is present in the vadose zone and in the saturated zone. The total volume of organics-contaminated soil is estimated at 7,000 yd^3.

- Metals-contaminated soil is confined to a small area immediately adjacent to the former engine test stand. The maximum depth of the metals-contaminated soil is estimated at 2 ft BGS. The volume of metals-contaminated soil is estimated at 120 yd^3.

- Organic contamination in the groundwater is concentrated near the water table in the Upper Sand (US) groundwater. These organic contaminants consist of halogenated and aromatic VOCs.

- A semiconfining layer [the Marine Clay and Silt (MCS) unit] was observed that partially separates the Lower Sand (LS) groundwater from the Upper

Sand (US) groundwater. An upward vertical hydraulic gradient was consistently measured from the LS to the US; this gradient limits the potential for dissolved contaminants in US groundwater to migrate downward.

- The downgradient extent of the organic contaminant plume in the overburden groundwater has been defined. The plume has migrated approximately 200 feet from the source area and does not threaten either groundwater currently used or planned to be used for a drinking source or surface water. The closest surface water is a wetland area approximately 700 feet from the site. The closest potential groundwater receptors are private residential wells approximately 2,600, 3,250, and 3,375 feet away.

The significant findings of the RI are presented in more detail in the subsections that follow.

A. Geology

This subsection provides a summary of the basewide and site-specific overburden geology. A more detailed discussion of the overburden geology at the OJETS is presented in the OJETS Draft Final RI/FS Report (G-637). Bedrock was not evaluated during field investigations at the OJETS because contaminants were not detected in the LS or Glacial Till (GT) units that overlie bedrock at the site.

Overburden Geology

The generalized stratigraphic sequence of the glacial deposits of coastal New England is (in ascending order): till; stratified drift, including subaqueous outwash; marine clay and silt (MCS) of the Presumpscot Formation; and subaerial outwash, such as ice-contact deltas and marine washover fans (G-468). Except for the GT unit, all of the glacial units were deposited in a marine environment (G-491; G-493; G-377; G-468).

The glacially derived overburden at Pease AFB is Wisconsinan in age. Based on drilling information, glaciomarine deposits have been divided into four units as follows (from oldest to youngest):

- GT.
- LS.
- MCS.
- US.

The overburden at Pease AFB also includes sediment that is Recent in age, such as marsh deposits and manmade fill. Although all four units are present at the OJETS, one or more of the units may be absent at any particular location.

B. Hydrogeology

To evaluate the overburden groundwater, monitor wells were installed at three depths: shallow US; deep US; and the LS/GT unit. The shallow and deep US unit wells were installed to characterize the vertical distribution of contaminants in the US unit. The LS/GT unit wells were installed to monitor the water quality below the MCS unit, which acts as a semiconfining layer at the OJETS.

To assist in evaluating the confining nature of the MCS unit, two well pairs were completed at the OJETS. In each of these well pairs the fluid potential (i.e., groundwater elevation) is higher in the LS/GT unit than in the US unit, indicating an upward vertical hydraulic gradient.

Groundwater in the US unit flows westward. The highest groundwater elevations in the US unit typically occur in the spring and early summer, while the lowest groundwater elevations typically occur in the late summer and fall. The water table fluctuates 4 to 6 feet seasonally. The estimated horizontal hydraulic gradients during the highest and lowest water table elevations (April and October 1993, respectively) are 0.0092 and 0.0054 ft/ft, respectively. The groundwater flow velocity in the US unit is expected to range from 3.3 to 20 ft/day westward.

Groundwater flow occurs in two directions in the LS/GT unit. In the vicinity of the source area, the flow in the LS/GT unit is north-northeastward toward the northeast portion of the

site where the MCS is absent. The horizontal hydraulic gradient of this north-northeastward flow direction is 0.024 ft/ft. Groundwater flow in the LS/GT unit to the west of the source area (in the vicinity of well 5119) is west-southwestward. This groundwater flow direction is similar to the westward groundwater flow direction observed in the US. The groundwater divide between each flow direction is just west northwest of the OJETS building in the vicinity of well 5121. The groundwater flow velocity of the LS/GT unit at the OJETS is estimated to be 0.84 ft/day.

C. Distribution of Contaminants

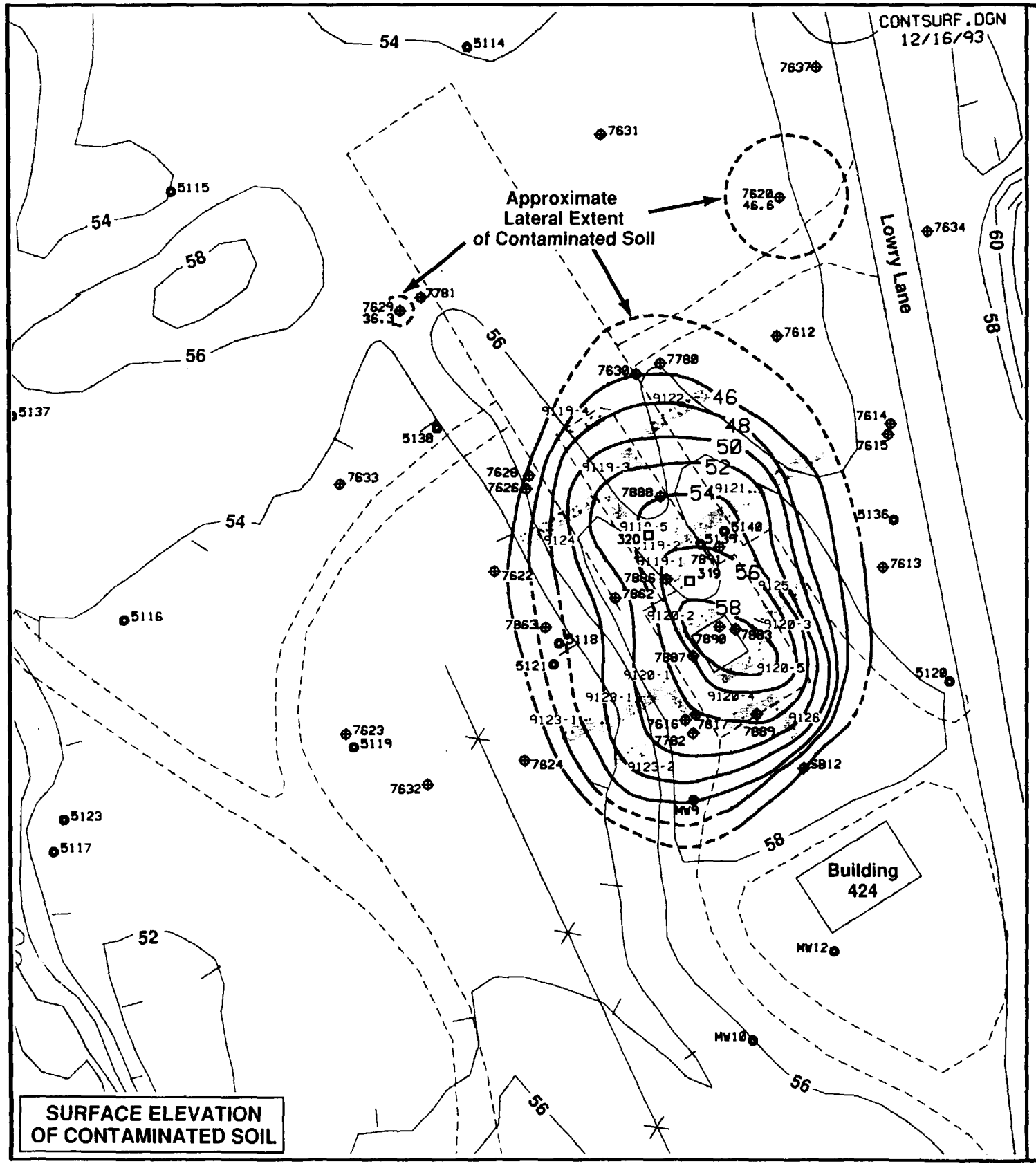
Soil contaminants were detected in surface soils beneath the rock crib and in the subsurface vadose and saturated zones. Groundwater contaminants were detected in the shallow and deep US. The following paragraphs detail the contaminant distribution at the OJETS.

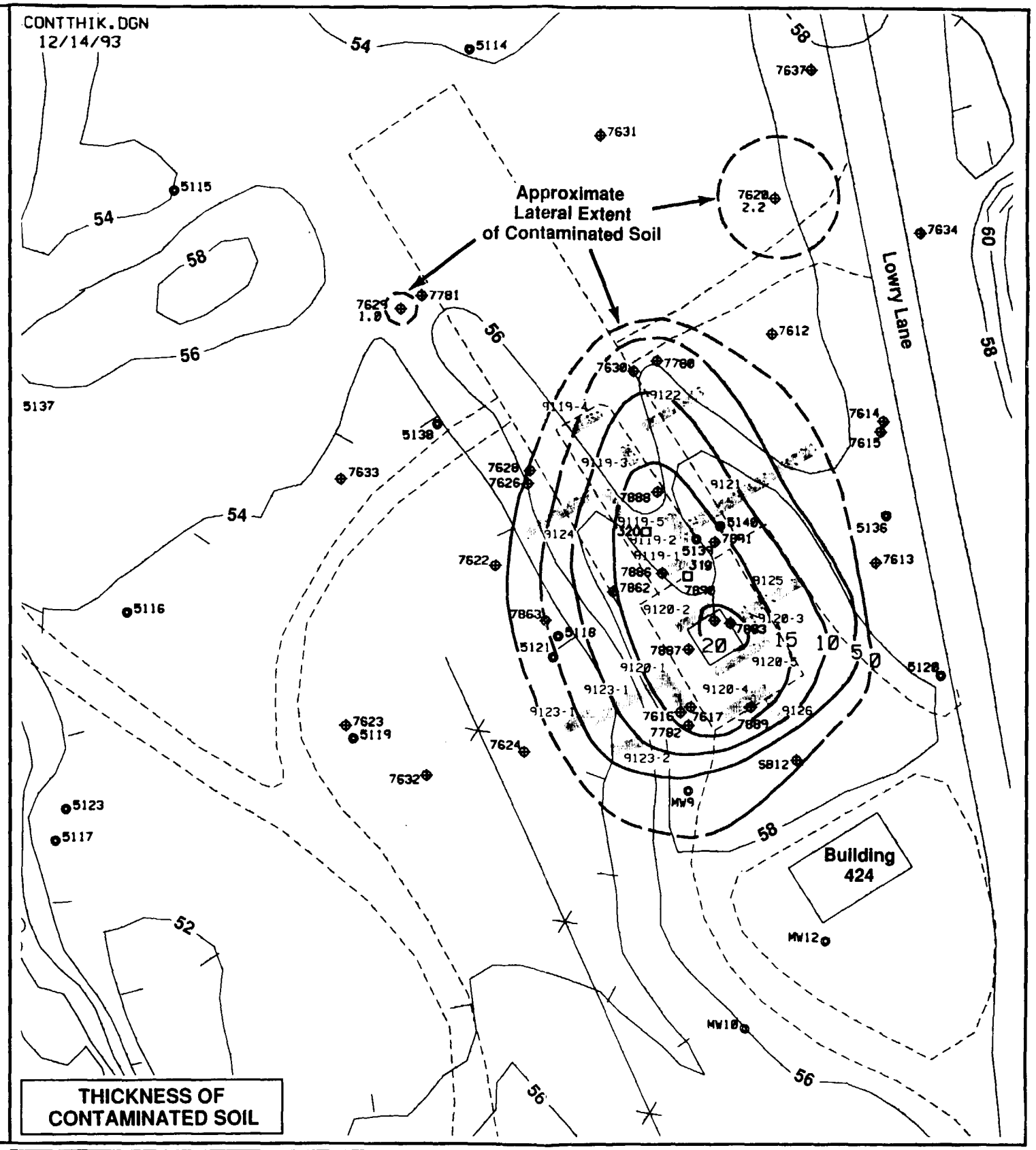
Distribution of Contaminants in Soil

Source Area Soil Contaminants

Maximum concentrations of organic compounds detected in soil at the OJETS and relevant background concentrations and regulatory guidance values are presented in Table 2. The principal organic contaminants detected in soil at the OJETS are TPHs; benzene, toluene, ethylbenzene, and xylenes (BTEX); and two polynuclear aromatic hydrocarbons (PAHs) (2-methylnaphthalene and naphthalene). These compounds are consistent with the type of soil contamination originating with AVGAS. Three chlorinated hydrocarbons were detected: TCE, PCE, and chlorobenzene. None of these chlorinated hydrocarbons is widespread. The distribution of these chlorinated hydrocarbons suggests that relatively localized solvent spillage occurred at the OJETS.

The principal area of contaminated soil at the OJETS forms a shallow, wide lens within the US/fill stratigraphic unit. The estimated areal extent, surface elevations, and thickness of the contaminated soil is illustrated in Figure 4. As shown in this figure, the surface of the





LEGEND

- Overburden Monitor Well
- Soil Boring
- Surface Soil Sample
- Unpaved Access Road
- Fenceline
- Buildings
- Test Pit Location
- Elevation Contour of Top of Contaminated Soil in Feet
- Surface contour/elevation FT/MSL - 2 foot interval
- Elevation of Contaminated Soil

2000-0452 12/17/93

NORTH
0 50
SCALE IN FEET

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

Pease AFB

LEGEND

- Overburden Monitor Well
- Soil Boring
- Surface Soil Sample
- Unpaved Access Road
- Fenceline
- Buildings
- Test Pit Location
- Thickness of Contaminated Soil in Feet
- Surface contour/elevation FT/MSL - 2 foot interval
- *Observed Thickness of* Contaminated Soil in Feet

Site 45 (OJETS)
Stage 5, Record of Decision
Pease Air Force Base, New Hampshire
FIGURE 4
SURFACE ELEVATION AND THICKNESS OF ORGANIC CONTAMINATED SOIL

S45RODTX-3/95 G:\HOME\DMC\PEASE\ZONE6?\ZONE7\S45RODREV 5/95

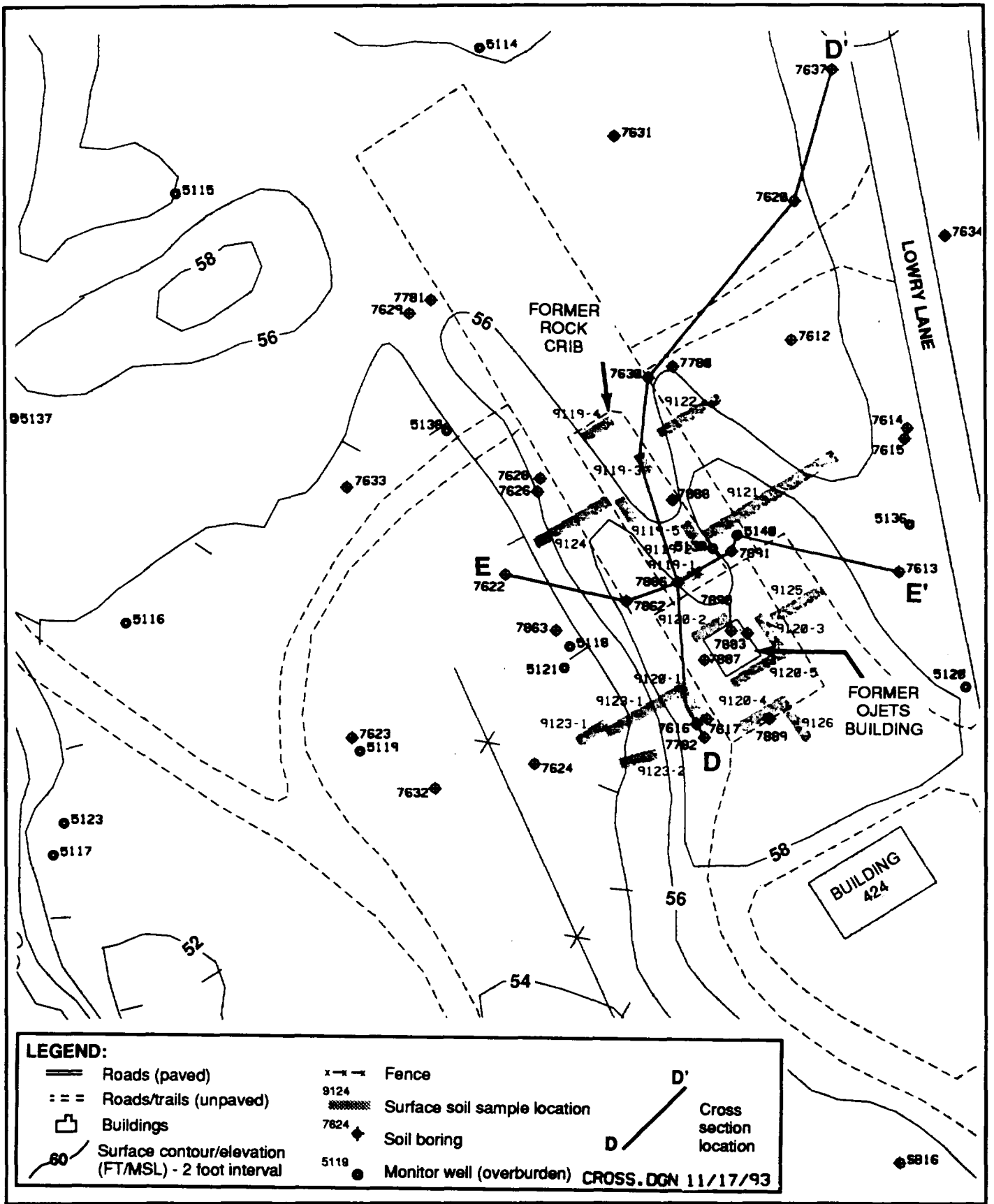
contaminated soil drops off steeply toward the east and south and more gradually to the west. This westward decline is consistent with the typically westwardly dipping water table present at the OJETS. The lens is centered under the former OJETS building, where its maximum thickness is approximately 20 feet. The lens is also depicted in two cross sections (see Figures 6 and 7). Figure 5 is an index map for these cross sections that shows the distribution of soil sampling points at the OJETS. The total volume of organics-contaminated soil is estimated at 7,000 yd^3.

Water table elevation contours and groundwater flow directions from April and October 1993 are shown in Figures 6 and 7. These elevations represent the range of water table elevations observed at the OJETS from November 1992 to October 1993. Over this time period, the uppermost 4.5 feet of the lens of soil contamination remained unsaturated, the underlying 4.5 feet of the lens was present under unsaturated and saturated conditions, and the lowermost 11 feet remained under saturated conditions.

The maximum concentrations of inorganics detected in soil at the OJETS are presented in Table 3 along with corresponding background and regulatory values. Eleven metals (arsenic, cadmium, calcium, chromium, copper, lead, magnesium, nickel, silver, thallium, and zinc) were detected in at least one soil sample at the OJETS at a concentration above established background values. The most significant measurements of metals concentrations above background were in two surface soil samples (319 and 320) collected from directly beneath the rock crib. Five metals (arsenic, cadmium, chromium, nickel, and silver) were detected at concentrations below RCRA Corrective Action Levels. RCRA Corrective Action Levels are not available for the other six metals that were detected. The total estimated volume of soil contaminated with inorganic constituents is 120 yd^3.

Organic Contaminants in Subsurface Soil at Soil Boring 7620

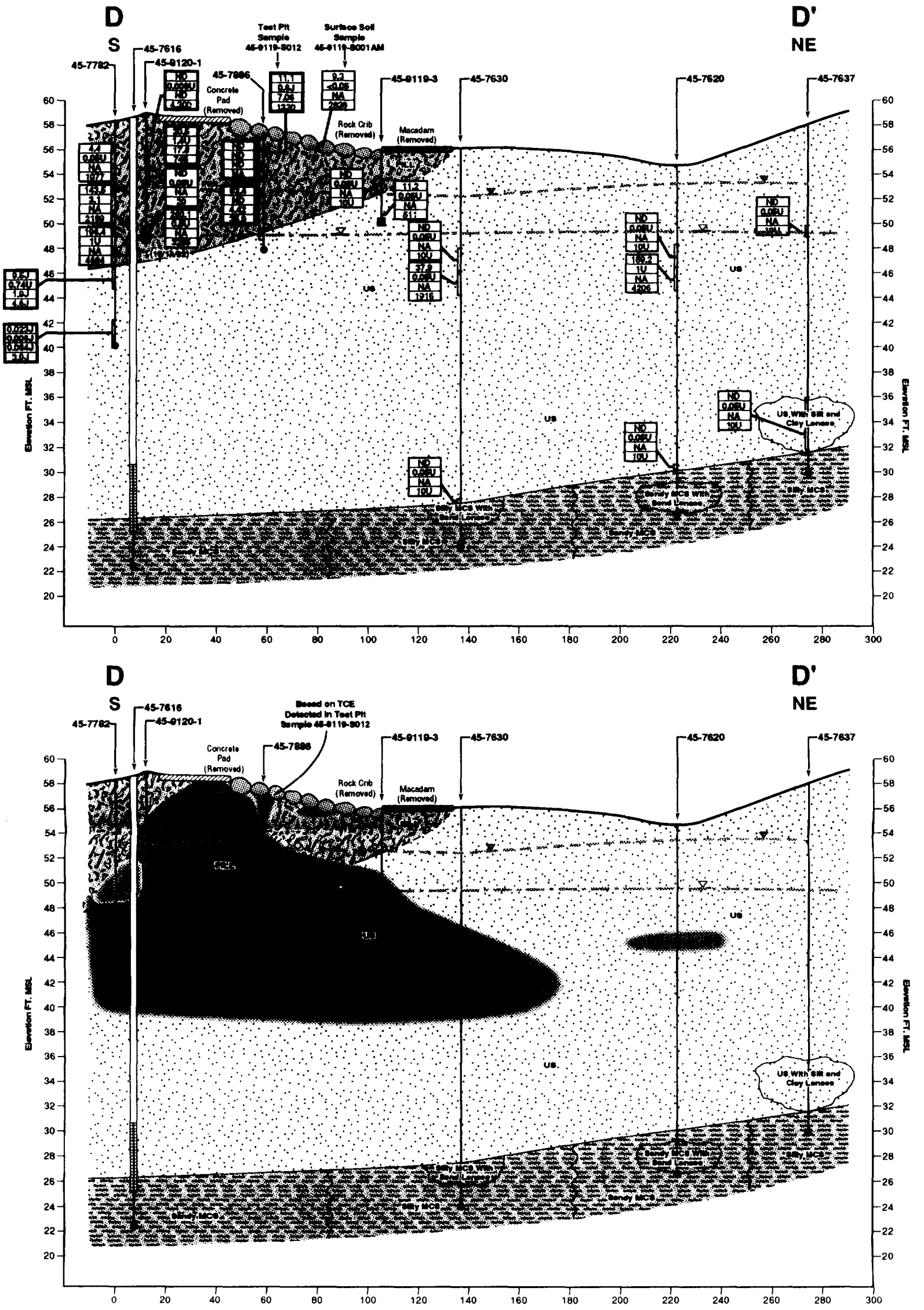
In addition to the organic contaminants detected in the main source area, VOC-contaminated soil was encountered in soil boring 7620 (see Figure 4) approximately 8 to 10 ft BGS. The soils in this depth interval were stained, and analytical results for total VOCs



Site 45 (OJETS)
Stage 5, Record of Decision
Pease Air Force Base, New Hampshire

FIGURE 5
LOCATIONS OF GEOLOGIC CROSS SECTIONS D - D' AND E - E'

S45RODF5-3/95G:\HOME\DMC\PEASE\ZONE67\ZONE7\S45ROD



LEGEND:

- Fill Unit
- Upper Sand Unit (**US**)
- Marine Clay and Silt (**MCS**)
- Casing Interval
- Screen Interval
- Bottom of Soil Boring
- Bottom of Test Pit
- **45-7782** Soil Boring Number
- High Water Table (4/93)
- Low Water Table (10/93)

Lithologic Contact Dashed Where Inferred

BTEX (mg/kg)
TCE (mg/kg)
PAHs (mg/kg)
TPH (mg/kg)
Mobile Laboratory Results

BTEX (mg/kg)
TCE (mg/kg)
PAHs (mg/kg)
TPH (mg/kg)
Fixed Laboratory Results

- Distribution of TCE concentrations
- Distribution of organic compounds in soil

Vertical Exaggeration 5X
Vertical 4'
Horizontal 20'
Pease AFB
Map Area

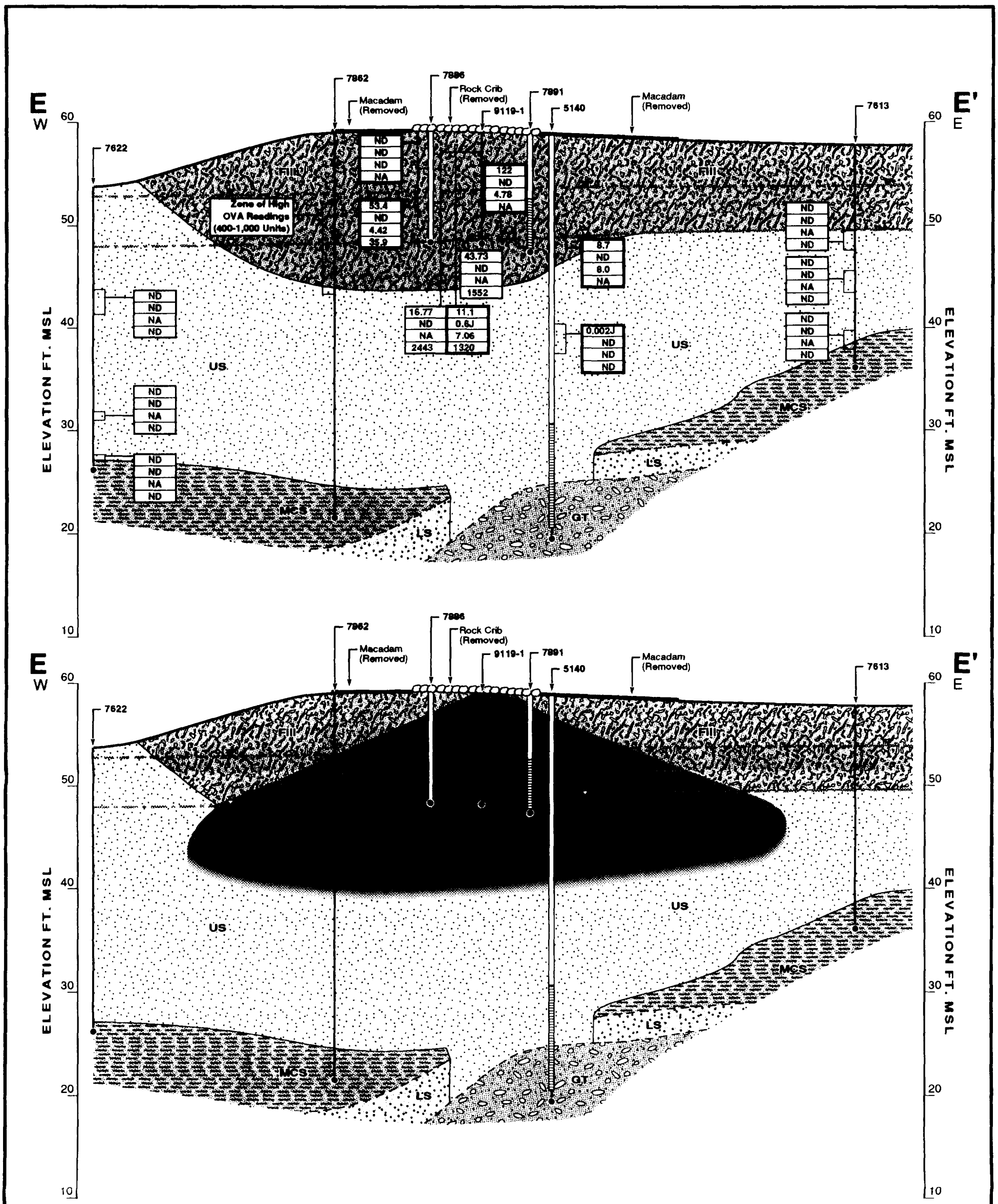
95P-1348 3/13/95

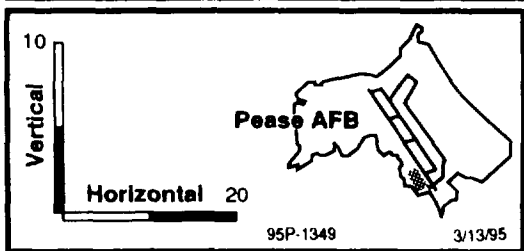
NOTE: Location of cross section shown on Figure 5

Site 45 (OJETS)
Stage 5, Record of Decision
Pease Air Force Base, New Hampshire

FIGURE 6
SCHEMATIC CROSS SECTION D - D'
SHOWING CONTAMINATED SOIL

S45RODF6(95P-1348 3/13/95)-3/95G:\HOME\DMC\PEASE\ZONE67\ZONE7\S45ROD





NOTE: Location of cross section shown on Figure 5

Site 45 (OJETS)
Stage 5, Record of Decision
Pease Air Force Base, New Hampshire

FIGURE 7
SCHEMATIC CROSS SECTION E - E'
SHOWING CONTAMINATED SOIL

S45RODF7(95P-1349 3/13/95)-3/95G:HOME\DMC\PEASE\ZONE67\ZONE7\S45ROD

and TPH were 159.2 mg/kg and 4,206 mg/kg, respectively. These contaminant concentrations are significantly greater than those measured in soil borings 7780 and 7612, which had no visible staining or contaminant concentrations above soil cleanup goals, and are believed to be at the edge of the principal source area (see Figure 4). Table 4 presents the field observations and analytical results for borings 7612, 7620, and 7780. Prior to final design of remediation systems for the OJETS, a field investigation will be conducted to clarify the extent of contamination in the vicinity of boring 7620.

Distribution of Contaminants in Overburden Groundwater

Shallow US Groundwater Quality

Ten shallow US overburden wells were sampled at various frequencies during characterization of the overburden groundwater at the OJETS. The results of the groundwater sampling of these wells indicated that the shallow US groundwater at the OJETS is contaminated with VOC concentrations above Maximum Contaminant Levels (MCLs). SVOCs were not detected above MCLs. Total and soluble metal concentrations were detected above background concentrations.

The VOCs detected above MCLs include aromatic VOCs (benzene and ethylbenzene) and chlorinated VOCs [cis-1,2,-dichloroethlene (cis-1,2-DCE), vinyl chloride, and trichloroethene]. Figure 8 depicts the plume of chlorinated and aromatic VOCs that exceed MCLs, and the overall extent of VOCs detected in shallow US groundwater at the OJETS. As shown on Figure 8, the plume extends approximately 200 feet downgradient of the OJETS source area. The highest chlorinated VOC concentrations exceeding MCLs were detected in a screening sample from piezometer 7891 (TCE at 1,600 μg/L) and a sample from piezometer 7628 (cis-1,2-DCE at 240 μg/L). The farthest downgradient monitoring point within the chlorinated plume (well 5116) had a cis-1,2-DCE concentration (97 μg/L) that exceeded the MCL (70 μg/L) in one of four sampling rounds. The aromatic VOC plume extends from the OJETS source area west to piezometer 7623. The highest aromatic VOC concentrations exceeding MCLs were reported for benzene (mobile laboratory sample from piezometer 7617 — 114 μg/L) and ethylbenzene (screening sample from piezometer

7890 — 1,800 μg/L). The farthest downgradient monitoring point within the aromatic VOC plume (piezometer 7623) had a benzene concentration (6.0 μg/L) that exceeded the MCL (5.0 μg/L) in one of four sampling rounds. Ethylbenzene was not detected in piezometer 7623.

Background concentrations for metals dissolved in groundwater (filtered samples) were exceeded for seven metals. Figure 9 shows the distribution of metals dissolved in groundwater above background concentrations. Secondary Maximum Contaminant Levels (SMCLs) were exceeded for dissolved concentrations of aluminum, iron, and manganese. Data from unfiltered samples (total metals) are not considered representative of actual conditions because of the high turbidity of the groundwater in most monitor wells at the site. Specifically, eight of the nine wells sampled in January 1993, 11 of the 15 wells sampled in June 1993, and all nine wells sampled in September 1993 had turbidity values that exceeded 999 NTU immediately prior to sampling. High turbidity values for the shallow groundwater wells and the low dissolved metals concentrations suggest that unfiltered samples do not accurately represent site conditions. In general, greater concentrations of metals were measured in unfiltered samples with higher levels of turbidity. Additional detail concerning the relationship between turbidity and total metals concentrations is presented in the Draft Final OJETS RI/FS Report (G-637).

Deep US Groundwater Quality

Four deep US overburden wells were sampled at various frequencies during characterization of the overburden groundwater at the OJETS. VOC concentrations were not detected above MCLs. SVOCs were not detected. Total and soluble metal concentrations were detected above background concentrations and one total and soluble metal exceeded its MCL.

The first samples collected from the deep US monitoring locations were mobile laboratory screening samples that indicated the presence of total BTEX in piezometers 7616 and 7626 at concentrations of 12 and 15 μg/L, respectively. Samples from multiple sampling rounds

/ZONE7/BASE.DGN 12/14/93

LEGEND: Groundwater Sampling/Analysis

7891	(Screening) M001 Aug-93
Benzene	5U
Ethyl Benzene	5U
Vinyl Chloride	200U
Cis-1,2-DCE	100U
TCE	

- Screening Sample Indicator
- Sampling location/identifier (AM- analyzed by mobile laboratory)
- Date of sampling
- Aromatic VOC concentration in groundwater exceeding MCLs (µg/L)
- Chlorinated VOC concentration in groundwater exceeding MCLs (µg/L)

J - Estimated value
NA - Analyte group not analyzed
U - Detection Limit

7628	(Screening) M001AM Nov-92	M002 Jan-93	M003 Apr-93	M103 Apr-93	M004 Jun-93	M104 Jun-93	M005 Sep-93
Benzene	5U	10U	10U	10U	5U	1U	5U
Ethyl Benzene	5U	260.0	10U	1.0 J	160.0	180.0 J	120
Vinyl Chloride	5U	20U	20U	20U	10U	2U	10U
Cis-1,2-DCE	NA		15.0	15.0			8
TCE	5U	10U	10U	10U	5U	1U	5U

5139	M001 Sep-93	M101 Sep-93	M002 Nov-93
Benzene	7.0J	7.0J	1U
Ethyl Benzene	130.0 J	130	5
Vinyl Chloride	20U	20U	4U
Cis-1,2-DCE	10U	10U	2U
TCE	10U	10U	2U

7891	(Screening) M001 Aug-93
Benzene	5U
Ethyl Benzene	5U
Vinyl Chloride	200U
Cis-1,2-DCE	100U
TCE	

MW13	M001 Jan-93	M002 Apr-93	M003 Jun-93	M004 Sep-93
Benzene	11.0	4.0	2.0 J	5
Ethyl Benzene	230.0	7.0	1U	15
Vinyl Chloride		2U	2U	2U
Cis-1,2-DCE	10U	1.0	1U	1U
TCE	10U	1U	1U	1U

5116	(Screening) M001 May-93	M002 Jun-93	M003 Sep-93	M004 Nov-93	M104 Nov-93
Benzene	1	0.8 J	1U	1U	1U
Ethyl Benzene	6	1U	1U	1U	1U
Vinyl Chloride	2U	2U	2U	2U	2U
Cis-1,2-DCE	1	3.0 J		29	24
TCE	1U	1U	1U	1U	0.3J

7890	(Screening) M001 Aug-93	M002 Sep-93
Benzene	200U	50U
Ethyl Benzene	1800	1000
Vinyl Chloride	400U	100U
Cis-1,2-DCE	200U	50U
TCE	200U	50U

7617	(Screening) M001AM Nov-92
Benzene	114
Ethyl Benzene	1370
Vinyl Chloride	5U
Cis-1,2-DCE	NA
TCE	5U

7623	(Screening) M001AM Nov-92	M002 Jan-93	M003 Apr-93	M004 Jun-93	M005 Sep-93
Benzene	5U	6.0	1U	2.0	0.3 J
Ethyl Benzene	5U	20.0	1U	1U	1U
Vinyl Chloride	5U	2U	2U	2U	2U
Cis-1,2-DCE	NA	0.6 J	1U	3.0	1U
TCE	5U	1U	1U	1U	1U

LEGEND:

- Roads(paved)
- Roads/trails (unpaved)
- Buildings
- Fence
- 60 — Surface contour/elevation (FT/MSL) - 2 foot interval
- 7614 — Piezometer/soil boring
- MW9 — Monitor well
- Plume of detected organic contaminants
- Area of aromatic VOCs above MCLs
- Area of chlorinated VOCs above MCLs
- Plume containing aromatic and chlorinated VOCs above MCLs

FROM GIS/ZONE7/BASE; GR-2002-0439-9/14/93

NORTH

0 50 100

SCALE IN FEET

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

Pease AFB

Site 45 (OJETS)
Stage 5, Record of Decision
Pease Air Force Base, New Hampshire
FIGURE 8
ORGANIC COMPOUND PLUMES IN SHALLOW UPPER SAND GROUNDWATER

S45RODF8-3/95 G:\HOME\DM\C\PEASE\ZONE6?\ZONE7\S45ROD

/ZONE7/GWMETAL.DGN 11/16/93

LEGEND: Groundwater Sampling/Analysis

	M002
5115	Jun-93
Arsenic	0.0050 UJ
Iron	0.077
Lead	0.0030 U
Magnesium	2.63 J+
Manganese	0.0100 U
Silicon	6.58

Sampling location/identifier

Date of sampling

Dissolved metal concentration in groundwater above background (mg/L)

J - Estimated value
J+ - Estimated value biased high
J- - Estimated value biased low
NV - Result not valid
UJ - Estimated detection limit
U - Detection limit

	M002
5114	Jun-93
As	0.0050 UJ
Fe	0.0400 U
Pb	0.0030 U
Mg	3.37 J+
Mn	0.0387
Si	8.1

5114

	M002
5115	Jun-93
As	0.0050 UJ
Fe	0.077
Pb	0.0030 U
Mg	2.63 J+
Mn	0.0100 U
Si	6.58

5115

	M002	M004	M104
7628	Jan-93	Jun-93	Jun-93
As	NV	0.034	0.0327
Fe	13.9	24.2	23.9
Pb	0.0030 U	0.0030 U	0.0030 U
Mg	6.61	6.92	6.89
Mn	6.76	6.91	6.96
Si	10.8	12.9	12.8

	M001	M101
5139	Sep-93	Sep-93
As	0.0365	0.0371
Fe	13.9	14.9
Pb	0.003U	0.003U
Mg	4.42J	4.96J
Mn	1.33	1.51
Si	9.24 J	10.3 J

Lowry Lane

	M001	M003
7614	Jan-93	Jun-93
As	NV	0.0050 U
Fe	0.175	0.207
Pb	0.0030 U	0.0030 U
Mg	3.41	1.55
Mn	0.0100 U	0.0100 U
Si	9.13	8.99

7614

7615

	M002	M003
7615	Jan-93	Jun-93
As	0.0174 U	0.0050 UJ
Fe	0.0400 U	0.0400 U
Pb	0.0030 U	0.0071
Mg	28.6	11.0
Mn	3.11	0.618 J-
Si	7.19	5.26

	M001	M101
5137	Sep-93	Sep-93
As	0.0050 U	0.0050 U
Fe	0.110 U	0.149 U
Pb	0.003U	0.003U
Mg	1.61	1.5
Mn	0.0100 U	0.0100 U
Si	6.64	6.62

5137

	M002	M102	M004
7626	Jan-93	Jan-93	Jun-93
As	NV	NV	0.0050 UJ
Fe	0.0400 U	0.0400 U	0.0400 U
Pb	0.0030 U	0.0030 U	0.0174
Mg	5.6	5.8	5.3
Mn	0.0100 U	0.0100 U	0.0100 UJ
Si	7.36	7.44	7.28

5138

7628

7626

Former Rock Crib

5139

5140

7891

5136

	M001
5136	Sep-93
As	0.0050 U
Fe	0.42
Pb	0.0030 U
Mg	2.4
Mn	0.0207
Si	8.65

	M002
5116	Jun-93
As	0.0050 UJ
Fe	0.0400 U
Pb	0.0046
Mg	5.33 J+
Mn	6.53
Si	9.08

5116

	M001	M003
MW13	Jan-93	Jun-93
As	NV	0.0231 J
Fe	16.2	17.0
Pb	0.0030 U	0.0030 U
Mg	8.24	8.57 J+
Mn	7.08	7.11
Si	13.4	13.9

MW13

	M002	M004
7623	Jan-93	Jun-93
As	NV	0.0050 UJ
Fe	0.0400 U	0.0400 U
Pb	0.0030 U	0.0030 U
Mg	5.52	4.71 J+
Mn	1J	8.62
Si	12.7	14.3

7623

5119

5118

5121

	M001
5118	Jun-93
As	0.0050 U
Fe	0.0400 U
Pb	0.0030 U
Mg	7.19
Mn	0.0100 U
Si	6.52

Former OJETS Building

7890

MW9

	M001	M002
MW9	Jan-93	Jun-93
As	0.0233 U	0.0144
Fe	8.53	9.88
Pb	0.0030 U	0.0030 U
Mg	7.02	5.07
Mn	1.83	1.19 J
Si	9.31	8.36

	M002
7890	Sep-93
As	0.0187
Fe	38.6
Pb	0.0030 U
Mg	9.28
Mn	3.44
Si	16.8

5120

	M002
5120	Sep-93
As	0.0054
Fe	0.0840 U
Pb	0.0030 U
Mg	2.58
Mn	0.0100 U
Si	6.60 J

Building 424

5123

60

50

Note: Dissolved Metals Were Not Detected Above Background in Wells 5119, 5121, 5123, 5138, and 5140.

LEGEND

MW13 Monitor Well(Overburden)

7889 Piezometer/Soil Boring

Roads (asphalt/paved)

Roads/trails (unpaved areas)

Buildings

60 Surface Contour/Elevation (FT/MSL) - 2 Foot Interval

2000-0773 12/9/93

NORTH

0 25 50

SCALE IN FEET

Pease AFB

Map Area

Site 45 (OJETS)
Stage 5, Record of Decision
Pease Air Force Base, New Hampshire
FIGURE 9
DISTRIBUTION OF DISSOLVED METALS ABOVE BACKGROUND IN THE OVERBURDEN WATER-BEARING ZONE

S45RODTX-3/95.G:\HOME\DMC\PEASE\ZONE6?\ZONE7\S45ROD

following this first round were analyzed at fixed analytical laboratories. From these subsequent sampling events, toluene was detected at a concentration of 0.1 J μg/L in one laboratory sample from well 5118. VOCs were not detected in any of the other fixed laboratory samples. SVOCs were not detected in any of the three sampling rounds.

Background concentrations for dissolved inorganics were exceeded by silicon and lead. The exceedance for lead (17.4 μg/L) also exceeded the MCL for lead (15 μg/L) and occurred in a single sample from piezometer 7626. Lead concentrations were below the MCL in two subsequent samples collected from piezometer 7626. As with the US samples, high turbidity in LS samples resulted in total (unfiltered) metals concentrations that were considered not representative of actual site conditions.

LS/GT and US/GT Groundwater Quality

Four wells (5119, 5120, 5121, and 5138) are screened in the LS/GT unit. Monitor well 5140 is screened in the US/GT unit because the MCS unit is absent. VOCs were not detected in any of these five monitoring locations. Bis(2-ethylhexyl) phthalate, detected once in well 5119, was the only SVOC detected in the LS/GT and US/GT monitoring locations and is believed to be attributable to laboratory contamination. The SMCL for aluminum was exceeded in well 5119 for dissolved metals during the September 1993 sampling round. No MCLs were exceeded for dissolved metals.

As with the US and LS, the high turbidity values for the LS/GT and US/GT wells [>999 nephelometric turbidity units (NTU) for wells 5121, 5138, and 5140; >200 NTU for wells 5119 and 5120] and the low dissolved metals concentrations suggest that unfiltered samples do not accurately represent site conditions.

VI. SUMMARY OF SITE RISKS

A baseline risk assessment was performed to estimate the probability and magnitude of potential adverse health risks to human and environmental receptors from exposure to contaminants associated with the site. The risk assessment followed a four-step process:

1. Data evaluation and contaminant identification, which identified those chemicals that, given the specifics of the site, were of significant potential concern.

2. Exposure assessment, which identified actual or potential exposure pathways, characterized the potentially exposed populations, and determined the extent of possible exposure.

3. Toxicity assessment, which considered the types and magnitude of adverse health effects associated with exposure to the chemicals of concern.

4. Risk characterization, which integrated the first three steps to summarize the potential for cancer and adverse noncancer health effects posed to the evaluated receptors.

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 results of the baseline human health and ecological risk assessments for the OJETS are detailed in Section 6 of the Draft Final OJETS RI/FS Report (G-637) and are summarized in the subsections that follow.

A. Human Health Risk Assessment

A number of chemicals of concern (listed in Table 5) were selected for evaluation in the human health risk assessment. The potential risks to human health were evaluated separately for each medium, in accordance with guidance from EPA Region I. The media

evaluated were soil and groundwater. The soil and groundwater data sets were evaluated for the presence of *hot spots* (e.g., storage tank or spill).

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 slope factor. Cancer slope 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.

A most reasonable maximally exposed individual (RME) was selected for each medium based on both current and expected future land and water uses. The site is currently inactive; however, minor maintenance activities may be performed within the site area. It was assumed that future use for the OJETS will be restricted to commercial/industrial use (i.e., residential development will not occur). There are no current receptors for groundwater because groundwater from the site is not currently used. Based on the assumption that site-related groundwater contaminants could potentially migrate to the extent that chemical concentrations in off-base household wells would be the same as concentrations reported in on-site and downgradient wells, a future off-base adult resident was selected as the RME for the groundwater pathway.

Two exposure routes were evaluated for the soil and groundwater pathways: ingestion of soil (incidental) and/or groundwater (as drinking water) and dermal contact with soil and noningestive contact with groundwater (i.e., bathing, cooking, and washing).

Each RME was evaluated for potential cancer and noncancer health effects. The potential for cancer risk was expressed as the probability of developing cancer over a 70-year lifetime. The potential for noncancer health effects was expressed as the probability of developing these health effects over the duration of the exposure.

Maximum cancer risks generally acceptable to EPA are in the 10^{-6} to 10^{-4} range (i.e., 1-in-1-million to 1-in-10,000), depending on site-specific conditions. Because of the absence of sensitive receptors at the OJETS, the Air Force believes that risk levels in the 10^{-6} to 10^{-4} range do not require action. EPA typically requires action for cancer risk levels greater than 10^{-4}. Risks of less than 10^{-6} are not usually of regulatory concern. The potential for noncancer health risks was expressed as a hazard index. A total hazard index of greater than 1 is generally considered the benchmark for potential concern.

The total lifetime cancer risks and total hazard indices are presented by medium in Table 6. The cancer risks and hazard indices were calculated using three concentrations: the mean, the upper 95% confidence limit of the mean, and the maximum. As shown in Table 6, the potential cancer risk posed by exposure to soil was calculated to be less than 10^{-6} for all exposure scenarios. In addition, the total hazard indices for all soil exposure scenarios were less than 1; indicating no risk of adverse noncancer health effects posed by exposure to soil.

For the groundwater pathway, the total lifetime cancer risk posed to the future off-base resident was calculated to range from 2-in-10,000 (2.47×10^{-4}) to 8-in-10,000 (8.00×10^{-4}). Most of the risk from exposure to groundwater was contributed by arsenic (approximately 87% to 95%) and vinyl chloride (approximately 4% to 11%). Benzene, 1,1-dichloroethene, and vinyl chloride each posed between a 10^{-6} and 10^{-4} cancer risk at all groundwater exposure concentrations. The maximum risk (7.56×10^{-4}) posed by arsenic in the OJETS overburden groundwater is lower than that posed by arsenic at the current MCL. At the MCL (50 μg/L), the lifetime cancer risk to an individual through drinking water ingestion is calculated to be between 1-in-1,000 and 2-in-1,000.

For noncarcingogenic chemicals in groundwater the total hazard index ranged from 19.2 to 129 for the different exposure concentrations. The major contributors to the hazard index were manganese, naphthalene, 2-methylnaphthalene, and 1,2,4-trimethylbenzene. As was noted above, a hazard index greater than 1 is usually considered the benchmark for potential concern. Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to human health, human welfare, or the environment.

B. Ecological Risk Assessment

The ecological risk assessment evaluated the potential adverse impacts, associated with site contaminants, on terrestrial organisms (receptors) that inhabit or are potential inhabitants of the OJETS site. The assessment focused on the potential impacts of the chemicals of

concern in surface soils (0 to 2 ft BGS) to ecological receptors. The deer mouse and chipping sparrow were selected as receptors because they are components of the local ecosystem that, based on professional judgment, appear most susceptible to site contamination.

The potential risk posed to the ecological receptors was assessed by comparing estimated daily doses or medium-specific concentrations with critical toxicity values (CTVs). Hazard quotients were calculated, by contaminant, for each receptor by dividing the estimated daily intake by the CTV. 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 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.

Summaries of the hazard quotients and indices for the deer mouse and chipping sparrow are presented in Tables 7 and 8, respectively. The hazard indices for ecological receptors were calculated using both the average and maximum concentrations of chemicals of concern. The following paragraphs provide an overview of the findings of the OJETS ecological risk assessment and highlight contaminants that contributed substantially to the total hazard index for each receptor.

For the deer mouse, the cumulative average hazard index (1.25) and the cumulative maximum hazard index (4.46) were both greater than 1. The major contributors to both the average and maximum cumulative hazard indices were inorganic chemicals. The hazard indices were less than 1 for the average concentrations of each of the chemicals of concern. For the maximum concentrations, only the hazard index for cadmium (2.49) exceeded 1.

For the chipping sparrow, the cumulative average hazard index (11.9) and the cumulative maximum hazard index (31.4) were both greater than 10. Again, the major contributors to

both the average and maximum cumulative hazard indices were inorganic chemicals. For the average hazard index, zinc (8.36), chromium (3.25), and cadmium (0.23) contributed approximately 99% of the total hazard index. For the maximum hazard index, zinc (22.8), chromium (6.24), and cadmium (1.85) contributed approximately 98% of the total hazard index.

Although results of the ecological risk assessment indicate that cadmium, chromium, and zinc in surface soils may pose an ecological risk, there is considerable uncertainty concerning the results of the ecological risk assessment. The hazard indices are calculated using hazard quotients for ingestion of both soil and vegetation, and the results show that vegetation ingestion accounted for 84% to 99% of the calculated cumulative hazard indices. For the deer mouse, the majority of plant material consumed is usually in the form of seeds. However, it was assumed for this assessment that the majority of the diet would include the vegetative portion of plants, where translocated chemicals tend to accumulate at higher concentrations. This assumption may have lead to an overestimate of daily intake concentrations, and hence, a higher hazard index. Assumptions associated with diet also introduce uncertainty to the estimated risk to the chipping sparrow. 100% seed ingestion was assumed though it is likely that invertebrate ingestion comprises up to 30% of the diet of the sparrow.

Additional uncertainties concerning the ecological risk assessment results are related to the small area (approximately 0.2 acres) of contaminated surface soil at the OJETS. The chipping sparrow and deer mouse were assumed to obtain 25% of their daily diets on-site. However, the lack of vegetation and soil to support vegetation in the area of the former concrete pad and rock crib minimizes the potential for receptors to ingest site-related contaminants.

Because the maximum cumulative hazard index for the chipping sparrow (31.4) is in the range that generally warrants action, soils contaminated with zinc will be targeted for remediation. The maximum hazard index for zinc (22.8) contributed 72% of the cumulative hazard index for the chipping sparrow, and zinc was the only chemical with a hazard

quotient that exceeded 10. Because of the uncertainties associated with the ecological risk assessment, the soils associated with hazard indices between 1 and 10 are not targeted for remediation. However, treatment of soils contaminated with zinc and targeted for remediation will also remove other contaminants and likely significantly reduce the cumulative hazard indices.

VII. DEVELOPMENT AND SCREENING OF ALTERNATIVES

A. Statutory Requirements/Response Objectives

Section 121 of CERCLA establishes several statutory requirements and preferences for remedial actions at Superfund sites, including the following:

- Remedial actions must be protective of human health and the environment.
- Remedial actions, when complete, must comply with all federal and more stringent state environmental standards, requirements, criteria, or limitations, unless a waiver is invoked.
- The remedial action must be cost-effective and use permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable.
- There shall be a preference for remedies in which treatment that permanently and significantly reduces the volume, toxicity, or mobility (TMV) of the hazardous substances is a principal element over remedies not involving such treatment.

Remedial action alternatives were developed for the OJETS to be consistent with these mandates.

Based on available information relating to types of contaminants, environmental media of concern, and potential exposure pathways, RAOs were developed to aid in the development and screening of remedial alternatives. These RAOs are presented in detail in the Draft Final OJETS RI/FS Report (G-637) and in the Site 45 FS Supplement (G-751). The RAOs were developed to comply with ARARs and TBCs, and to mitigate existing and future potential threats to human health and the environment from contamination at the OJETS. The RAOs address soil and groundwater at the OJETS as follows:

<u>Soil</u>

- Minimize leaching of contaminants from soil to groundwater that would result in groundwater contamination that may exceed ARARs or present an unacceptable health risk given the site-specific exposure scenarios.

- Comply with chemical-, location-, and action-specific ARARs and TBCs and/or established background levels for specific contaminants in soil, as appropriate.

- Protect ecological receptors from direct contact with, or ingestion of, soil or vegetation containing contaminants at concentrations that may present an unacceptable risk.

Groundwater

- Comply with chemical-specific ARARs and/or established background levels for specific contaminants in groundwater, as appropriate.

- Protect human receptors from exposure to or ingestion of contaminated groundwater that may present unacceptable health risks as defined in Subsection VI.A.

B. Technology Screening and Alternative Development

CERCLA and the NCP set forth the process by which remedial actions are evaluated and selected. In accordance with these requirements, remedial technologies were screened, and a range of remedial alternatives was developed for the OJETS. Treatment that reduces the TMV of the hazardous substances is a principal element of the remedial alternatives.

In Section 8 of the Draft Final OJETS RI/FS Report (G-637), technologies are identified, assessed, and screened based on implementability, effectiveness, and cost. The purpose of the initial screening was to narrow the number of remedial technologies that would be included in the remedial alternatives, while preserving a range of options. The technologies that passed the screening process were combined into the range of remedial alternatives presented in Section 9 of the Draft Final OJETS RI/FS Report (G-637) and in the Site 45 FS Supplement (G-751).

The range of alternatives developed during the FS includes an alternative that removes or destroys hazardous substances to the maximum extent feasible, minimizing to the degree possible the need for long-term management. The range also includes alternatives that treat the principal threats posed by the site but vary in the degree of treatment used and the

quantities and characteristics of the treatment residuals and untreated material that must be managed; and a no-action alternative. Each remedial alternative was evaluated in detail with respect to the nine evaluation criteria specified in NCP.

VIII. DESCRIPTION OF ALTERNATIVES

This section provides a narrative summary of each alternative that was evaluated in detail during the FS. Detailed assessments of alternatives are presented in the Draft Final OJETS RI/FS Report (G-637) and in the Site 45 FS Supplement (G-751). The remedial alternatives analyzed for the OJETS are as follows:

- Alternative 1: No action (always considered as required by CERCLA).
- Alternative 2: Excavation and off-site treatment and/or disposal of approximately 4,950 yd^3 of VOC- and metals-contaminated soil and institutional controls.
- Alternative 3: Soil vapor extraction and air sparging of source area soil, excavation and off-base disposal of approximately 120 yd^3 of metals-contaminated soil, and institutional controls.
- Alternative 4: Excavation and ex situ biological/vapor extraction treatment of approximately 7,000 yd^3 of VOC-contaminated soil, excavation and off-site disposal of approximately 120 yd^3 of metals-contaminated soil, excavation dewatering, and on-site treatment and disposal of groundwater.
- Alternative 5: Excavation and on-site thermal desorption of approximately 7,000 yd^3 of VOC-contaminated soil, excavation and off-site disposal of approximately 120 yd^3 of metals-contaminated soil, excavation dewatering, and on-site treatment and disposal of groundwater.
- Pump and Treat Alternative: Extraction and on-site treatment of groundwater, off-site recharge of treated groundwater.

Alternative 1 — No Action

The no-action alternative was evaluated in detail in the RI/FS to serve as a baseline for comparison with the other remedial alternatives under consideration. Under this alternative, no treatment, containment, institutional controls, or monitoring of any kind would be performed.

Alternative 2 — Excavation and Off-Site Treatment and/or Disposal of Soil, and Institutional Controls

This alternative consists of the following components:

- Institutional controls and placement of a security fence.
- Excavation and off-site treatment and/or disposal of approximately 4,950 yd^3 of contaminated soil.
- Backfilling of the excavation with excavated clean soil and additional off-site soil.
- Environmental monitoring until cleanup goals have been attained.
- Designation of a GMZ in area of the groundwater contaminant plume. The GMZ would remain in effect until groundwater cleanup goals have been attained.

Estimated time for design and construction: 2 months.
Estimated period of operation: 30 years.
Estimated capital cost: $1,031,000.
Estimated operation and maintenance (O&M) cost (net present worth): $65,000.
Estimated total cost (net present worth): $1,096,000.

Alternative 3 — Soil Vapor Extraction and Air Sparging of Source Area Soil, Excavation and Off-Site Disposal of Metals-Contaminated Soil, and Institutional Controls

This alternative consists of the following components:

- Institutional controls and placement of a security fence.
- Excavation and off-site disposal of source area surface soil with concentrations of inorganic contaminants in excess of cleanup goals.
- In situ air sparging of saturated contaminated soil to enhance volatilization and biodegradation of organic contaminants in soil and groundwater.
- In situ SVE treatment of unsaturated contaminated soil for removal of volatile contaminants and to enhance biodegradation of organic contaminants.

- Installation of a low-permeability membrane on the surface of the soil to be treated by SVE to minimize the potential for short circuiting of atmospheric air to SVE vents.

- Monitoring of site groundwater until cleanup goals have been attained.

- Designation of a GMZ in area of the groundwater contaminant plume. The GMZ would remain in effect until groundwater cleanup goals have been attained.

Estimated time for design and construction: 9 months.
Estimated period of operation: 4 years.
Estimated capital cost: $573,000.
Estimated O&M cost (net present worth): $463,000.
Estimated total cost (net present worth): $1,036,000.

Alternative 4 — Excavation and Ex Situ Biological/Vapor Extraction Treatment of VOC-Contaminated Soil, Excavation and Off-Site Disposal of Metals-Contaminated Soil, Excavation Dewatering, and On-Site Treatment and Disposal of Groundwater

This alternative consists of the following components:

- Institutional controls and placement of a security fence.

- Excavation and off-site disposal of source area surface soil with concentrations of inorganic contaminants in excess of cleanup goals.

- Excavation of approximately 7,000 yd^3 of soil contaminated above cleanup goals for organics.

- Dewatering of the open excavation for 6 months to facilitate removal of soil and to reduce the mass of contaminants in site groundwater.

- On-site treatment of groundwater and disposal of effluent in downgradient recharge trenches.

- On-site treatment of excavated contaminated soil by ex situ biological/vapor extraction, and treatment of VOCs in the offgas by carbon adsorption.

- Off-site disposal of treated soil that does not meet cleanup goals for metals.

- Backfilling of excavated clean soil (clean soil excavated to access contaminated soil) and treated soil in the excavated areas.

- Environmental monitoring until cleanup goals have been attained.

- Designation of a GMZ in area of the groundwater contaminant plume. The GMZ would remain in effect until groundwater cleanup goals have been attained.

Estimated time for design and construction: 2 years.
Estimated period of operation: 2 years.
Estimated capital cost: $1,620,000.
Estimated O&M cost (net present worth): $359,000.
Estimated total cost (net present worth): $1,979,000.

Alternative 5 – Excavation and On-Site Thermal Desorption of VOC-Contaminated Soil, Excavation and Off-Site Disposal of Metals-Contaminated Soil, Excavation Dewatering, and On-Site Treatment and Disposal of Groundwater

This alternative consists of the following components:

- Institutional controls and placement of a security fence.

- Excavation and off-site disposal of source area surface soil with concentrations of inorganic contaminants in excess of cleanup goals.

- Excavation of approximately 7,000 yd^3 of soil contaminated above cleanup goals for organics.

- Dewatering of the open excavation for 6 months to facilitate removal of soil and to reduce the mass of contaminants in site groundwater.

- On-site groundwater treatment and disposal of effluent in downgradient recharge trenches.

- On-site treatment of excavated contaminated soil by a mobile thermal desorption unit.

- Off-site disposal of treated soil that does not meet cleanup goals for metals.

- Backfilling of excavated clean soil (clean soil excavated to access contaminated soil) and treated soil in the excavated areas.

- Environmental monitoring until cleanup goals have been attained.

- Designation of a GMZ in area of the groundwater contaminant plume. The GMZ would remain in effect until groundwater cleanup goals have been attained.

Estimated time for design and construction: 8 months.
Estimated period of operation: 2 years.
Estimated capital cost: $1,681,000.
Estimated O&M cost (net present worth): $28,000.
Estimated total cost (net present worth): $1,709,000.

Pump and Treat Alternative

This alternative was included in the Site 45 Feasibility Study Supplement (G-751) that was submitted to EPA and NHDES in February 1995. This alternative may stand alone or be combined with any of the proposed source control alternatives discussed previously.

The duration of the pump and treat alternative would vary depending on the source control alternative with which it was combined. Contaminant transport modeling indicates that, to attain groundwater cleanup goals, pumping and treatment of groundwater would only be necessary for 2 to 6 months after complete remediation of source area soil. Remediation of the entire source area would be expected under Alternative 3 within 3 years, and under Alternative 4 and 5 in less than 1 year. Complete removal of the contaminant source would be unlikely under Alternative 2. Therefore, under Alternative 2, residual soil contamination would likely continue to leach to groundwater and extend the duration of the pump and treat alternative. If no source control remedial action were implemented, the duration of the pump and treat alternative (the time until attainment of groundwater cleanup goals) would likely be several years or longer. The pump and treat alternative consists of the following components:

- Groundwater extraction to capture the dissolved contaminant plume and reduce the mass of contamination.
- On-site groundwater treatment to remove VOCs from extracted groundwater.
- Discharge of treated groundwater to on-base recharge trenches.

Estimated time for design and construction: 6 months.
Estimated period of operation: Varies with source control alternative.
Estimated capital cost: $300,000.
Estimated O&M cost (net present worth): $340,000.
Estimated total cost (net present worth): $640,000.

IX. SUMMARY OF THE COMPARATIVE ANALYSIS OF ALTERNATIVES

Section 121(b)(1) of CERCLA presents several factors that must be considered when assessing alternatives and specifies a preference for treatment of hazardous substances and contaminated materials. Building on these specific statutory mandates, 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. The following is a summary of the comparison of each alternative's strengths and weaknesses with respect to the nine evaluation criteria. These criteria are summarized in the following paragraphs.

Threshold Criteria

The following two threshold criteria must be met for the alternatives to be eligible for selection in accordance with 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 attain ARARs under federal environmental laws and state environmental or facility siting laws, or whether there are grounds for invoking a waiver pursuant to the requirements of NCP.

Primary Balancing Criteria

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

3. *Long-term effectiveness and permanence* address the criteria that are 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 toxicity, mobility, or volume of contaminants through treatment* addresses the degree to which alternatives use recycling or treatment that reduces TMV volume of contaminants, 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 attained.

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. A 30-year assessment period was used to estimate remedial alternative 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 the OJETS was evaluated based on verbal comments received during the public comment period.

A detailed assessment of each alternative according to the threshold and balancing criteria is presented in the OJETS RI/FS Report (G-637) and the Site 45 FS Supplement (G-751). Following the detailed analysis of each individual alternative, a comparative analysis, focusing on the relative performance of each alternative against the threshold and balancing criteria, was conducted. This comparative analysis is presented in Table 9.

The following subsections present evaluations of the remedial alternatives relative to each other and to the nine evaluation criteria. The evaluations are based on the detailed and comparative analysis in the OJETS RI/FS Report (G-637) and the Site 45 FS Supplement (G-751). In the following subsections the remedial alternatives are also evaluated in terms of the two modifying criteria not discussed in the OJETS RI/FS Report.

A. Overall Protection of Human Health and the Environment

Alternative 1 would not reduce the risk to human receptors from ingestion of source area groundwater, or the risk to ecological receptors from exposure to metals in surface soil. It should be noted that the groundwater contamination is confined to a limited area adjacent to the Pease AFB flightline, where use of groundwater for drinking water supplies is not currently planned and is unlikely in the future. Also, the cumulative average hazard index for the maximally exposed ecological receptor (the chipping sparrow) is 11.9, which is only slightly above the benchmark of 10 for potential remedial action.

Implementation of Alternatives 2 through 5 would likely increase overall protection of human health and the environment by treating contaminated media at the site. These actions would likely result in attainment of drinking water standards in groundwater over the long term, and a reduction of risk to ecological receptors from metals in soil. Alternatives 4 and 5 would likely attain a higher degree of protection in a shorter time period than would Alternatives 2 and 3. Addition of the Pump and Treat Alternative to any of the alternatives would likely decrease the time until attainment of groundwater cleanup goals following removal of source area soil contaminants. As noted above, the degree of additional protection offered by rapid attainment of groundwater standards would be minimal because there is no current plan, and future plans are unlikely, to use groundwater from the site as a drinking water source.

B. Compliance with ARARs

Compliance with ARARs addresses whether a remedy complies with all state and federal environmental and public health laws and requirements that apply or are relevant and appropriate to the conditions and cleanup options at a specific site. ARARs are divided into three categories: (1) chemical-specific requirements that are health- or risk-based concentration limits or ranges in various environmental media for specific hazardous substance, pollutants, or contaminants, (2) location-specific requirements are restrictions on activities based on the characteristics of a site and its immediate environment, and (3) action-specific requirements are controls or restrictions on particular types of activities or treatment technologies. Tables P-1 through P-5 of the RI/FS (G-637) present evaluations of Alternatives 1, 2, 3, 4, and 5 with respect to ARARs. The Site 45 FS Supplement (G-751) presents the ARARs for the pump and treat alternative.

Current conditions at Site 45 are not in compliance with chemical-specific ARARs for groundwater. Groundwater ARARs would not be attained under the no-action alternative, except by natural attenuation over the very long-term. Groundwater ARARs would likely be attained in shorter lengths of time under implementation of Alternatives 2 through 5, with Alternatives 4 and 5 resulting in the most rapid attainment of groundwater ARARs. Addition of the Pump and Treat Alternative to any of the alternatives would likely decrease the time, following remediation of source area soil, until attainment of groundwater ARARs.

Remedial activities implemented under Alternatives 2 through 5 and the Pump and Treat Alternative would comply with action- and location-specific ARARs governing subsurface recharge of treated groundwater; air emissions; and transportation, off-site treatment, and disposal of contaminated soil.

C. Long-Term Effectiveness and Permanence

The potential human health risk at Site 45 is based primarily on the unlikely event that contaminated groundwater would be consumed by human receptors. Implementing

Alternative 1 would not reduce this risk. Alternatives 2 through 5 would all result in a significant and permanent reduction of site contaminants and reduce the potential of contaminants leaching into the groundwater, thereby reducing this risk.

The thermal desorption of soil implemented under Alternative 5 would result in the most thorough level of soil remediation, resulting in the least residual risk of contaminants leaching to groundwater of the five alternatives. Alternative 4 would also offer a high degree of soil remediation because attainment of cleanup goals in the treated soil would be required before it could be backfilled. The residual risk of contaminant leaching associated with Alternatives 2 and 3 would likely be greater than for Alternatives 4 and 5. As noted previously, it is likely that less contaminated soil would be removed under Alternative 2 than under Alternatives 4 and 5. The in situ processes associated with Alternative 3 may provide less uniform soil treatment than the excavation and ex situ treatment processes in Alternatives 4 and 5. Addition of the pump and treat alternative to any of the alternatives would likely result in minimal reduction of residual risk because pumping and treating groundwater would provide minimal remediation of the contaminant source.

No long-term management and monitoring of the site would be associated with Alternative 1. Groundwater monitoring would be conducted once every 5 years under the remaining alternatives. It is difficult to predict the time until groundwater cleanup goals would be attained, and thus the duration of the groundwater monitoring. However, it is likely that the more rapid and thorough soil treatment in Alternatives 4 and 5 would result in shorter durations of monitoring for those alternatives than for Alternatives 2 and 3.

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

Alternative 1 would most likely not reduce the TMV of the contaminants in the foreseeable future. Alternatives 2 through 5 would all result in a significant and permanent reduction of TMV of site contaminants. Alternative 2 results in some untreated soil remaining in the source area saturated zone. Alternative 3 may result in less uniform treatment of soils because of the in situ treatment process. Alternatives 4 and 5 would likely produce

relatively insignificant amounts of treatment residuals. The treatment processes used in Alternatives 2 through 5 would be irreversible. The primary difference between Alternatives 4 and 5 and Alternatives 2 and 3, with respect to reduction of TMV, is the potential for untreated contaminated subsurface soil to remain after completion of the remedial actions. Implementation of Alternatives 4, 5, or the Pump and Treat Alternative would reduce the TMV of contaminants in groundwater via extraction and treatment.

E. Short-Term Effectiveness

Air emissions from excavation, SVE, and air stripping operations would be controlled in compliance with state and federal criteria. Groundwater recharge to downgradient recharge trenches would be performed in compliance with NHDES criteria.

There would be no action taken; therefore, there would be no risk to workers under Alternative 1. Alternatives 2, 4, and 5 would involve excavation of approximately 12,100 to 18,700 yd^3 of soil, approximately 4,950 to 7,120 yd^3 of which is contaminated. Therefore, Alternatives 2, 4, and 5 would present a greater risk to workers than Alternative 3, which involves minimal excavation (120 yd^3). The risks associated with excavation include potential exposure of site workers to gaseous emissions and dust, and risks typically associated with excavation activities (i.e., heavy equipment operation and slope stability).

Alternatives 3, 4, and 5 and the pump and treat alternative would all present similar levels of risk to workers with respect to operation of equipment associated with SVE, air sparging, ex situ biological/vapor extraction, thermal desorption, and groundwater recovery and treatment. Alternative 2 would not present risks to workers beyond those associated with excavation and backfilling. Effective health and safety measures, including use of personal protective equipment (PPE) and appropriate engineering controls, would be implemented for Alternatives 2 through 5 and the pump and treat alternative to ensure that workers are protected from potential hazards and that Occupational Safety and Health Administration (OSHA) criteria are met.

Alternative 1 would involve no action and, therefore, would not pose any risk to the environment during implementation. Minimal short-term environmental effects would result from the limited excavation (approximately 120 yd^3) and installation of an impermeable surface membrane during implementation of Alternative 3. Most of the area of the site that would be affected by Alternative 3 is currently unvegetated or only sparsely vegetated. Alternatives 2, 4, and 5 would involve clearing and regrading of 1 to 2 acres at the northern end of Site 45, and excavation of approximately 12,100 to 18,700 yd^3 of soil from approximately 1 acre of the site. While these effects on the environment are more substantial than those for Alternatives 1 and 3, it is expected that they would be mitigated by proper stabilization and revegetation of the site following completion of the remedial activities.

The time until attainment of cleanup of soil and groundwater cleanup goals would depend primarily on the aggressiveness of the source area remedial action. Soil cleanup goals would likely be attained within a few months under Alternative 5, within 1 to 2 years under Alternative 4, and 1 to 3 years under Alternative 3. A significantly longer period of time would likely be necessary for attainment of soil cleanup goals under Alternative 2 because of possible incomplete removal of all contaminated soil.

Following removal of the source of groundwater contamination (i.e., attainment of soil cleanup goals) the remaining contaminants dissolved in groundwater would dissipate by natural attenuation. Contaminant transport modeling was performed to estimate the time, following removal of the contaminant source, until attainment of groundwater cleanup goals at the OJETS. Two scenarios were evaluated: natural attenuation and groundwater extraction/treatment. The model simulated transport and attenuation of TCE in groundwater following removal of all source area soil contaminants. It was estimated that the groundwater cleanup goal for TCE (5 μg/L) would be achieved through natural attenuation approximately 1 year after removal of source area contaminants. Extraction and treatment of groundwater would decrease the time until attainment of the cleanup goal for TCE to 2 to 6 months after complete remediation of source area soils. Thus, addition of

the Pump and Treat Alternative would provide only minimal impact to the short-term effectiveness of any of the alternatives.

F. Implementability

All of the alternatives use established and proven technologies that could be readily implemented, operated, and maintained. The difficulties and unknowns associated with implementing Alternatives 2, 4, and 5 are primarily related to the excavation of contaminated soil from below the water table. If the excavation activities are conducted during periods when the water table is low, then the removal of contaminated soil, as described for the different alternatives, would be easier. If the water table is high during the time of excavation, or if the dewatering measures are ineffective, then removal of contaminated soils from 14 to 18 ft BGS would likely be relatively difficult.

The SVE and air sparging technologies associated with Alternative 3 have been widely used and are well established. Results of on-site pilot testing of SVE and air sparging will be used to optimize the design of full-scale systems. A SVE/AS pilot treatability study was performed at the OJETS between September and November 1994. The treatability study indicated that combined SVE/AS is an effective method for removal of organic contaminants in vadose zone and saturated zone soil at the OJETS. The results of the treatability study are discussed in the OJETS Treatability Study Letter Report (G-737). Results of on-site pilot testing of SVE and air sparging will be used to optimize the design of full-scale systems. The groundwater extraction, treatment, and recharge technologies associated with Alternatives 4, 5, and the Pump and Treat Alternative are well established and could be readily implemented.

The duration of treatment and reliability of the soil treatment process (thermal desorption) for Alternative 5 is well established. The durations and uniformity of treatment associated with Alternatives 3 and 4 are less well established and are more subject to site-specific conditions. Approval from state and federal agencies, when necessary, would likely be obtained for actions associated with each of the alternatives, except for Alternative 1. It is

expected that approval for the no-action alternative would not be granted by regulatory agencies. Implementation of any of the alternatives would not limit the ability to undertake additional remedial actions, if deemed necessary in the future.

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. Excavation and Off-Site Treatment and/or Disposal of Soil and Institutional Controls	$1,031,000	$65,000	$1,096,000
3. Soil Vapor Extraction and Air Sparging of Source Area Soil, Off-Site Disposal of Metals-Contaminated Soil, and Institutional Controls	$573,000	$463,000	$1,036,000
4. Excavation and Ex Situ Biological/Vapor Extraction Treatment of VOC-Contaminated Soil, Excavation and Off-Site Disposal of Metals-Contaminated Soil, Excavation Dewatering, and On-Site Treatment and Disposal of Groundwater	$1,620,000	$359,000	$1,979,000
5. Excavation and On-Site Thermal Desorption of VOC-Contaminated Soil, Excavation and Off-Site Disposal of Metals-Contaminated Soil, Excavation Dewatering, and On-Site Treatment and Disposal of Groundwater	$1,681,000	$28,000	$1,709,000
Pump and Treat Alternative	$300,000	$340,000	$640,000

H. State Acceptance

NHDES has been involved in the environmental activities at Pease AFB since the mid-1980s, as summarized in Section II, and has been actively and continuously involved in the evaluation of remedial action decisions for the OJETS. The RI/FS was performed with the Air Force as the lead agency, 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 presented in Appendix B.

I. Community Acceptance

The comments that are received during the public comment period and the public hearing on the Proposed Plan are summarized in the Responsiveness Summary (see Appendix C). Public comments are supportive of the proposed remedial action, the selected remedy will not be modified from that presented in the OJETS Proposed Plan.

X. THE SELECTED REMEDY

The selected remedy, Alternative 3, is comprehensive in that it removes source area soil and groundwater contaminants via in situ air sparging and SVE treatment of on-site soils. Treatment of the contaminant source will minimize the potential for long-term leaching of contaminants from soil to groundwater. The selected remedy involves delineation, excavation, and off-site disposal of surface soils contaminated above cleanup goals for inorganics; in situ air sparging of saturated contaminated soil; in situ SVE treatment of unsaturated contaminated soil; and installation of a low-permeability membrane on the site soil surface. Institutional controls, including a chain-link fence, will be implemented and a GMZ will be designated and remain in effect until groundwater monitoring demonstrates that groundwater cleanup goals have been attained

A. Methodology for Cleanup Level Determination

Cleanup levels were evaluated for each medium of concern at the OJETS, Site 45. These media (soil and groundwater) have been evaluated separately to account for differences in contaminants and exposure pathways for each medium. Cleanup goals were selected after comparing maximum contaminant concentrations detected for each chemical of concern in each medium to appropriate chemical-specific ARARs and TBCs, human health risk-based concentrations, and, if applicable, ecological risk- and leaching-based concentrations.

The approach used to determine risk-based concentrations is consistent with the approach used to evaluate human health and ecological risk in the risk assessment section of the Draft Final OJETS RI/FS Report (G-637) and with general EPA guidance for developing risk-based preliminary remediation goals (G-224). In summary, risk-based concentrations were derived from the chemicals of concern in each medium based on the most reasonable maximally exposed human or ecological 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).

In general, where ARARs were available and deemed appropriate, 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 Site 45 exposure scenarios, a risk-based concentration or TBC was selected as the cleanup goal. When ARARs or TBCs 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. The cleanup goals for media at Site 45 are summarized in the subsections that follow.

B. Groundwater Cleanup Goals

The list of groundwater contaminants that were evaluated for establishing groundwater cleanup goals was limited to groundwater chemicals of concern identified in the risk assessment conducted for Site 45. Cleanup goals were established for all chemicals of concern that exceeded ARARs. Risk-based concentrations were established as cleanup goals for chemicals of concern that did not have an ARAR.

Table 10 presents the maximum detected concentration, chemical-specific ARARs, risk-based concentrations, and the cleanup goals established for each chemical of concern. Cleanup goals were established for nine contaminants in Site 45 groundwater, which includes seven organics and two inorganics.

C. Soil Cleanup Goals

Organic and inorganic contaminant cleanup goals for soil were developed based on a comparison of maximum detected soil concentrations with the maximum detected background concentrations, ARARs, TBCs, ecological risk-based remedial objectives, and leaching-based remedial objectives. The selection of cleanup goals for soils is detailed in Table 11.

The NHDES Interim Policy for the Management of Soils Contaminated from Spills/Releases of Virgin Petroleum Products is a TBC for the site and is the basis for cleanup goals for organics in soils. Background values are selected as default cleanup goals for inorganics in soils because threshold values were less than surface soil background values. Cleanup goals were established for six organics and two inorganics as indicated in Table 11.

The results of the human health risk assessment indicate that for both current and future use soil exposure scenarios, total lifetime cancer risks did not exceed EPA's acceptable range of 10^{-6} to 10^{-4}, and total hazard indices did not exceed EPA's action level of 1. Therefore, reduction of human health risks resulting from the soil exposure pathway was not considered a Remedial Action Objective (RAO).

D. Description of Remedial Components

The selected remedy (Alternative 3) for the OJETS involves the following key components:

- Excavation and off-site disposal of approximately 120 yd^3 of source area surface soil with concentrations of inorganic contaminants in excess of cleanup goals.
- In situ air sparging of approximately 4,000 yd^3 of saturated contaminated soil to enhance volatilization and biodegradation of less volatile organic contaminants in soil and groundwater.

- In situ SVE treatment of approximately 3,000 yd^3 of unsaturated contaminated soil to remove volatile contaminants and to enhance biodegradation of organic contaminants.

- Installation of a low-permeability membrane on the surface of the soil to be treated by SVE to minimize the potential for short circuiting of atmospheric air in SVE vents.

- Natural attenuation of residual contamination remaining in groundwater after excavation, air sparging, and SVE treatment.

- Institutional controls and monitoring of site groundwater until cleanup goals have been attained. Establishment of a GMZ in the area of the groundwater contaminant plume. The GMZ will remain in effect until cleanup goals have been attained, in accordance with NHDES regulation Env-Ws 410.

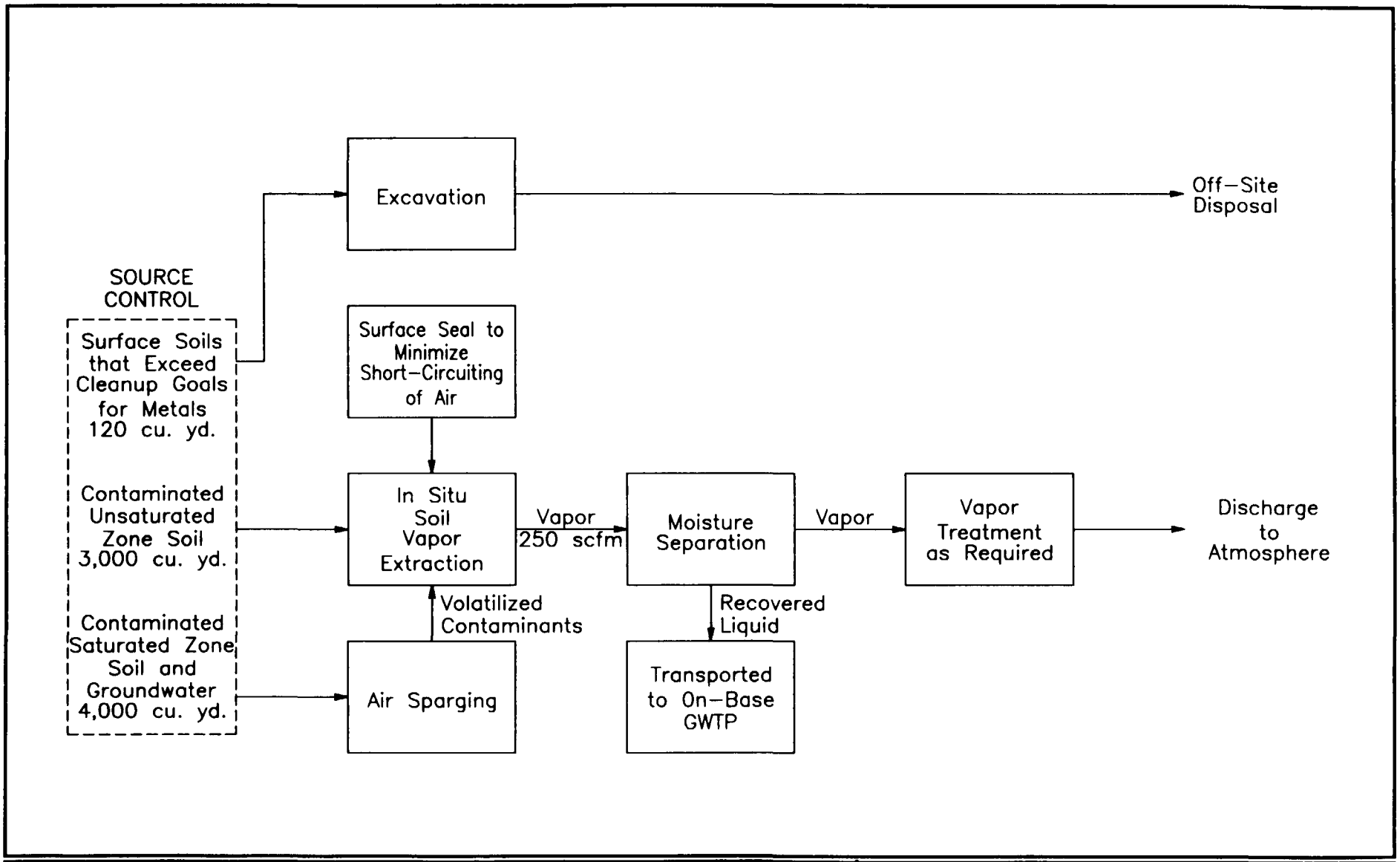
Figure 10 presents a remedial process flow sheet for the selected remedy that depicts the elements described. Figure 11 is a site plan that shows the major components of the remediation system. Results of the SVE/AS pilot treatability study conducted at the site, and monitoring data collected during ongoing interim operation of the SVE/AS pilot system, will be used to establish design criteria for the full-scale remediation system. The various components of the remedial action are detailed in the following paragraphs.

Institutional Controls

Institutional controls for Alternative 3 will include access restrictions, establishment of a GMZ, land use restrictions, and environmental monitoring. A chain-link fence will be installed, and access restriction signs will be placed on the fence boundaries to prevent unauthorized persons from accessing the site. Access restrictions will remain in place until the SVE and air sparging remedial actions are complete, and the treatment units are removed from the site.

Environmental Monitoring

A detailed environmental monitoring plan will be developed during design of the full-scale remediation system for the OJETS. The environmental monitoring plan will include

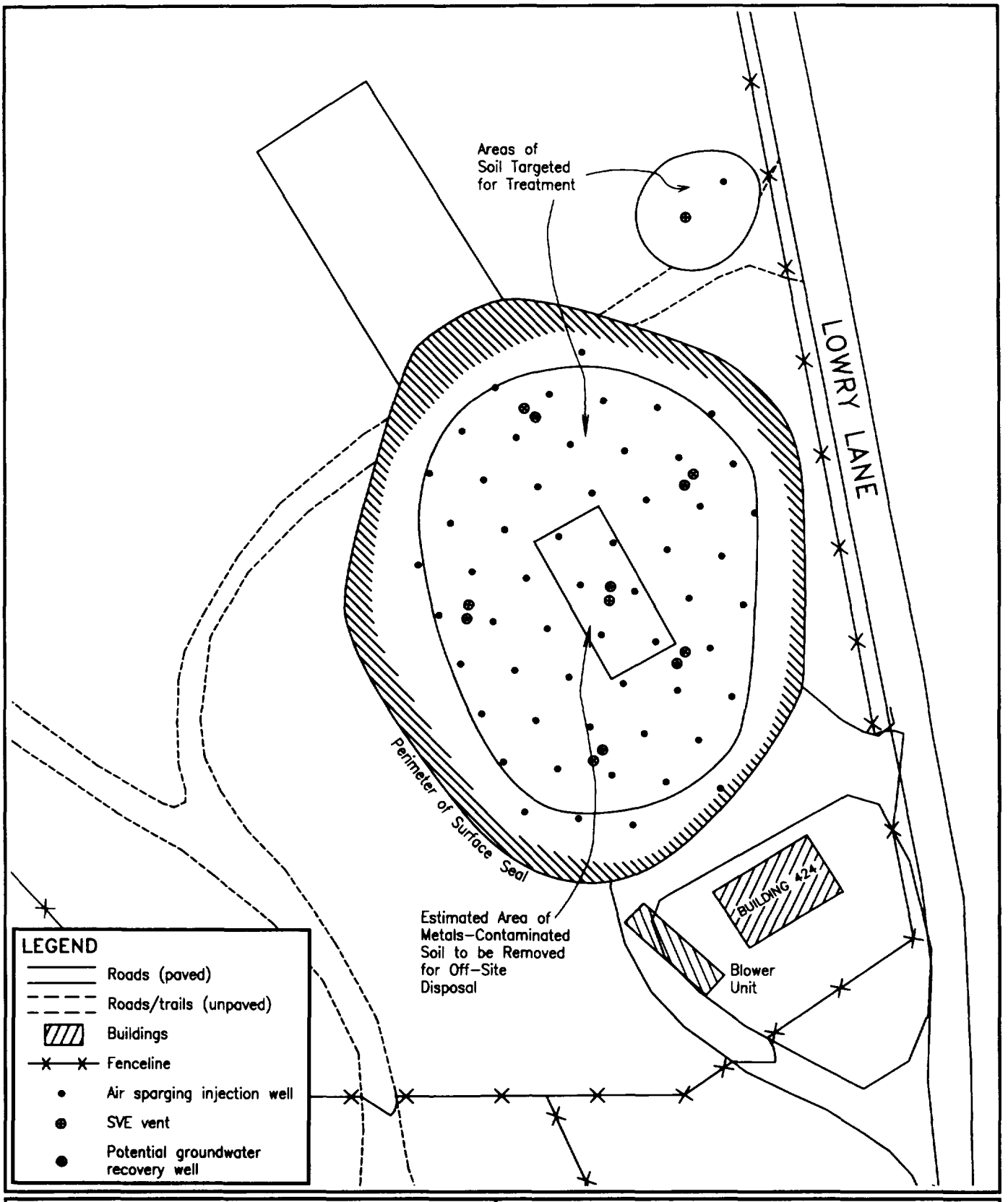


Site 45 (OJETS)
Stage 5, Record of Decision
Pease Air Force Base, New Hampshire

FIGURE 10
REMEDIAL PROCESS FLOW DIAGRAM

P:\DWG\PEASE\Z7FS\FIG-10.DWG 03/16/96

S45RODX0(FROM CONCORD)-3/95.G:\HOME\DMC\PEASE\ZONE67\ZONE7\S45ROD


Areas of
Soil Targeted
for Treatment
LOWRY LANE
Perimeter of Surface Seal
Estimated Area of
Metals–Contaminated
Soil to be Removed
for Off–Site
Disposal
BUILDING 424
Blower
Unit
LEGEND
Roads (paved)
Roads/trails (unpaved)
Buildings
Fenceline
Air sparging injection well
SVE vent
Potential groundwater
recovery well
NORTH
0 25 50
SCALE IN FEET
Base Map Source:
Detail area of photogrammetric compilation of
PAFB from aerial photography dated 11/23/87.
P:\DWG\PEASE\Z7FS\FIG-11 03/16/95
Pease AFB
Site
Site 45 (OJETS)
Stage 5, Record of Decision
Pease Air Force Base, New Hampshire
FIGURE 11
SITE PLAN OF REMEDIATION SYSTEM
S45RODX1(FROM CONCORD)-3/95.G:\HOME\DMC\PEASE\ZONE6?\ZONE?\S45ROD

sampling and analysis plans for soil, groundwater, and the SVE/AS treatment system. The monitoring data will be used to evaluate the extent of the cleanup and attainment of cleanup goals. It is expected that the remedial action will result in attainment of cleanup goals in source area and downgradient soil and groundwater. It is estimated that soil and groundwater cleanup goals will be attained within 3 years of full-scale SVE/AS system startup. Monitoring will be conducted for 1 additional year after attainment of groundwater cleanup goals to confirm that the remedial action is complete.

A GMZ will be established in accordance with NHDES regulations (Env-Ws 410) to prevent use of groundwater that does not meet drinking water standards, and to monitor groundwater quality at the site until such standards are attained. Groundwater use restrictions will remain in-place until groundwater cleanup goals are attained.

Excavation and Off-Site Disposal of Metals-Contaminated Source Area Surface Soil

Some surface soil in the area of the former rock crib exceeds the leaching-based cleanup criterion for lead and the ecological risk-based cleanup criterion for zinc. Under this alternative, additional sampling of surface soils will be conducted to verify the extent of surface soil that exceeds cleanup goals for inorganics. Subsequently, the surface soil that exceeds cleanup goals for inorganics will be excavated and disposed of off-site. Asphalt batching is the primary option for the disposal of the surface soil from the OJETS that exceeds cleanup goals for inorganics. Figure 11 shows the extent of the soil, approximately 120 yd^3, that is currently estimated to exceed cleanup goals for inorganics.

In Situ Soil Vapor Extraction

SVE will be implemented in the vadose zone of the contaminant source area at the OJETS. SVE removes volatile contaminants from the subsurface by mechanically drawing air through vadose zone soil pore spaces. The increased air flow through soil pores enhances the volatilization of organic compounds, and results in movement of organic vapors through the soil to extraction vents. The extraction vents are connected to a vacuum blower system

that draws the contaminant-laden air to the surface. The air stream is typically treated for removal of contaminants prior to discharge to the atmosphere.

SVE vents will be placed across the source area in a manner that will induce vapor flow in all of the soil requiring treatment. The vents will be manifolded together and connected to a vacuum blower system. The treatment system will likely consist of an air/water separator, particulate filter, centrifugal blower, and an outlet silencer. Air exiting the blower system will be treated in compliance with EPA and NHDES requirements prior to discharge to the atmosphere.

A low-permeability surface seal will be installed over the area to be treated by SVE and will extend to the perimeter of the area of influence of the SVE vents. The surface seal will prevent air from short-circuiting from the atmosphere to the SVE vents without passing through the soil requiring treatment.

During operation of the SVE system, monitoring of vapor concentrations, vacuum levels in the subsurface, and other parameters will be conducted to optimize performance of the system and determine the cleanup rate.

Air Sparging of Saturated Soil

Air sparging will be implemented at the OJETS in the saturated soil contaminated above cleanup goals. Air sparging involves injection of a hydrocarbon-free gaseous medium (typically air) into the saturated zone below or within areas of contamination. With air sparging, VOCs dissolved in groundwater or sorbed to soil particles partition into the gaseous phase. The volatilized contaminants are subsequently transported to the vadose zone, within the radius of influence of an operating vacuum extraction system. The contaminant vapors are withdrawn from the vadose zone via the SVE system, or are biodegraded in the aerated vadose zone.

Sparging is typically most effective in coarse-grained soil similar to the contaminated soil at the OJETS. Fine-grained soils require higher air entry pressures and are more likely to cause the formation of significant gas pockets, which may impede air sparging effectiveness.

The sparging system will consist of an air injection blower or compressor, a distribution manifold, and air injection (sparging) vents. The sparging vents will be placed across the site in a manner that will provide effective treatment of saturated soils contaminated above cleanup goals.

It is estimated that the air sparging system will operate for approximately 2 to 3 years. This estimate is based on the effectiveness of air sparging at other similar sites. As with the SVE system, performance monitoring will be conducted to optimize operation of the system and evaluate the rate of contaminant removal.

XI. STATUTORY DETERMINATIONS

The remedial action selected for implementation for Site 45, the OJETS, is consistent with Section 121 of CERCLA and, to the extent practicable, NCP. The selected remedy is protective of human health and the environment, attains ARARs, and is cost effective. The selected remedy also satisfies the statutory preference for treatment that permanently and significantly reduces the TMV of hazardous substances as a principal element. Additionally, the selected remedy uses alternative treatment technologies or resource recovery technologies to the maximum extent practicable.

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

The remedy at the OJETS site will permanently reduce the risks posed to human health and the environment by eliminating, reducing, or controlling exposures to human and ecological receptors through the use of the following treatment measures, engineering controls, and institutional controls.

- Excavation and off-site treatment of contaminated surface soil and in situ air sparging and SVE treatment of source area soils, thereby significantly reducing the leaching of contaminants from soil to groundwater and reducing receptor exposure.

- Establishment of a GMZ and land use restrictions on groundwater use at Site 45 will preclude the consumption of groundwater.

B. The Selected Remedy Attains Applicable or Relevant Appropriate Requirements

This remedy will attain all federal and state ARARs that apply to the OJETS. Environmental laws from which ARARs for the selected remedial action are derived and the specific ARARs are listed below. In addition, TBC policies, criteria, and guidelines will also be considered during implementation of the remedial action.

- Chemical-Specific ARARs.
  - Safe Drinking Water Act (SDWA) 40 CFR 141.11-141.16.
  - Clean Air Act (CAA) — National Emission Standards for Hazardous Air Pollutants (NESHAP).
  - State of New Hampshire Primary Drinking Water Criteria — Env-Ws 410 Groundwater Protection Regulations.
  - State of New Hampshire Toxic Air Pollutants Env-A 1300.
  - State of New Hampshire Ambient Air Standards Env-A 300.
- Location-Specific ARARs.
  - State of New Hampshire Groundwater Protection Regulations — Env-Ws 410.26.
- Action-Specific ARARs.
  - State of New Hampshire Groundwater Protection Regulations — Env-Ws 410.
- TBC Criteria.
  - Safe Drinking Water Act (SDWA) 40 CFR 141.50-141.51.
  - EPA Examples of Concentrations Meeting Criteria for Action Levels 40 CFR 264.52.
  - EPA Health Advisories (HAs).
  - EPA Risk Reference Doses (RfDs).
  - EPA Carcinogen Assessment Group Potency Factors.
  - EPA Groundwater Protection Strategy.
  - NHDES Policy for Management of Soils Contaminated from Spills/Releases of Virgin Petroleum Products.

The NHDES Policy for the Management of Soils Contaminated from Spills/Releases of Virgin Petroleum Products establishes remediation goals for soil affected by a spill or release of virgin petroleum products. This policy lists individual remediation goals for constituents of petroleum products. The remediation goals estimate the concentration of petroleum product constituents that can be left on-site without potentially impacting site groundwater. The cleanup goals identified in the NHDES policy have been retained as ARARs because soil at the OJETS is contaminated by a release of virgin petroleum product.

The basewide ARARs document (G-614) identifies and describes ARARs for Pease AFB. Table 12 provides a complete list of ARARs and TBC criteria (federal and state criteria considered pertinent but not legally binding) for Alternative 3, 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 costs). Once alternatives that were protective of human health and the environment and that either attain, or as appropriate, waive ARARs were identified, the overall effectiveness of each alternative was evaluated by assessing the relevant three criteria: long-term effectiveness and permanence, reduction in TMV of contaminants through treatment, and short-term effectiveness.

Summaries of the costs of all the remedial alternatives follow. 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. Excavation and Off-Site Treatment and/or Disposal of Soil, and Institutional Controls	$1,031,000	$65,000	$1,096,000
3. Soil Vapor Extraction and Air Sparging of Source Area Soil, Off-Site Disposal of Metals-Contaminated Soil, and Institutional Controls	$573,000	$463,000	$1,036,000
4. Excavation and Ex Situ Biological/Vapor Extraction Treatment of VOC-Contaminated Soil, Excavation and Off-Site Disposal of Metals-Contaminated Soil, Excavation Dewatering, and On-Site Treatment and Disposal of Groundwater	$1,620,000	$359,000	$1,979,000
5. Excavation and On-Site Thermal Desorption of VOC-Contaminated Soil, Excavation and Off-Site Disposal of Metals-Contaminated Soil, Excavation Dewatering, and On-Site Treatment and Disposal of Groundwater	$1,681,000	$28,000	$1,709,000
Pump and Treat Alternative	$300,000	$340,000	$640,000

Five of the six alternatives provide protection to human and ecological receptors and attain ARARs: Alternatives 2 through 5 and the Pump and Treat Alternative. Alternative 3 is the most cost effective, and its cost is proportional to its overall effectiveness. A summary of the costs for key elements associated with Alternative 3 (in net present-worth costs) is presented as follows:

Component of Remedy	Present-Worth Cost
Excavation/Off-Site Disposal	$15,120
SVE/AS Vents and Surface Seal	$162,976
SVE/AS Manifold and Treatment System	$155,465
Miscellaneous	$239,350
O&M	$463,000
Total (rounded)	$1,036,000

O&M includes groundwater monitoring; monitor well maintenance; and 5-year Superfund Amendments and Reauthorization Act (SARA) reviews, intended to review the status and progress of the remedial action, as discussed in 40 CFR 300.430(f)(4)(ii). Miscellaneous includes mobilization, demobilization, health and safety costs, engineering, procurement, administrative and legal fees, and contingency costs.

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/or TBCs and that are protective of human health and the environment were identified, the Air Force identified which alternative 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 of contaminants through treatment; (3) short-term effectiveness; (4) implementability; and (5) cost. The balancing test emphasized long-term effectiveness and permanence and the reduction of TMV of contaminants through treatment, and considered the preference for treatment as a principal element, and community and state acceptance. Of the alternatives evaluated, the selected remedy provides the most favorable balance of the factors considered.

Alternatives 4 and 5 provide more rapid and thorough treatment of the soil and also include short-term groundwater pumping and treatment. Thus, those alternatives would likely attain groundwater cleanup goals sooner than Alternative 3. Over the long term, however, it is expected that Alternatives 3 through 5 would all result in attainment of soil and groundwater cleanup goals. The short-term risks to site workers associated with the excavation and handling of contaminated soils in Alternatives 2, 4, and 5 exceed the short-term risks associated with the in situ technologies used in Alternative 3. The costs for Alternatives 4 and 5 by exceed the costs of Alternative 3 by 190% and 165%, respectively. The cost of Alternative 2 is approximately equal to the cost of Alternative 3 but less contaminated soil and water is treated. Addition of the pump and treat alternative to

Alternative 3 would not increase the long-term effectiveness and permanence of the selected remedial action.

E. The Selected Remedy Satisfies the Preference for Treatment That Permanently and Significantly Reduces the TMV of Hazardous Substances as a Principal Element

The principal action associated with the selected remedy is treatment of contaminated soils via SVE and AS. Delineation, excavation, and removal of surface soils contaminated above cleanup goals for inorganics is also included. By implementation of these actions, the selected remedy will significantly reduce the TMV of contaminants at the site in a permanent and irreversible manner. Remediation of the contaminant source area will minimize future leaching of soil contaminants to groundwater, and over the long-term will result in attainment of groundwater cleanup goals.

XII. DOCUMENTATION OF SIGNIFICANT CHANGES

The Draft Final OJETS RI/FS Report was submitted in December 1993. The selected Alternative (Alternative 3) was presented in the Site 45, OJETS Proposed Plan in March 1995. No changes to the selected remedy for the OJETS have occurred since the issuance of the Site 45, OJETS 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 OJETS RI/FS Report, including the risk assessment, and the FS Supplement 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 the OJETS. A copy of the Declaration of Concurrence is provided in Appendix B.

REFERENCES

G-224 EPA (U.S. Environmental Protection Agency). 1991. *Risk Assessment Guidance for Superfund: Volume 1 — Human Health Evaluation Manual (Part B Development of Risk-Based Preliminary Remediation Goals).* Interim Office of Emergency and Remedial Response. Publication 9285.7-01B.

G-377 Moore, R.B. 1982. "Calving Bays versus Ice Stagnation — A Comparison of Models for the Deglaciation of the Great Bay Region of New Hampshire." *Northeastern Geology*, 4(1):39-45.

G-468 Smith, G.W. and L.E. Hunter. 1989. "Late Wisconsinan Deglaciation of Coastal Maine." In: *Studies in Maine Geology — Volume 6: Quaternary Geology*. R.D. Tucker and R.G. Marvinney (eds.). Maine Geological Survey. pp. 13-32.

G-491 Thompson, W.B. 1979. *Surficial Geology Handbook for Coastal Maine*. Maine Geological Survey.

G-493 Thompson, W.B., K.J. Crossen, H.W. Borns, Jr., and B.G. Andersen. 1989. "Glaciomarine Deltas of Maine and Their Relation to Late Pleistocene-Holocene Crustal Movements." In: *Neotectonics of Maine*. W.A. Andersen and H.W. Borns, Jr. (eds.). Maine Geological Survey, Department of Conservation. pp. 43-67.

G-545 WESTON (Roy F. Weston, Inc.). 1990. *Installation Restoration Program, Stage 3C, Preliminary Assessment Letter Report, Pease AFB, NH.* 20 July 1990.

G-599 WESTON (Roy F. Weston, Inc.). 1992. *Off-Base Well Inventory Letter Report.* Pease AFB, NH. 17 September 1992.

G-609 WESTON (Roy F. Weston, Inc.). 1993. *Background Values for Soil, Groundwater, Surface Water, and Sediment at Pease Air Force Base, Letter Report*. February 1993.

G-614 WESTON (Roy F. Weston, Inc.). 1993. *Installation Restoration Program, Stage 4, Basewide ARARs, Pease AFB, NH.* January 1993.

G-637 WESTON (Roy F. Weston, Inc.). 1993. *Installation Restoration Program, Stage 5, OJETS Draft Final Remedial Investigation/Feasibility Study Report, Pease AFB, NH.* December 1993.

G-638 WESTON (Roy F. Weston, Inc.). 1993. *Installation Restoration Program, Stage 5, Zones 6 and 7 Site Inspection Report, Pease AFB, NH.* June 1993.

G-737 WESTON (Roy F. Weston, Inc.). 1995. *Installation Restoration Program, Old Jet Engine Test Stand (OJETS) (Site 45) Treatability Study Letter Report, Pease AFB, NH.* February 1995.

G-741 WESTON (Roy F. Weston, Inc.). 1995. *Installation Restoration Program, Draft Final Zone 2 Feasibility Study Report, Addendum No. 1, Pease AFB, NH.* February 1995.

G-751 U.S. Department of Air Force. 1995. *Installation Restoration Program, Site 45 Feasibility Study Supplement, Pease AFB, NH.* February 1995.

LIST OF ACRONYMS

AFB	Air Force Base
AFCEE/ESB	Air Force Center for Environmental Excellence Base/Closure Division
AOC	Area of Concern
ARARs	Applicable or Relevant and Appropriate Requirements
AVGAS	aviation gasoline
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAA	Clean Air Act
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
FFA	Federal Facilities Agreement
GCMA	Golf Course Maintenance Area
GMZ	Groundwater Management Zone
GT	Glacial Till
HAPs	Hazardous Air Pollutants
HAs	EPA Health Advisories
HQ AFBCA	Headquarters Air Force Base Conversion Agency
IRP	Installation Restoration Program
LS	Lower Sand
MCLs	Maximum Contaminant Levels
MCS	Marine Clay and Silt
NAAQs	National Ambient Air Quality Standards
NCP	National Contingency Plan
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHANG	New Hampshire Air National Guard
NHDES	New Hampshire Department of Environmental Services
NPL	National Priorities List
NTU	nephelometric turbidity units
O&M	operation and maintenance
OJETS	Old Jet Engine Test Stand
OSHA	Occupational Safety and Health Administration
PAHs	polynuclear aromatic hydrocarbons
PCE	tetrachlorethene
PDA	Pease Development Authority
PPE	personal protective equipment
RCRA	Resource Conservation and Recovery Act
RfDs	Reference Doses
RI	Remedial Investigation
RI/FSs	Remedial Investigations and Feasibility Studies
RME	reasonable maximally exposed individual
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act

LIST OF ACRONYMS
(Continued)

SDWA	Safe Drinking Water Act
SI	Site Inspection
SMCLs	Secondary Maximum Contaminant Levels
SVE/AS	soil vapor extraction/air sparging
TBC	to be considered
TCE	trichloroethene
TMV	volume, toxicity, or mobility
TPHs	total petroleum hydrocarbons
US	Upper Sand
USGS	U.S. Geological Survey
UST	Underground Storage Tank
VOCs	volatile organic compounds

APPENDIX A

TABLES

Table 1

Results of WESTON's and other Air Force Contractors' Investigations at the OJETS Prior to the RI/FS OJETS, Pease AFB, NH

Report	Date	Comments
Sampling of Miller Engineering Wells	December 1988 May 1989	VOCs were not detected.
Basewide PA/SI	November 1990	OJETS re-examined as a potential site. Not recommended for further action.
ICF-Kaiser Underground Storage Tank (UST) Removal at Building 424, which is adjacent to the OJETS	October 1991	TCE detected in a water sample from a soil boring, which was near the OJETS.
Zones 6 and 7 Site Inspection	October 1992	VOCs and TPHs detected in soil and groundwater at concentrations above regulatory guidance values.
WESTON UST investigation at Building 410, which is adjacent to the OJETS	August 1993	No contaminants detected at concentrations above regulatory guidance values in two soil and one groundwater sample.

Table 2

Maximum Organic Compound Concentrations in Soil — Stage 3B and Stage 5 — OJETS Zone 7, Pease AFB, NH

Compound	Background Concentration[a] (mg/kg)	Regulatory Guidance Value (mg/kg)	Chemical of Concern[b]	Detection Ratio[c]	Maximum Concentration Detected (mg/kg)	Sample ID of Maximum Detection	Sample Depth of Maximum Detection	Comment on Sample with Maximum Detection
VOCs								
Aromatic Hydrocarbons								
Benzene	ND	1[d]	No	11/55	33.50	45-7616-B012AM		Mobile laboratory sample.
Toluene	ND	20,000[e], 1[d]	Yes	25/55	681.63	45-9120-S002AM	9	Mobile laboratory sample from test pit 9120-1.
Ethylbenzene	ND	8,000[e], 1[d]	Yes	34/55	289.33	45-7620-B010AM		Mobile laboratory sample.
Xylenes (Total)[b]	ND	200,000[e], 1[d]	Yes	35/55	1979.62	45-9120-S002AM	9	Mobile laboratory sample from test pit 9120-1.
Chlorobenzene	ND	2,000[e]	Yes	1/55	1.0 J	45-7883-B009	8.5-9	
Halogenated Hydrocarbons								
Tetrachloroethene (PCE)	ND	10[e]	Yes	3/55	0.003 J	45-320-S001	0.0-1.0	Stage 3B surface soil sample in rock crib.
Trichloroethene (TCE)	ND	60[e]	Yes	3/55	30.86	45-7616-B008AM		Mobile laboratory sample.
Trichlorofluoromethane	ND	–	Yes	1/55	0.001 J	45-319-S001	0.0-1.0	Stage 3B surface soil sample in rock crib.
Oxygenated Volatile Hydrocarbons								
Acetone	ND	8,000[e]	No	1/35	0.023	45-9119-S013	4.0	Test pit 9119-4.
Diethyl ether	ND	–	Yes	4/35	0.002 J	45-7887-B001	0.5-1.0	
SVOCs								
Polynuclear Aromatic Hydrocarbons								
2-Methylnaphthalene	ND	–	Yes	17/29	13.0	45-9120-S008	4.0	Test pit 9120-1.
Benzo(a)anthracene	0.99	–	Yes	4/29	0.06 J	45-7888-B002 45-7891-B011	0.0-2.0 8.4-10.5	
Benzo(a)pyrene	1.1	–	Yes	3/29	0.053 J	45-319-S001	0.0-1.0	Stage 3B surface soil sample in rock crib.
Benzo(b)fluoranthene	1.0	–	Yes	4/29	0.052 J	45-319-S001	0.0-1.0	Stage 3B surface soil sample in rock crib.
Benzo(ghi)perylene	0.87	–	Yes	1/29	0.16 J	45-319-S001	0.0-1.0	Stage 3B surface soil sample in rock crib.
Benzo(k)fluoranthene	1.1	–	Yes	4/29	0.088 J	45-319-S001	0.0-1.0	Stage 3B surface soil sample in rock crib.
Chrysene	1.4	–	Yes	6/29	0.071 J	45-7888-B002	0.0-2.0	
Fluoranthene	2.9	–	Yes	7/29	0.2 J	45-7886-B009	3.2-9	
Fluorene	0.037	–	No	4/29	0.12 J	45-7891-B011	8.4-10.5	
Indeno(1,2,3-cd)pyrene	0.77	–	Yes	1/29	0.093 J	45-319-S001	0.0-1.0	Stage 3B surface soil sample in rock crib.
Naphthalene	ND	–	Yes	11/29	4.8 J	45-9120-S008	4.0	Test pit 9120-1.
Phenanthrene	1.7	–	Yes	8/29	0.62 J	45-9119-S012	2.0	Test pit 9119-1.
Pyrene	2.4	–	Yes	7/29	0.34 J	45-9119-S012	2.0	Test pit 9119-1.
Phenols								
Phenol	ND	50,000	Yes	1/29	0.23 J	45-7888-B002	0.0-2.0	

Table 2

Maximum Organic Compound Concentrations in Soil — Stage 3B and Stage 5 — OJETS Zone 7, Pease AFB, NH

Compound	Background Concentration[a] (mg/kg)	Regulatory Guidance Value (mg/kg)	Chemical of Concern[b]	Detection Ratio[c]	Maximum Concentration Detected (mg/kg)	Sample ID of Maximum Detection	Sample Depth of Maximum Detection	Comment on Sample with Maximum Detection
Phthalates								
Bis(2-ethylhexyl) phthalate	0.23	50[e]	Yes	6/29	0.21 J	45-9120-S009	2.0	Test pit 9120-1.
						45-9121-S003	2.0	Test pit 9121
Di-n-butyl phthalate	1.1	–	Yes	4/29	0.19 J	45-9120-S009	2.0	Test pit 9120-1.
Oxygenated Semivolatile Hydrocarbons								
Benzoic acid	0.4	–	Yes	1/29	0.14 J	45-319-S001	0.0-1.0	Stage 3B surface soil sample in rock crib.
Petroleum Hydrocarbons								
TPHs (418.1)	240	100[d]	No	24/28	4684	45-7616-B012AM		Mobile laboratory sample.
Diesel (8100)	ND	–	No	9/15	1320	45-9119-S012	2.0	Test pit 9119-1.

– = Value not established.
J = Estimated value.
ND = Not detected.

[a]Basewide background concentrations (G-609).
[b]Chemical of concern identified in Section 6 of the RI/FS for 0 to 2 and/or 0 to 15 ft BGS.
[c]Number of detected results/number of samples analyzed.
[d]State of New Hampshire Virgin Petroleum Products Policy (G-614).
[e]RCRA Corrective Action Levels (G-614).

Table 3

Maximum Inorganic Compound Concentrations in Soil — OJETS
Zone 7, Pease AFB, NH

Compound	Background Concentration[a] (mg/kg)	Regulatory Guidance Value[b] (mg/kg)	Maximum Concentration Detected (mg/kg)	Chemical of Concern[c]	Detection Ratio	Sample ID of Maximum Detection	Sample Depth of Maximum Detection (feet)	Comments for Maximum Detection
Metals (mg/kg)								
Aluminum	24,900	–	11,200	No	28/28	45–7886–B109	3.2–9	Duplicate sample for risk assessment boring
Arsenic	15.25	80	15.8 J+	No	26/28	45–7886–B109	3.2–9	Duplicate sample for risk assessment boring
Barium	105	4,000	36.4	No	18/28	45–7891–B011	8.4–10.5	Feasibility Study boring
Beryllium	1.8	0.2	0.44	No	20/28	45–319–S001	0–1	Stage 3 surface soil sample in rock crib
Boron	43.6	–	14.4 J–	No	1/28	45–7883–B009	8–9.5	Risk assessment boring
Cadmium	ND	40	38.8	Yes	2/28	45–319–S001	0–1	Stage 3 surface soil sample in rock crib
Calcium	3,180	–	6,520 J	No	28/28	45–7883–B001	0–1.5	Risk assessment boring
Chromium	37.5	400[e]	47.9 J	Yes	28/28	45–7883–B009	8–9.5	Risk assessment boring
Cobalt	19.6	–	16.2	No	28/28	45–9119–S012	2	Test pit 9119–1
Copper	42	–	53.2 J	Yes	27/28	45–7887–B010	2.5–9.5	Risk assessment boring
Iron	35,300	–	25,200	No	28/28	45–7883–B009	8–9.5	Risk assessment boring
Lead	65.3	–	92 J	Yes	28/28	45–319–S001	0–1	Stage 3 surface soil sample in rock crib
Magnesium	8,240	–	8,250 J+	No	28/28	45–7886–B109	3.2–9	Risk assessment boring
Manganese	623	–	445	No	28/28	45–7891–B011	8.4–10.5	Feasibility Study boring
Nickel	43.4	2,000	56.1	Yes	28/28	45–7883–B009	8–9.5	Risk assessment boring
Potassium	6,650		1,970	No	16/28	45–7887–B010	2.5–9.5	Risk assessment boring
Silicon	1,900	–	831 J+	No	28/28	45–7781–B024	22–24	SI boring
Silver	3.4	200	16.1	Yes	2/28	45–9121–S003	2	Test pit 9121
Sodium	356	–	167	No	15/28	45–7886–B109	3.2–9	Duplicate sample for risk assessment boring
Thallium	ND	–	5.3 J	No	1/28	45–7782–B018	16–18	SI boring
Tin	[d]	–	19.2	Yes	2/3	45–320–S001	0–1	Stage 3 surface soil sample in rock crib
Titanium	[d]	–	298	Yes	3/3	45–320–S001	0–1	Stage 3 surface soil sample in rock crib
Vanadium	49.3	–	29.8	No	28/28	45–7886–B109	3.2–9	Duplicate sample for risk assessment boring
Zinc	92.3	–	111 J	Yes	27/28	45–319–S001	0–1	Stage 3 surface soil sample in rock crib

[a]Basewide background metals concentrations (G–609).
[b]RCRA Corrective Action Levels (G–614).
[c]As determined in Section 6 of the RI/FS.
[d]Basewide background metals concentrations are not available for tin and titanium.
[e]Chromium VI.

– = No value reported.
J = Estimated value.
J+ = Estimated with high bias.
J– = Estimated with low bias.
ND = Not detected.

Table 4

Comparison of Analytical Results and Field Observations from Soil Borings 7620, 7612, and 7780 at the OJETS Pease AFB, NH

Soil Boring Number	Sample Elevation (ft-msl)	Analytical Results (mg/kg)		OVA/HNu Readings	Staining
		Total VOCs	TPH		
7260	48.57-46.57	ND	ND	1.2/NA	NO
	46.57-44.57	159.2	4,206	1000/NA	YES
	30.57-30.07	ND	ND	BKG/NA	NO
7612	46.4-44.4	ND	ND	1.5/NA	NO
	42.4-40.4	ND	ND	1.5/NA	NO
	24.4-22.4	ND	ND	22/NA	NO
7780	45.5-43.5	ND	151	200/NA	NO
	39.5-37.5	0.25J	10.9	300/200	NO

ND = Not detected.
J = Estimated value.
NA = Not applicable.

Table 5

Summary of Chemicals of Concern by Medium[a]
Site 45, OJETS Pease AFB, NH

Chemical	Soil — Site 45		Groundwater — Site 45[b]
	0 to 2 feet	0 to 15 feet[b]	Overburden
Organics			
Benzene			x
Benzoic acid	x[c]	x[c]	
Bis(2-ethylhexyl) phthalate	x[c]	x[c]	x
n-Butylbenzene			x
sec-Butylbenzene			x
tert-Butylbenzene			x
Chlorobenzene		x	
1,1-Dichloroethene			x
cis-1,2-Dichloroethene			x
trans-1,2-Dichloroethene			x
Diethyl ether	x		
Di-n-butyl phthalate	x[c]	x[c]	
Ethylbenzene	x	x	x
Isopropyl benzene			x
4-Isopropyl toluene			x
2-Methylnaphthalene	x	x	x
4-Methylphenol			x
Naphthalene	x	x	x
PAHs			
Benzo(a)anthracene	x[c]	x[c]	
Benzo(a)pyrene	x[c]	x[c]	
Benzo(b)fluoranthene	x[c]	x[c]	
Benzo(g,h,i)perylene	x[c]	x[c]	
Benzo(k)fluoranthene	x[c]	x[c]	

Table 5

Summary of Chemicals of Concern by Medium[a]
Site 45, OJETS Pease AFB, NH
(Continued)

Chemical	Soil — Site 45		Groundwater — Site 45[b]
	0 to 2 feet	0 to 15 feet[b]	Overburden
Organics (continued)			
Chrysene	x[c]	x[c]	
Fluorene			x
Fluoranthene	x[c]	x[c]	
Indeno(1,2,3-cd)pyrene	x[c]	x[c]	
Phenanthrene	x[c]	x[c]	
Pyrene	x[c]	x[c]	
Phenol	x	x	
n-Propylbenzene			x
Tetrachloroethene	x		
Toluene	x	x	x
Trichloroethene	x	x	
Trichlorofluoromethane	x		
1,2,4-Trimethylbenzene			x
1,3,5-Trimethylbenzene			x
Vinyl chloride			x
m,p-Xylenes (total)			x
o-Xylene			x
Xylenes (total)	x	x	
Inorganics			
Arsenic			x
Cadmium	x	x	
Chromium	x	x	
Copper		x	

Table 5

Summary of Chemicals of Concern by Medium[a]
Site 45, OJETS Pease AFB, NH
(Continued)

Chemical	Soil — Site 45		Groundwater — Site 45[b]
	0 to 2 feet	0 to 15 feet[b]	Overburden
Inorganics (continued)			
Iron			x
Lead	x	x	x
Manganese			x
Nickel		x	
Silicon			x
Silver	x	x	
Tin	x	x	
Titanium	x	x	
Zinc	x	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.

Table 6

Summary of Total Lifetime Cancer Risks and Hazard Indices
Zone 7, 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]							
Site 45 (0 to 2 feet deep)	Current maintenance worker	3E-08 (All) 8E-11 (BG)	4E-08 (All) 1E-10 (BG)	4E-08 (All) 3E-10 (BG)	8E-04 to 9E-04[e] (All) 8E-04 to 9E-04[e] (BG)	1E-03 to 2E-03[e] (All) 1E-03 to 2E-03[e] (BG)	3E-03 (All) 3E-03 (BG)
	Future maintenance worker	7E-07 (All) 2E-09 (BG)	8E-07 (All) 3E-09 (BG)	8E-07 (All) 7E-09 (BG)	2E-02 (All) 2E-02 (BG)	3E-02 (All) 3E-02 (BG)	7E-02 (All) 7E-02 (BG)
Site 45 (0 to 15 feet deep)	Future maintenance worker	7E-07 (All) 2E-09 (BG)	8E-07 (All) 3E-09 (BG)	8E-07 (All) 3E-09 (BG)	2E-02 (All) 2E-02 (BG)	3E-02 (All) 3E-02 (BG)	7E-02 (All) 7E-02 (BG)
Groundwater							
Site 45 Overburden	Future off-base resident	2E-04 (filtered)	4E-04 (filtered)	8E-04 (filtered)	2E+01 (filtered)	3E+01 (filtered)	1E+02 (filtered)

[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}) generally are not of concern.

[c] A hazard index of greater than 1 (1E+00) 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 assume that chromium is present entirely as chromium III and chromium VI, respectively. A range is presented only where the two values differed after rounding to one significant figure.

Table 7
Summary of Hazard Quotient/Indices for the Deer Mouse – OJETS
Zone 7, Pease AFB, NH

Chemical	Hazard Quotients for Soil Ingestion		Hazard Quotients for Vegetation Ingestion		Total Hazard Index	
	Average	Maximum	Average	Maximum	Average	Maximum
Organics						
Benzoic acid*	1.05E-05	1.05E-05	3.37E-04	3.37E-04	3.48E-04	3.48E-04
Bis(2-ethylhexyl) phthalate*	2.56E-05	3.15E-05	2.76E-08	3.40E-08	2.56E-05	3.15E-05
Diethyl ether	1.12E-08	1.50E-08	1.56E-06	2.09E-06	1.58E-06	2.10E-06
Di-n-butyl phthalate*	4.35E-06	5.70E-06	9.74E-07	1.28E-06	5.32E-06	6.98E-06
Ethylbenzene	9.15E-06	5.98E-05	5.35E-05	3.50E-04	6.27E-05	4.10E-04
2-Methylnaphthalene	1.31E-03	5.52E-03	2.15E-03	9.11E-03	3.46E-03	1.46E-02
Naphthalene	5.50E-05	2.38E-04	2.67E-04	1.16E-03	3.22E-04	1.39E-03
PAHs						
Benzo(a)anthracene*	1.50E-04	1.50E-04	3.00E-05	3.00E-05	1.80E-04	1.80E-04
Benzo(a)pyrene*	7.34E-06	8.28E-06	7.34E-07	8.28E-07	8.08E-06	9.11E-06
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
Fluoranthene*	3.30E-06	3.30E-06	1.98E-06	1.98E-06	5.28E-06	5.28E-06
Indeno(1,2,3-cd)pyrene*	NE	NE	NE	NE	NE	NE
Phenanthrene*	7.56E-04	1.66E-03	7.56E-04	1.66E-03	1.51E-03	3.32E-03
Pyrene*	9.39E-06	1.70E-05	5.63E-06	1.02E-05	1.50E-05	2.72E-05
Phenol	1.31E-06	1.66E-06	7.65E-07	9.70E-07	2.07E-06	2.63E-06
Tetrachloroethene	1.50E-07	1.88E-07	1.83E-06	2.29E-06	1.98E-06	2.48E-06
Toluene	5.07E-07	3.00E-06	5.17E-06	3.06E-05	5.68E-06	3.36E-05
Trichloroethene	3.22E-06	1.50E-05	5.25E-05	2.45E-04	5.57E-05	2.60E-04
Trichlorofluoromethane	NE	NE	NE	NE	NE	NE
Xylenes (total)	1.99E-05	1.84E-04	1.00E-04	9.31E-04	1.20E-04	1.12E-03
Inorganics						
Cadmium	4.74E-02	3.83E-01	2.61E-01	2.11E+00	3.08E-01	2.49E+00
Calcium	NE	NE	NE	NE	NE	NE
Chromium	3.46E-02	6.64E-02	2.59E-03	4.98E-03	3.72E-02	7.14E-02
Lead	1.35E-01	4.93E-01	6.07E-02	2.22E-01	1.96E-01	7.15E-01
Silver	3.55E-03	1.67E-02	1.42E-02	6.67E-02	1.77E-02	8.34E-02
Tin	4.05E-01	5.14E-01	1.25E-01	1.59E-01	5.30E-01	6.73E-01
Titanium	NE	NE	NE	NE	NE	NE
Zinc	9.36E-03	2.55E-02	1.40E-01	3.83E-01	1.50E-01	4.09E-01
	CUMULATIVE HAZARD INDEX				1.25E+00	4.46E+00
	CUMULATIVE HAZARD INDEX (ABOVE BACKGROUND)				1.24E+00	4.46E+00

* Chemical was included in risk assessment although it was not detected above background concentration.

NE = Chemical was not evaluated because of the lack of data or CTV.

Table 8
Summary of Hazard Quotient/Indices for the Chipping Sparrow – OJETS
Zone 7, Pease AFB, NH

Chemical	Hazard Quotients for Soil Ingestion		Hazard Quotients for Vegetation Ingestion		Total Hazard Index	
	Average	Maximum	Average	Maximum	Average	Maximum
Organics						
Benzoic acid*	NE	NE	NE	NE	NE	NE
Bis(2-ethylhexyl) phthalate*	NE	NE	NE	NE	NE	NE
Diethyl ether	NE	NE	NE	NE	NE	NE
Di-n-butyl phthalate*	NE	NE	NE	NE	NE	NE
Ethylbenzene	NE	NE	NE	NE	NE	NE
2-Methylnaphthalene	NE	NE	NE	NE	NE	NE
Naphthalene	NE	NE	NE	NE	NE	NE
PAHs						
Benzo(a)anthracene*	3.73E-06	3.73E-06	7.45E-06	7.45E-06	1.12E-05	1.12E-05
Benzo(a)pyrene*	2.92E-06	3.29E-06	2.92E-06	3.29E-06	5.84E-06	6.58E-06
Benzo(b)fluoranthene*	2.80E-06	3.23E-06	2.80E-06	3.23E-06	5.59E-06	6.46E-06
Benzo(g,h,i)perylene*	9.94E-06	9.94E-06	6.72E-06	6.72E-06	1.67E-05	1.67E-05
Benzo(k)fluoranthene*	4.29E-06	5.47E-06	4.29E-06	5.47E-06	8.57E-06	1.09E-05
Chrysene*	3.21E-06	4.41E-06	6.42E-06	8.82E-06	9.63E-06	1.32E-05
Fluoranthene*	6.83E-06	6.83E-06	4.10E-05	4.10E-05	4.78E-05	4.78E-05
Indeno(1,2,3-cd)pyrene*	5.78E-06	5.78E-06	3.91E-06	3.91E-06	9.68E-06	9.68E-06
Phenanthrene*	1.75E-05	3.85E-05	1.75E-04	3.85E-04	1.93E-04	4.24E-04
Pyrene*	1.17E-05	2.11E-05	7.00E-05	1.27E-04	8.17E-05	1.48E-04
Phenol	NE	NE	NE	NE	NE	NE
Tetrachloroethene	NE	NE	NE	NE	NE	NE
Toluene	NE	NE	NE	NE	NE	NE
Trichloroethene	NE	NE	NE	NE	NE	NE
Trichlorofluoromethane	NE	NE	NE	NE	NE	NE
Xylenes (total)	6.67E-04	6.19E-03	3.37E-02	3.12E-01	3.44E-02	3.19E-01
Inorganics						
Cadmium	1.43E-02	1.16E-01	2.15E-01	1.73E+00	2.29E-01	1.85E+00
Calcium	NE	NE	NE	NE	NE	NE
Chromium	2.24E+00	4.30E+00	1.01E+00	1.94E+00	3.25E+00	6.24E+00
Lead	2.50E-02	9.13E-02	2.25E-02	8.22E-02	4.75E-02	1.74E-01
Silver	NE	NE	NE	NE	NE	NE
Tin	NE	NE	NE	NE	NE	NE
Titanium	NE	NE	NE	NE	NE	NE
Zinc	9.19E-02	2.51E-01	8.27E+00	2.26E+01	8.36E+00	2.28E+01
CUMULATIVE HAZARD INDEX					1.19E+01	3.14E+01
CUMULATIVE HAZARD INDEX (ABOVE BACKGROUND)					1.19E+01	3.14E+01

* Chemical was included in risk assessment although it was not detected above background concentration.

NE = Chemical was not evaluated because of the lack of data or CTV.

Table 9

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

Remedial Alternative	Short-Term Effectiveness Ranking	Long-Term Effectiveness Ranking	Reduction of TMV of Contaminants Ranking	Implementability Ranking	Protection of Human Health and Environment Ranking	Compliance with ARARs Ranking	Cost Analysis[b] (Sensitivity Analysis)[c]
1. No action.	AB	C	C	A	C	C	$0
2. Excavation and off-site disposal of approximately 4,950 yd^3 of contaminated soil, backfilling of clean soil into the excavation, and institutional controls.	B	B	B	A	AB	AB	$1,096,000 ($1,015,000 to $1,283,000)
3. In situ soil vapor extraction treatment of unsaturated contaminated soil, air sparging of saturated contaminated soil, excavation and off-site disposal of approximately 120 yd^3 of metals-contaminated soil, and institutional controls.	AB	AB	AB	A	A	A	$1,036,000 ($886,000 to $1,206,000)
4. Excavation and ex situ biological/vapor extraction treatment of approximately 7,000 yd^3 of VOC-contaminated soil, excavation and off-site disposal of metals-contaminated soil, pumping and treatment of groundwater from the open excavation, on-site subsurface recharge of treated groundwater, backfilling of treated soil into the excavation, and institutional controls.	A	A	A	AB	A	A	$1,979,000 ($1,889,000 to $2,191,000)

Table 9

Summary of Detailed Evaluation of Alternatives
OJETS, Pease AFB, NH
(Continued)

Remedial Alternative	Short-Term Effectiveness Ranking	Long-Term Effectiveness Ranking	Reduction of TMV of Contaminants Ranking	Implementability Ranking	Protection of Human Health and Environment Ranking	Compliance with ARARs Ranking	Cost Analysis[b] (Sensitivity Analysis)[c]
5. Excavation and on-site thermal desorption of approximately 7,000 yd^3 of VOC-contaminated soil, excavation and off-site disposal of metals-contaminated soil, pumping and treatment of groundwater from the open excavation, on-site subsurface recharge of treated groundwater, and backfilling of treated soil into the excavation.	A	A	A	A	A	A	$1,709,000 ($1,613,000 to $1,935,0100)
Pump and Treat Alternative.	A	B	C	A	A	A	$640,000

[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 present-worth costs. Detailed cost estimates are presented in Appendix O of the Draft Final OJETS RI/FS Report.
[c]The sensitivity analysis costs represent the upper and lower limits of the 50% confidence interval.

Table 10

Cleanup Goal Selection for Groundwater
OJETS, Pease AFB, NH

Contaminant	Regulatory-Based RO	Risk-Based RO[a]	Maximum Detected Background Concentration[b]	Maximum Detected Concentration[b]	Cleanup Goal[c]	Basis of Selection
Organics (µg/L)						
Benzene	5.00E+00[d]	1.47E+00	ND	1.10E+01	5.00E+00	REG
Bis(2-ethylhexyl) phthalate	6.00E+00[d]	6.08E+00	ND	3.00E+00J	NR	-
n-Butylbenzene	NA	NTV	ND	3.2E+01J	NR	-
sec-Butylbenzene	NA	7.3E+00	ND	1.8E+01J	7.3E+00	RISK
tert-Butylbenzene	NA	7.3E+00	ND	8.0E-01J	NR	-
cis-1,2-Dichloroethene	7.00E+01[d]	1.83E+02	ND	2.40E+02	7.00E+01	REG
1,1-Dichloroethene	7.00E+00[d]	1.1E-01	ND	7.0E-01J	NR	-
trans-1,2-Dichloroethene	1.00E+02[d]	3.65E+02	ND	5.0E-01J	NR	-
Ethylbenzene	7.00E+02[d]	2.70E+03	ND	1.0E+03	NR	-
Fluorene	NA	1.46E+03	ND	2.00E+00J	NR	-
Isopropyl benzene	NA	8.81E+01	ND	1.1E+02	8.81E+01	RISK
4-Isopropyl toluene	NA	NTV	ND	2.8E+01J	NR	-
2-Methylnaphthalene	NA	1.34E+01	ND	1.50E+02	1.34E+01	RISK
4-Methylphenol	3.50E+02[e]	1.83E+02	ND	8.00E+00J	NR	-

Table 10

Cleanup Goal Selection for Groundwater
OJETS, Pease AFB, NH
(Continued)

Contaminant	Regulatory-Based RO	Risk-Based RO[a]	Maximum Detected Background Concentration[b]	Maximum Detected Concentration[b]	Cleanup Goal[c]	Basis of Selection
Organics (µg/L) (Continued)						
Naphthalene	2.00E+01[e]	1.34E+01	ND	2.7E+02	2.00E+01	REG
n-Propylbenzene	NA	NTV	ND	1.0E+02	NR	-
Toluene	1.00E+03[d]	2.65E+03	ND	2.00E+00J	NR	-
1,2,4-Trimethylbenzene	NA	1.98E+01	ND	7.20E+02	1.98E+01	RISK
1,3,5-Trimethylbenzene	NA	NTV	ND	3.1E+02	NR	-
Vinyl chloride	2.00E+00[d]	3.87E-02	ND	2.00E+00J	NR	-
Xylenes (total)	1.00E+04[d]	3.65E+04	ND	3.03E+03	NR	-
Inorganics (mg/L)						
Arsenic	5.0E-02[d]	4.87E-05	2.31E-02	3.71E-02	NR	-
Iron	NA	NTV	5.84E-01	5.86E+01	NR	-
Lead	1.50E-02[d]	1.06E-02	2.4E-02	1.74E-02	1.50E-02	REG
Magnesium	NA	NTV	1.89E+01	2.88E+01	NR	-
Manganese	1.50E+00[f]	1.83E-01	9.42E-01	1.10E+01	1.50E+00	REG
Silicon	NA	NTV	6.4E+00	1.68E+01	NR	-

Table 10

Cleanup Goal Selection for Groundwater
OJETS, Pease AFB, NH
(Continued)

[a]Development of risk-based ROs is discussed in Section X.
[b]Maximum detected concentrations of inorganic contaminants are for filtered samples.
[c]Cleanup goals for inorganic contaminants are for filtered samples.
[d]Safe Drinking Water Act - Maximum Contaminant Level, May 1995.
[e]NHDES, Env-Ws 410 Groundwater Protection Rules, February 1993.
[f]New Hampshire Department of Public Health Services, March 1991.
BG = Background concentration is selected as cleanup goal.
J = Indicates estimated value.
NA = Not applicable.
ND = Analyte was not detected above detection limit.
NR = Not required. The ARAR or risk-based RO exceeds the maximum detected concentration, or an ARAR or risk-based RO does not exist.
NTV = A risk-based concentration was not calculated because the applicable toxicity value was not available.
REG = Regulatory-based RO is selected as cleanup goal.
RISK = Risk-based RO is selected as cleanup goal.
RO = Remedial Objective (ARAR or risk-based concentration).
Shaded chemicals are present above cleanup goals in groundwater at the OJETS.

Table 11

Cleanup Goal Selection for Soil
OJETS, Pease AFB, NH

Contaminant	Regulatory-Based RO (mg/kg)	Ecological Risk-Based RO (mg/kg)	Leaching-Based RO (unsaturated) (mg/kg)	Maximum Detected Background Concentration (mg/kg)	Maximum Detected Concentration (mg/kg)	Cleanup Goal (mg/kg)	Basis of Selection
Organics							
Benzene	0.2*	NA	16.5	NA	33.5	0.2	REG
Ethylbenzene	75*	NA	30,600	NA	289	75	REG
Toluene	75*	NA	9,920	NA	682	75	REG
Xylenes	750*	NA	106,000	NA	1980	750	REG
2-Methylnaphthalene	0.66*	NA	2,920	NA	13.0	0.66	REG
Naphthalene	3.0*	NA	746	NA	4.8J	3.0	REG
Inorganics							
Lead	NA	NA	NA	65.3	92.0J	65.3	BG
Zinc	NA	4.8	NA	92.3	111J	92.3	BG

NA = Not applicable.
J = Indicates estimated value.
*NHDES Interim Policy of the Management of Soils Contaminated from Spills/Releases of Virgin Petroleum Products.
RO = Remedial Objective (TBC or risk- or leaching-based concentrations).
BG = Background concentration is selected as cleanup goal.

Table 12

ARARs for Alternative 3—In Situ Soil Vapor Extraction Treatment of Unsaturated Contaminated Soil, Air Sparging of Saturated Contaminated Soil, Excavation and Off-Site Disposal of Soils that Exceed Cleanup Goals for Metals and Institutional Controls OJETS, Pease AFB, NH

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Basis
	Chemical-Specific ARARs			
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 that may potentially be used for drinking water.	Soil vapor extraction (SVE) and air sparging of contaminated soils. MCLs would likely be attained over long-term resulting from source removal and natural attenuation processes.	Relevant and Appropriate
Groundwater	FEDERAL-SDWA-Maximum Contaminant Level Goals (MCLGs) (40 CFR 141.50 - 141.51)	Non-zero MCLGs are non-enforceable health 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.	SVE and air sparging of contaminated soils. MCLGs would likely be attained over long-term resulting from source removal and natural attenuation processes.	Relevant and Appropriate

Table 12

ARARs for Alternative 3—In Situ Soil Vapor Extraction Treatment of Unsaturated Contaminated Soil, Air Sparging of Saturated Contaminated Soil, Excavation and Off-Site Disposal of Soils that Exceed Cleanup Goals for Metals and Institutional Controls OJETS, 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, 410.04, and 410.05, Groundwater Quality Criteria, Groundwater Protection Standards, and Exemptions to Groundwater Quality Criteria	New Hampshire Groundwater Quality Criteria (410.03) require that all groundwater of the state shall be suitable for drinking, shall not contain regulated contaminants in excess of the standards (410.05), and shall not cause discharges to surface water in excess of surface water quality standards. The standards, which are derived from MCLs and other EPA and New Hampshire health-based limits, protect the quality of ambient groundwater. Exemptions from groundwater quality criteria (410.04) include areas designated as GMZs.	To the extent they are more stringent than federal MCLs, these standards were used to set cleanup goals for groundwater and to propose a GMZ.	Applicable
Air	FEDERAL-CAA-National Emission Standards for Hazardous Air Pollutants (NESHAP)	Maximum emission standards designed to protect the public from Hazardous Air Pollutants.	Precautionary measures would be taken to comply with NESHAPs, for benzene.	Relevant and Appropriate
	Location-Specific ARARs			
Groundwater	STATE-NH Admin. Code-Ws 410.26 Groundwater Protection Rules	Contains specific requirements for establishing a Groundwater Management Zone (GMZ), and restrictions applicable to GMZs.	A GMZ would be established, and groundwater use would be restricted.	Applicable

Table 12

ARARs for Alternative 3—In Situ Soil Vapor Extraction Treatment of Unsaturated Contaminated Soil, Air Sparging of Saturated Contaminated Soil, Excavation and Off-Site Disposal of Soils that Exceed Cleanup Goals for Metals and Institutional Controls OJETS, Pease AFB, NH (Continued)

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Basis
	Action-Specific ARARs			
Groundwater	STATE-NH Admin. Code Env-Ws 410.30-410.31 Groundwater Protection Rules	Specifies monitoring criteria during remedial activities.	Monitoring would be conducted in accordance with the regulations.	Applicable
Groundwater	STATE-RSA 495-A:17 and NH Admin. Code Env-Ws 415 Terrain Alteration	Establishes criteria to control erosion and runoff for any activity that significantly alters the terrain other than removing material.	Remedial activities would be conducted in accordance with these requirements.	Applicable
Groundwater, Soil	STATE-NH Guidance Document August 6, 1993, as amended - Interim Policy for the Management of Soils Contaminated From the Spills/Releases of Virgin Petroleum Products	Policy identifies options for treatment and disposal, current analytical methods, and remediation goals for virgin petroleum contaminated soils.	Management of contaminated soil would be performed in accordance with the NH Virgin Petroleum Products Policy.	TBC
Groundwater, Soil	FEDERAL-RCRA 40 CFR 264.90-264.101 (subpart F) Releases from Solid Waste Management Units	General facility requirements for groundwater monitoring at affected facilities and general requirements for corrective action programs if required at regulated facilities.	Groundwater monitoring would be conducted in accordance with these requirements.	Relevant and Appropriate

Table 12

ARARs for Alternative 3—In Situ Soil Vapor Extraction Treatment of Unsaturated Contaminated Soil, Air Sparging of Saturated Contaminated Soil, Excavation and Off-Site Disposal of Soils that Exceed Cleanup Goals for Metals and Institutional Controls OJETS, Pease AFB, NH (Continued)

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Basis
Hazardous Waste	FEDERAL-RCRA 40 CFR Subtitle C, 40 CFR part 264, Hazardous Waste Regulations	Subtitle C establishes standards for treatment, storage, transport and disposal of hazardous waste and closure of hazardous waste facilities.	Management of hazardous waste as part of CERCLA response must comply with substantive Subtitle C regulations.	Relevant and Appropriate
Hazardous Waste	RSA Ch. 147. A, NH Hazardous Waste Management Act and Hazardous Waste Rules, Env-Wm Chapters 100-1000, specific requirements detailed below	Standards for management of hazardous waste facilities. Operates in lieu of federal RCRA subtitle C requirements.	Management of waste as part of CERCLA response must comply with the substantive Standards of these rules.	See following section-by-section analysis.
Hazardous Waste	STATE-NH Admin. Code Env-Wm 701-705, 707, 708, 709 Standards for Owners and Operators for Hazardous Waste Facilities	General requirements for owners or operators of hazardous waste site or treatment facilities. Includes Environmental and Health Requirements (702.08); General Design Requirements (702.09); Other Monitoring (708.02); Technical Requirements (708.03).	All remedial activities will comply with the substantive provision of state hazardous waste regulations.	Relevant and Appropriate
Hazardous Waste	STATE-NH Admin. Code Env-Wm 702.10- 702.14, Monitoring of Hazardous Waste Treatment Facilities	Requirements for installation and operation of one or more of the following monitoring systems: • Groundwater monitoring network. • Air emission monitoring network. • Leachate monitoring network.	Environmental monitoring during remedial operations will be developed and installed in accordance with these regulations.	Relevant and Appropriate

Table 12

ARARs for Alternative 3—In Situ Soil Vapor Extraction Treatment of Unsaturated Contaminated Soil, Air Sparging of Saturated Contaminated Soil, Excavation and Off-Site Disposal of Soils that Exceed Cleanup Goals for Metals and Institutional Controls
OJETS, Pease AFB, NH
(Continued)

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Basis
Hazardous Waste	STATE-NH Admin. Code Env-Wm 707.03 Waste Pile Requirements	Incorporate by reference the requirements of 40 CFR 264, Subpart L, regarding waste piles.	The excavated soil stockpiled at the site will comply with these regulations and 40 CFR 264 Subpart L.	Applicable
Air	FEDERAL-RCRA 40 CFR Part 264, Subpart AA	Contains air pollution emission standards for process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operations. Applicable to operations that manage hazardous wastes.	Equipment used in remedial activities will meet these requirements and be monitored for leaks.	Applicable
Air	FEDERAL-RCRA 40 CFR Part 264, Appendix BB	Contains air pollutant emission standards for equipment leaks at hazardous waste treatment, storage and disposal facilities (TSDFs). Contains design specifications and requirements for monitoring for leak detection.	Equipment used in remedial activities will meet the design specifications, and will be monitored for leaks.	Relevant and Appropriate

Table 12

ARARs for Alternative 3—In Situ Soil Vapor Extraction Treatment of Unsaturated Contaminated Soil, Air Sparging of Saturated Contaminated Soil, Excavation and Off-Site Disposal of Soils that Exceed Cleanup Goals for Metals and Institutional Controls
OJETS, Pease AFB, NH
(Continued)

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Basis
Air	FEDERAL-RCRA 40 CFR Part 264, Subpart CC proposed	Contains proposed air pollutant emission standards for owners and operators of TSDFs using tanks, surface impoundments, and containers to manage hazardous wastes. Specific organic emissions controls would have to be installed if volatile organic concentrations exceed specified contaminations.	Required emissions controls will be installed.	TBC
Air	STATE-NH RSA Ch. 125. C Air Pollution Control; NH Admin. Code, Env-A 100-1300, as specified below	Air pollution controls, as specified below.	Release of contaminants to the air from any on-site remedial activities would not result in exceedence of the respective standard, if one exists.	Applicable
Air	STATE-NH Admin. Code Env-A 505 Emergency Procedures	Imposes obligations or sources of air pollution in case of emergency.	Comply with directions of state in case of "warning" status.	Applicable
Air	STATE-NH Admin. Code Env-A 800 Testing and Monitoring Procedures	Identifies procedures that must be followed for the testing of air emissions from stationary sources.	The treatment systems would be monitored in accordance with these requirements.	Relevant and Appropriate

Table 12

ARARs for Alternative 3—In Situ Soil Vapor Extraction Treatment of Unsaturated Contaminated Soil, Air Sparging of Saturated Contaminated Soil, Excavation and Off-Site Disposal of Soils that Exceed Cleanup Goals for Metals and Institutional Controls OJETS, Pease AFB, NH (Continued)

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Basis
Air	STATE-NH Admin. Code Env-A 902 Malfunctions of Air Pollution Control Equipment	Provides for limited relief from other requirements in case of malfunction. (Notification requirements are not ARARs).	No additional action required; provides relief from other requirements.	Relevant and Appropriate
Air	STATE-NH Admin. Code Env-A 1002 Fugitive Dust Emission Control	Activities such as construction and excavation must include precautions to prevent, abate, and control fugitive dust emissions.	Maintain dust control during site remediation.	Applicable
Air	STATE-NH Admin. Code Env-A 1204 Control of VOC Emissions	Specifies VOC emission control methods and establishes limitations on VOC emissions for various industries.	Precautions will be taken during remedial actions to minimize VOC emissions.	TBC
Air	STATE-NH Admin. Code Env-A 1300 Toxic Air Pollutants	Standards established to protect the public from concentrations of pollutants in ambient air that may cause adverse health effects.	Release of contaminants to the air from any on-site remedial action would not result in exceedence of the respective ambient air limit, if one exists.	Applicable
Air	STATE-NH Admin. Code Env-A 1305 Impact Analysis and Permit Requirements	Requires air quality impact analysis of devices emitting regulated substances.	Discharge from any new or modified facility must comply with requirements.	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

July 24, 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 Site 45 (Old Jet Engine Stand)
Pease Air Force Base Superfund Site
Pease Air Force Base, New Hampshire

Subject: Declaration of Concurrence

Dear Mr. Olsen:

The New Hampshire Department of Environmental Services has reviewed the "Record of Decision: Site 45, Old Jet Engine Test Stand" (OJETS ROD) for the Pease Air Force Base Superfund Site, located in Newington and Portsmouth, New Hampshire. The OJETS ROD was drafted by the Air Force in accordance with the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act of 1986 (CERCLA) and selects a preferred remedy having the following components:

- Excavation and off-site disposal of approximately 120 cubic yards source area surface soil with concentrations of inorganic contaminants in excess of cleanup goals.
- In situ air sparging of approximately 4000 cubic yards of saturated contaminated soil to enhance volatilization and biodegradation of less volatile organic contaminants in soil and groundwater.
- In situ SVE treatment of approximately 3000 cubic yards of unsaturated contaminated soil to remove volatile contaminants and to enhance biodegradation of organic contaminants.
- Installation of a low-permeability membrane on the surface of the SVE treatment zone soil to minimize the potential for short circuiting of atmospheric air in SVE vents.

- Natural attenuation of residual contamination remaining in groundwater after excavation, air sparging, and SVE treatment.

- Institutional controls and monitoring of site groundwater until cleanup goals have been attained. Establishment of a GMZ in the area of the groundwater contaminant plume. The GMZ will remain in effect until cleanup goals have been attained, in accordance with NHDES regulation Env-Ws 410.

Consistency with State Remediation Policy

Prior to Pease Air Force Base becoming a Superfund site, and as a party to the "Pease Federal Facility Agreement Under CERCLA Section 120" (Pease FFA), the Department has been actively involved in the oversight of the Air Force's environmental response activities at OJETS. The approach to site remediation, as outlined in the OJETS ROD, is generally consistent with the approach the Department would require in a Remedial Action Plan for similar sites in the State of New Hampshire, regardless of their Superfund status. While the description of the selected remedial action in the OJETS ROD is less detailed than what the Department would require in a Remedial Action Plan, to the extent practicable, the Department evaluated the appropriateness, feasibility and effectiveness of the selected remedial method, both long-term and short-term. The Department also evaluated the degree of certainty the remedial plan will prove successful in achieving the remedial goals and policies of the Department.

The New Hampshire Groundwater Protection Rules (Env-Ws 410) establish standards, criteria and procedures to remediate sites with contaminated groundwater. Generally, the rules require that remediation of such sites include source removal, containment of groundwater contamination within the limits of a specified Groundwater Management Zone, and reduction of groundwater contaminant levels within that zone.

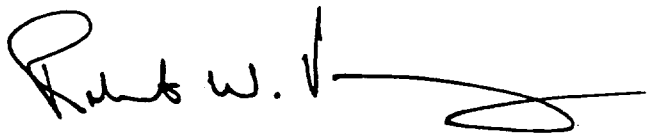
The selected remedy described in the ROD is consistent with the approach that would be required to comply with these rules at similar sites within the State. For example, the selected action includes the excavation of 120 cu yds of inorganic contaminated soil not amenable to SVE/AS treatment and the treatment of the remaining contaminated source area soil by SVE/AS. These actions address the Department's requirement to remove, treat or contain the source of groundwater contamination. Removing the source of groundwater contamination at this site will facilitate the natural attenuation of contaminant levels in groundwater. Contaminated groundwater will be managed in accordance with the provisions of a Groundwater Management Permit within a Groundwater Management Zone.

Long-term monitoring of groundwater, surface water and sediments will be necessary in order to determine the effectiveness of the remedial actions and compliance with the Groundwater Protection Rules at OJETS. Water quality monitoring is determined on a site specific basis and will be addressed in a Groundwater Management Permit, issued by the Department. Frequency and location of water quality monitoring is typically required on a tri-annual basis until a baseline condition is established. A comprehensive, detailed review of all environmental monitoring data will be conducted by the Air Force, EPA and the Department in order to ensure the remedial action provides adequate protection of human health and the environment and complies with applicable regulations.

State Concurrence

The Department, acting on behalf of the State of New Hampshire, concurs that the selected remedy, described in the ROD, satisfies the requirements of CERCLA.

Very truly yours,



Robert W. Varney
Commissioner

cc: Philip J. O'Brien, Ph.D., Director, DES-WMD
Carl W. Baxter, P.E., DES-WMEB
Gary S. Lynn, P.E., DES-WMEB
Anne Renner, Esq., NHDOJ-AGO
Michael J. Daly, EPA
Arthur L. Ditto, P.E., AFBCA
James Snyder, AFCEE

APPENDIX C

RESPONSIVENESS SUMMARY

APPENDIX C
RESPONSIVENESS SUMMARY

OVERVIEW

The Air Force issued the Proposed Plan for the OJETS to the public in March 1995. In the Proposed Plan for the OJETS the Air Force identified its preferred alternative for the OJETS (Site 45). The selection of this preferred alternative by the Air Force was coordinated with the U.S. Environmental Protection Agency (EPA) Region I and the New Hampshire Department of Environmental Services (NHDES).

The following subsections describe the background on community involvement with OJETS site activities, and the Air Force's response to comments received during the Proposed Plan for the OJETS public comment period of 22 March to 21 April 1995.

BACKGROUND ON COMMUNITY INVOLVEMENT

Prior to the start of the public comment period for the Proposed Plan for the OJETS, the Air Force issued a fact sheet that summarized the content of that document. Presentations on the status of work being conducted and results of the work at the OJETS were made to the Pease Air Force Base Restoration Advisory Board-Technical Review Committee (RAB-TRC). Additionally, the content of the Proposed Plan for the OJETS was presented to and discussed with the members of the RAB-TRC. Notifications announcing the beginning of the Proposed Plan for the OJETS comment period were mailed to all individuals on the Pease AFB mailing list in March 1995. A press release also was issued to the media announcing the beginning of the comment period. Newspaper announcements (advertisements) were published prior to the public hearing date of 11 April 1995. It is noted that the public comment period and public hearing for the OJETS ran concurrently with that of Zone 2. Proposed remedial actions for the OJETS and Zone 2 were presented together to the public.

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

No written comments were received during the public comment period. Verbal comments were provided by four individuals at the public hearing on 11 April 1995 as follows:

1. **Comment:** Now I'm getting over to Site 45 and I have a few problems with this. Number one, is the monitoring. And, basically it's because that site (Site 45) is so close to the Airport Road, where there's a residential area. And I would like to find out from the Air Force, is the Air Force going to be working with the State when they are doing the monitoring on this site, on Site 45. Because of that site, and what could migrate over into that area (Airport Road), which is the whole residential area of Airport Road.

Response: Airport Road is approximately 0.5 mile from the OJETS site. The area of groundwater contamination at the OJETS site is approximately 300 feet in diameter. The release at the OJETS site occurred 20 years ago, and the only source of contamination is what remains in the soil matrix. Based on the age of the release and hydraulic characteristics of the site, the Air Force does not expect the contaminant plume to extend much beyond its current limits. The Air Force will implement groundwater monitoring at the site under the supervision of both NHDES and EPA. Monitoring results will be made available to the public.

2. **Comment:** Let me say, first of all, that SCOPE is in agreement with the actions of both Zone 2 and Site 45.

Response: The Air Force acknowledges agreement by the commenter.

3. **Comment:** I get a lot of GAO reports that go into contamination clean up at closed bases all over the country, and in here they talk about a six year BRAC funds, and BRAC is based on Base Realignment Closure Act. Now is

funding for our IRP program, is it also tied into that six year program, and if so, we're coming up to about the three year point, and so that we should be either running out of money or looking for money from some other source? And at Pease we've also talked about monitoring costs upwards of $300,000. Are we going to see those kinds of fundings? Is it going to come from BRAC funds, or is it going to come out of some other pot?

Response: Pease AFB is what is called a BRAC round one base, or BRAC 88 base. Funds were authorized by Congress for BRAC one bases in 1988 and actually expire on 30 September 1995. Congress, recognizing that the round one base money was expiring, authorized DOD to use BRAC round two funds for round one bases. The Air Force has planned its long term funding needs and expect that funds will be available when required.

4. **Comment:** Just to reiterate the previous comment (comment #2), SCOPE is in concurrence with the alternatives selected for the cleanup of Site 45 and Zone 2. Just one word of caution that I want to add on that. The use of the air sparging technique, in both instances (Site 45 and Zone 2), it's been shown, in some applications of this technology, that you can have a mobilization or re-mobilization of contaminants with groundwater by basically disturbing the subsurface, the groundwater system. This doesn't always happen in these situations, but it has been shown to occur in some. The only recommendation that we can make is that near downgradient monitoring wells be monitored very closely, and on a more regular basis, especially during the initial period of operation to, in essence, measure whether or not this phenomenon is actually occurring at these sites.

Response: The Air Force appreciates the constructive comment and recommendation made by SCOPE. The Air Force acknowledges that air sparging can have a mounding effect on the water table and could potentially cause

mobilization of contamination. SCOPE's recommendation will be taken into account when developing the monitoring plans for both Zone 2 and the OJETS. Additionally, the Air Force notes that it is expected that the SVE process will help eliminate or minimize the potential negative aspect of mobilization from air sparging.

5. **Comment**: I commend you on your monitoring system. I just wondered if you could explain what happens to its longevity. Do you remove them (monitoring wells) when the water is clear, or do you leave them for another testing period.

Response: Once monitor wells are no longer needed they will be removed, if possible, or abandoned in-place. The preferred option will be to remove monitor wells if at all possible, especially those located on private property. Monitor wells that comprise the long-term monitoring system will be around for many years, but once it is determined these critical monitor wells are no longer needed, they also will be removed, if possible, or abandoned in-place.

APPENDIX D

ADMINISTRATIVE RECORD INDEX

ADMINISTRATIVE RECORD FILE INDEX

FOR THE

INSTALLATION RESTORATION PROGRAM

PEASE AIR FORCE BASE
NEW HAMPSHIRE

AUGUST 1995

ABOUT THE ADMINISTRATIVE RECORD FILE

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.

Due to funding and space limitation, and based on guidance received from EPA Region I, the Air Force has established one administrative file for Pease Air Force Base which encompasses environmental response actions base-wide. Since access to Pease is unrestricted, both the information repository and the administrative record file are housed on base. Although similar in nature, the information repository contains general information about the Air Force's Installation Restoration Program while the administrative record documents the specific decision-making process leading to response actions.

Although draft documents are not usually placed in an administrative record, the Air Force and EPA Region I decided to temporarily house draft documents in the Pease administrative record. Draft documents in the administrative record are pulled and replaced with final documents as soon as the final documents are available. The Air Force and EPA Region I believe that this policy allows for an overall more complete administrative record.

The administrative record serves two purposes, according to EPA guidance. First the record contains those documents which form the basis for the selection of a response action and under section 113(j) of CERCLA judicial review of any issue concerning the adequacy of any response action is limited to the administrative record. This does not mean that only documents which support a response decision are placed in the record. Relevant documents that were considered but ultimately rejected are also included in the record to better establish the decision-making process.

Second, CERCLA section 113(k) requires that the administrative record act as a vehicle for public participation. Participation by interested citizens ensures that the concerns of the public will be addressed during the response selection process. 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.

Major documents in the Pease Air Force Base administrative record are shelved by specific zone. For example, documents pertinent to Zone 1 are shelved together and are kept separate from documents pertaining to other zones. Documents relevant to all zones are together in a general area and are shelved in accordance with the structure of the administrative record. In addition, the administrative record index is cross-referenced to facilitate the location of documents related to specific zones.

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 Air Force Base. Documents may be added to the administrative record file as site work progresses. This index will be updated quarterly to reflect documents 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

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

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:	USAF
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 for Pease Air Force Base, New Hampshire
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 Stage 3B IRP, Pease AFB, New Hampshire (Updated PA Report)
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF; 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 Pease Air Force Base, New Hampshire
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 for Pease Air Force Base, New Hampshire - Draft
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) #7 001-Acr.3
LONG TITLE:	U.S. Air Force Installation Restoration Program Pease AFB Zones 6 and 7 Site Inspection Report Text Draft Final
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	September 1994
TYPE:	Report
SECOND REFERENCE:	Zone 6; Zone 7
LOCATION:	ARF (Zone 6 & 7 Shelf)

#

DOCUMENT NUMBER:	PEA (1.4) #8 001-Figure 6.4.11
LONG TITLE:	U.S. Air Force Installation Restoration Program Pease AFB Zones 6 and 7 Site Inspection Report Figures Draft Final
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	September 1994
TYPE:	Figures
SECOND REFERENCE:	Zone 6; Zone 7
LOCATION:	ARF (Zone 6 and 7 Shelf)

#

DOCUMENT NUMBER:	PEA (1.4) #9 001-H
LONG TITLE:	U.S. Air Force Installation Restoration Program Pease AFB Zones 6 and 7 Site Inspection Report Appendix G ONLY – Draft
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	June 1993
TYPE:	Appendix
SECOND REFERENCE:	Zone 6; Zone 7
LOCATION:	ARF (Zone 6 and 7 Shelf)

#

DOCUMENT NUMBER:	PEA (1.4) #10 001-L.17
LONG TITLE:	U.S. Air Force Installation Restoration Program Pease AFB Zones 6 and 7 Site Inspection Report Appendix L ONLY – Draft
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	June 1993
TYPE:	Appendix
SECOND REFERENCE:	Zone 6; Zone 7
LOCATION:	ARF (Zone 6 and 7 Shelf)

#

DOCUMENT NUMBER:	PEA (1.4) #11 001-J
LONG TITLE:	U.S. Air Force Installation Restoration Program Pease AFB Zones 6 and 7 Site Inspection Report Appendix K ONLY – Draft
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	June 1993
TYPE:	Appendix
SECOND REFERENCE:	Zone 6; Zone 7
LOCATION:	ARF (Zone 6 and 7 Shelf)

#

DOCUMENT NUMBER:	PEA (1.4) #13 Appendix B - Appendix M
LONG TITLE:	U.S. Air Force Installation Restoration Program, Pease Air Force Base Zones 6 and 7 Site Inspection Report Appendices B, C, D, E, F, H, I, J and M – Draft Final
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	September 1994
TYPE:	Appendices
SECOND REFERENCE:	Zone 6; Zone 7
LOCATION:	ARF (Zone 6 and 7 Shelf)

#

1.5 Previous Operable Unit Information

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

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: USAF, HQ SAC, Offutt AFB, NE
DATE: 16 March 1984
TYPE: Letter/Comments
SECOND REFERENCE: None
LOCATION: ARF (Section 1.6 Binder)
#

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 (Section 1.6 Binder)
#

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: USAF
DATE: 3 February 1987
TYPE: Comments to SI (1.4)
SECOND REFERENCE: None
LOCATION: ARF (Section 1.6 Binder)
#

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: USAF
RECIPIENT: NHDES
DATE: 8 May 1987
TYPE: Responses to Comments to SI (1.4)
SECOND REFERENCE: None
LOCATION: ARF (Section 1.6 Binder)
#

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: USAF
DATE: 18 July 1990
TYPE: Letter
SECOND REFERENCE: None
LOCATION: ARF (Section 1.6 Binder)
#

DOCUMENT NUMBER:	PEA (1.6) #9 001-004
LONG TITLE:	Pease Air Force Base Installation Restoration Program May 4, 1994 Zones 6 and 7 SI Meeting
AUTHOR:	NHDES
RECIPIENT:	Arthur Ditto, AFBCA; Michael Daly, EPA
DATE:	20 May 1994
TYPE:	Letter
SECOND REFERENCE:	Zone 6; Zone 7
LOCATION:	ARF (Section 1.6 Binder)

#

DOCUMENT NUMBER:	PEA (1.6) #10 001-002
LONG TITLE:	Zone 3 Water Hardness at Pease AFB, NH
AUTHOR:	Lee dePersia, Roy F. Weston, Inc.
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	25 May 1994
TYPE:	Letter with Attachment
SECOND REFERENCE:	Zone 3
LOCATION:	ARF (Section 1.6 Binder)

#

DOCUMENT NUMBER:	PEA (1.6) #14 001-001
LONG TITLE:	Locations of Surface Waters of New Hampshire in the Vicinity of the Former Pease Air Force Base
AUTHOR:	Arthur Ditto, AFBCA
RECIPIENT:	Richard Pease, NHDES
DATE:	3 March 1994
TYPE:	Letter
SECOND REFERENCE:	Pickering Brook
LOCATION:	ARF (Section 1.6 Binder)

#

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

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

2.8 Correspondence - Removal Responses

DOCUMENT NUMBER:	PEA (2.8) #25 001-003
LONG TITLE:	Surface Water and Sediment Background Values
AUTHOR:	Arthur Ditto, AFBCA
RECIPIENT:	Mike Daly, EPA
DATE:	4 March 1994
TYPE:	Letter with Attachment
SECOND REFERENCE:	Section 2.2
LOCATION:	ARF (Section 2.8 Binder)

#

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 - Draft
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, EPA;
Richard Pease, RPM, NHDES
DATE: 15 June 1992
TYPE: Letter and Map
SECOND REFERENCE: Stage 3C Background Data Base
LOCATION: ARF (Section 3.1 Binder)

#

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

#

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. Weston, Inc.
RECIPIENT: USAF
DATE: Unknown
TYPE: Data
SECOND REFERENCE: None
LOCATION: ARF (Section 3.2 Binder)

#

DOCUMENT NUMBER: PEA (3.2) #2 001-018
LONG TITLE: Volatile Aromatics/Halocarbons by Modified 8010/8020
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: Unknown
TYPE: Data
SECOND REFERENCE: None
LOCATION: ARF (Section 3.2 Binder)

#

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 (Section 3.2 Binder)

#

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, USAF
RECIPIENT:	Johanna Hunter, EPA
DATE:	19 August 1992
TYPE:	Letter
SECOND REFERENCE:	Knights Brook
LOCATION:	ARF (Section 3.2 Binder)

#

DOCUMENT NUMBER:	PEA (3.2) #11 001-004
LONG TITLE:	Haven Well Test
AUTHOR:	James G. Spratt, Roy F. Weston, Inc.
RECIPIENT:	Mark McKenzie, USAF
DATE:	21 August 1992
TYPE:	Letter
SECOND REFERENCE:	Haven Well Aquifer
LOCATION:	ARF (Section 3.2 Binder)

#

DOCUMENT NUMBER:	PEA (3.2) #12 001-052
LONG TITLE:	Maximum Detected Concentrations for Unfiltered Groundwater at Pease AFB, NH
AUTHOR:	Lee dePersia, Roy F. Weston, Inc.
RECIPIENT:	Arthur Ditto, USAF
DATE:	25 August 1992
TYPE:	Letter with Attachments (Tables and Graphs)
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.2 Binder)

#

DOCUMENT NUMBER:	PEA (3.2) #13 001-007
LONG TITLE:	Haven Well Pumping Test Data
AUTHOR:	Jim Spratt, Project Geologist Roy F. Weston, Inc.
RECIPIENT:	Mark McKenzie, USAF
DATE:	16 September 1992
TYPE:	Letter with Tables
SECOND REFERENCE:	Haven Well (597)
LOCATION:	ARF (Section 3.2 Binder)

#

DOCUMENT NUMBER: PEA (3.2) #14 001-009
LONG TITLE: Newington Water Quality Sampling on July 18, 1992 and Analysis Performed on August 28, 1992 (NHDES Sample #210239-210241)
AUTHOR: Scott Doane, Hydrogeologist
NHDES
RECIPIENT: Wayne Wood
Newington, NH 03803
DATE: 21 September 1992
TYPE: Letter with Chain of Custody and Tables
SECOND REFERENCE: None
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) #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
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES
DATE: September 1987
TYPE: Work Plan
SECOND REFERENCE: None
LOCATION: ARF, IR

#

DOCUMENT NUMBER: PEA (3.3) #6 001-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) #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) #12 001-004
LONG TITLE: Groundwater Modeling Process Outline
AUTHOR: Lee dePersia, Roy F. Weston, Inc.
RECIPIENT: Arthur Ditto, USAF
DATE: 2 October 1992
TYPE: Letter
SECOND REFERENCE: Groundwater Modeling
LOCATION: ARF (Section 3.3 Binder)

#

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) #15 001-F
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Interim Monitoring Plan
AUTHOR: USAF
RECIPIENT: Pease AFB
DATE: January 1994
TYPE: Monitoring Plan
SECOND REFERENCE: Groundwater Monitoring
LOCATION: ARF (Zone 7 Shelf)

#

DOCUMENT NUMBER: PEA (3.3) #18 001-R.1
LONG TITLE: U.S. Air Force Installation Restoration Program Pease Air Force Base Standard Operating Procedure for Well Abandonment
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: October 1994
TYPE: Work Plan
SECOND REFERENCE: None
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.3) #19 001-R.1
LONG TITLE: Work Plan for Soil Excavation at the Old Jet Engine Test Stand (OJETS), Pease AFB, NH
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 25 May 1994
TYPE: Work Plan
SECOND REFERENCE: OJETS
LOCATION: ARF

#

3.4 Preliminary RI Field Work Reports

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 (Section 3.4 Binder)

#

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

#

DOCUMENT NUMBER: PEA (3.4) #40 001-Map 6
LONG TITLE: Off Base Well Inventory Letter Report for Pease AFB
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 17 September 1992
TYPE: Letter Report
SECOND REFERENCE: None
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.4) #42 001-Figure 11
LONG TITLE: *United States Air Force Installation Restoration Program Pease Air Force Base, Regional Groundwater Model*
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: April 1994
TYPE: Report
SECOND REFERENCE: None
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.4) #44 001-C.2
LONG TITLE: Pease Air Force Base Monitor Well Inventory and Inspection Letter Report
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 04 October 1994
TYPE: Report
SECOND REFERENCE: None
LOCATION: ARF

#

3.5 Remedial Investigation (RI) Reports

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) #43 001-126
LONG TITLE: Haven Well Pumping Test Letter Report
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: Jim Snyder, AFCEE/ESB, USAF
DATE: 8 January 1993
TYPE: Transmittal Letter, Letter Report, Maps, Appendices
SECOND REFERENCE: None
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #106 iii.1-ACR-3
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease AFB, Zone 7 (also known as Site 45, Old Engine Test Stand) Remedial Investigation/ Feasibility Study-Text--DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: September 1993
TYPE: Report
SECOND REFERENCE: Zone 7, Site 45
LOCATION: ARF, PEA (4.2) #36 iii-ACR.3 on Zone 7 Shelf (Filed as Feasibility Report)

#

DOCUMENT NUMBER:	PEA (3.5) #107 iii-9.2-6
LONG TITLE:	U.S. Air Force Installation Restoration Program, Pease AFB, Zone 7 Old Engine Test Stand Remedial Investigation/ Feasibility Study-Figures--DRAFT FINAL
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	September 1993
TYPE:	Figures
SECOND REFERENCE:	Zone 7, Site 45
LOCATION:	ARF, PEA (4.2) #37 iii-9.2-6 on Zone 7 Shelf (Filed as Feasibility Report)

#

DOCUMENT NUMBER:	PEA (3.5) #108 001-F
LONG TITLE:	U.S. Air Force Installation Restoration Program, Pease AFB, Zone 7 also known as Site 45, Old Engine Test Stand Remedial Investigation/ Feasibility Study-Appendices A, B, C, D, E, F and G--DRAFT FINAL
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	September 1993
TYPE:	Appendices
SECOND REFERENCE:	Zone 7, Site 45
LOCATION:	ARF, PEA (4.2) #38 A.1-G on Zone 7 Shelf-Filed as Feasibility Report

#

DOCUMENT NUMBER:	PEA (3.5) #109 001-J(K.6-1)
LONG TITLE:	U.S. Air Force Installation Restoration Program, Pease AFB, Zone 7 Old Engine Test Stand Remedial Investigation/Feasibility Study-Appendices G, H, J and K--DRAFT FINAL
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	September 1993
TYPE:	Appendices
SECOND REFERENCE:	Zone 7, Site 45
LOCATION:	ARF, PEA (4.2) #39 H.1-I.32 on Zone 7 Shelf (Filed as Feasibility Study Report)

#

DOCUMENT NUMBER:	PEA (3.5) #110 ES.1-ACR.3
LONG TITLE:	U.S. Air Force Installation Restoration Program, Pease AFB, Zone 7 Old Engine Test Stand Remedial Investigation/Feasibility Study-Appendix I--DRAFT FINAL
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	September 1993
TYPE:	Appendix
SECOND REFERENCE:	Zone 7, Site 45
LOCATION:	ARF, PEA (4.2) #40 001-700 on Zone 7 Shelf (Filed as Feasibility Study Report)

#

DOCUMENT NUMBER:	PEA (3.5) #111 L.1-Q.2
LONG TITLE:	U.S. Air Force Installation Restoration Program, Pease AFB, Zone 7 (also known as Site 45, Old Engine Test Stand) Remedial Investigation/ Feasibility Study-Appendices L, M, N, O, P and Q --DRAFT FINAL
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	September 1993
TYPE:	Appendices
SECOND REFERENCE:	Zone 7, Site 45
LOCATION:	ARF, PEA (4.2) #41 J on Zone 7 Shelf (Filed as Feasibility Study Report)

#

DOCUMENT NUMBER: PEA (3.5) #120 001-008
LONG TITLE: Zone 3 Water Hardness
AUTHOR: Arthur Ditto, AFBCA
RECIPIENT: Mike Daly, EPA
Richard Pease, NHDES
DATE: 03 August 1994
TYPE: Letter with enclosures
SECOND REFERENCE: Zone 3
LOCATION: ARF (Section 3.5 Binder)

#

DOCUMENT NUMBER: PEA (3.5) #121 001-007
LONG TITLE: Basewide Interim Monitoring Report No. 2 for Pease Air Force Base, NH
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 05 August 1994
TYPE: Letter with attachment
SECOND REFERENCE: Zone 1; Zone 2; Zone 4
LOCATION: ARF (Section 3.5 Binder)

#

DOCUMENT NUMBER: PEA (3.5) #123 001-E.34
LONG TITLE: Summary of Revisions to Basewide Interim Monitoring Plan, Pease Air Force Base, NH
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 23 November 1994
TYPE: Interim Monitoring Plan
SECOND REFERENCE: PEA (10.1) #161 001-006
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #124 001-040
LONG TITLE: Basewide Interim Monitoring Report No. 4 for Pease Air Force Base, NH
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 16 December 1994
TYPE: Interim Monitoring Report
SECOND REFERENCE: Zone 1; Zone 2; Zone 4; Zone 5; Zone 7; PEA (10.1) #161 001-006
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #128 i-Appendix E
LONG TITLE: DDT Sediment Evaluation Report for Pease Air Force Base, NH
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: November 1994
TYPE: Report
SECOND REFERENCE: None
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #129 1.1-Figure 2.7.6
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Basewide Interim Monitoring Report No. 1 for October Through December 1993 - Volume I
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: April 1994
TYPE: Report
SECOND REFERENCE: None
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #130 Appendix A - Appendix C
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Basewide Interim Monitoring Report No. 1 for October Through December 1993 - Volume II
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: April 1994
TYPE: Report
SECOND REFERENCE: None
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #131 001-043
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Basewide Interim Monitoring Report No. 2 for January Through March 1994
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: July 1994
TYPE: Report
SECOND REFERENCE: None
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (3.5) #132 001-049
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Basewide Interim Monitoring Report No. 3
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: October 1994
TYPE: Report
SECOND REFERENCE: None
LOCATION: ARF

#

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: USAF
DATE: 27 July 1987
TYPE: Comments Serving 3.4 (Preliminary RI Field Work Reports)
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (3.6) #2 001-006
LONG TITLE: Letter Regarding IRP, Stage 2
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 11 November 1987
TYPE: Letter Serving 3.4 (Preliminary RI Field Work Reports)
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

#

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: USAF
DATE: 12 November 1987
TYPE: Letter Serving 3.4 (Preliminary RI Field Work Reports)
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (3.6) #14 001-004
LONG TITLE: Sampling Data for Off-Site Sampling at Pease AFB
AUTHOR: State of New Hampshire, Water Supply and Pollution Control Division
RECIPIENT: Air Force
DATE: 5 July 1990
TYPE: Sampling Data
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (3.6) #16 001-003
LONG TITLE: Off-Base Sampling at Pease AFB
AUTHOR: NHDES
RECIPIENT: USAF
DATE: 25 October 1990
TYPE: Sampling Results
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (3.6) #18 001-065
LONG TITLE: Sampling Results from Pease AFB, Newington, Portsmouth
AUTHOR: NHDES
RECIPIENT: USAF
DATE: 17 January 1991
TYPE: Sampling Data
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

#

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: Pease AFB
DATE: 8 March 1989
TYPE: Memorandum -- Pertaining to RI
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

#

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:	USAF
DATE:	12 March 1990
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #31 001-002
LONG TITLE:	Letter Regarding Well Installation Modification
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	5 July 1990
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

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:	USAF
DATE:	25 September 1990
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

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:	NHDES
RECIPIENT:	USAF
DATE:	25 September 1990
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

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:	USAF
DATE:	29 October 1990
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #39 001-002
LONG TITLE:	Letter Regarding the Disposal of Clean Soil Cuttings and Drilling Mud
AUTHOR:	USAF
RECIPIENT:	Roy F. Weston, Inc.
DATE:	1 November 1990
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

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:	USAF
DATE:	7 February 1991
TYPE:	Letter/Response to Comments
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #43 001-004
LONG TITLE:	Issues Needing Resolution Prior to the Upcoming Field Efforts
AUTHOR:	EPA
RECIPIENT:	USAF
DATE:	10 April 1991
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

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:	USAF
DATE:	28 September 1990
TYPE:	Response to Comments
SECOND REFERENCE:	PEA (10.1)
LOCATION:	ARF (Section 3.6 Binder)

#

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:	NHDES
RECIPIENT:	USAF
DATE:	16 October 1990
TYPE:	Review Comments
SECOND REFERENCE:	PEA (10.1)
LOCATION:	ARF (Section 3.6 Binder)

#

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:	USAF
DATE:	29 October 1990
TYPE:	Review Comments
SECOND REFERENCE:	PEA (10.1)
LOCATION:	ARF (Section 3.6 Binder)

#

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:	EPA
RECIPIENT:	USAF
DATE:	2 November 1990
TYPE:	Review Comments
SECOND REFERENCE:	PEA (10.1)
LOCATION:	ARF (Section 3.6 Binder)

#

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:	NHDES
RECIPIENT:	USAF
DATE:	3 December 1990
TYPE:	Response to questions on comments
SECOND REFERENCE:	PEA (10.1)
LOCATION:	ARF (Section 3.6 Binder)

#

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:	Air Force
RECIPIENT:	EPA
DATE:	10 December 1990
TYPE:	Responses to Comments
SECOND REFERENCE:	PEA (10.1)
LOCATION:	ARF (Section 3.6 Binder)

#

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:	USAF
DATE:	7 February 1991
TYPE:	Response to Comments
SECOND REFERENCE:	PEA (10.1)
LOCATION:	ARF (Section 3.6 Binder)

#

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:	EPA
RECIPIENT:	USAF
DATE:	13 March 1991
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

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:	USAF
RECIPIENT:	EPA
DATE:	1991
TYPE:	Response to Comments
SECOND REFERENCE:	PEA (10.1)
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #55 001-003
LONG TITLE:	Off-Base Sampling at Pease Air Force Base
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Art Ditto, Pease AFB
DATE:	25 October 1990
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #56 001-001
LONG TITLE:	EPA Concerns
AUTHOR:	USAF
RECIPIENT:	Art Ditto, Pease AFB
DATE:	8 April 1991
TYPE:	Internal Record of Phone Conversation with EPA and NHDES
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #57 001-004
LONG TITLE:	Issues Needing Resolution Prior to Upcoming Field Efforts
AUTHOR:	Johanna Hunter, EPA
RECIPIENT:	Arthur Ditto, Pease AFB
DATE:	10 April 1991
TYPE:	Letter
SECOND REFERENCE:	PEA (3.3)
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #58 001-002
LONG TITLE:	Review of Risk Assessment Data and Sampling Procedures
AUTHOR:	Johanna Hunter, EPA
RECIPIENT:	Arthur Ditto, Pease AFB
DATE:	16 April 1991
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #59 001-067
LONG TITLE:	Concerns about Analytical Methods
AUTHOR:	USAF
RECIPIENT:	USAF Johanna Hunter, EPA Roy F. Weston, Inc.
DATE:	23 April 1991
TYPE:	Fax with Attachments
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #60 001-001
LONG TITLE:	Surface Water and Sediment Sampling Locations
AUTHOR:	Arthur Ditto, Pease AFB
RECIPIENT:	Johanna Hunter, EPA
DATE:	24 April 1991
TYPE:	Letter (Transmittal)
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #61 001-008
LONG TITLE:	Field Oversight Coordination
AUTHOR:	Johanna Hunter, EPA
RECIPIENT:	Arthur Ditto, Pease AFB
DATE:	29 April 1991
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #63 001-003
LONG TITLE:	Review of April 25, 1991 Revised Analytical Methods
AUTHOR:	Johanna Hunter, EPA
RECIPIENT:	Art Ditto, Pease AFB
DATE:	08 May 1991
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #64 001-002
LONG TITLE:	Review of April 25, 1991 Revised Analytical Methods
AUTHOR:	Johanna Hunter, EPA
RECIPIENT:	Art Ditto, Pease AFB
DATE:	08 May 1991
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

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 (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #66 001-002
LONG TITLE:	Revised Analytical Methods for Pease AFB
AUTHOR:	Logan VanLeigh, Capt., USAF, BSC
RECIPIENT:	Johanna Hunter, EPA
DATE:	31 May 1991
TYPE:	Letter
SECOND REFERENCE:	PEA (3.1)
LOCATION:	ARF (Section 3.6 Binder)

#

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 (Section 3.6 Binder)

#

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, EPA
RECIPIENT:	Art Ditto, Pease AFB
DATE:	06 June 1991
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

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, EPA
DATE:	06 June 1991
TYPE:	Fax
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

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 (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (3.6) #71 001-001
LONG TITLE: Background Determination Protocols
AUTHOR: USAF
RECIPIENT: Johanna Hunter, EPA
DATE: 07 June 1991
TYPE: Letter
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

#

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 (Section 3.6 Binder)

#

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 (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (3.6) #75 001-002
LONG TITLE: EPA Pump Test Information Request to be Provided by Air Force
AUTHOR: Johanna Hunter, EPA
RECIPIENT: Art Ditto, USAF
DATE: 27 June 1991
TYPE: Letter
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

#

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 (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (3.6) #77 001-001
LONG TITLE: Transmittal Letter for Protocols for Baseline Risk Assessments
AUTHOR: Arthur Ditto, USAF
RECIPIENT: Richard Pease, NHDES
DATE: 18 July 1991
TYPE: Transmittal Letter
SECOND REFERENCE: Baseline Risk Assessments
LOCATION: ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (3.6) #78 001-001
LONG TITLE: Transmittal Letter for Protocols for Baseline Risk Assessments
AUTHOR: Arthur Ditto, USAF
RECIPIENT: Johanna Hunter, EPA
DATE: 18 July 1991
TYPE: Transmittal Letter
SECOND REFERENCE: Baseline Risk Assessments
LOCATION: ARF (Section 3.6 Binder)

#

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, AFCEE
DATE: 26 July 1991
TYPE: Letter
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (3.6) #81 001-001
LONG TITLE: Vented Monitoring Wells
AUTHOR: Scott Doane, NHDES
RECIPIENT: Mark McKenzie, USAF
DATE: 31 July 1991
TYPE: Letter
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

#

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, EPA
RECIPIENT:	Art Ditto, Pease AFB
DATE:	02 August 1991
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #83 001-001
LONG TITLE:	Vented Monitoring Wells - Response to July 31, 1991 Letter on same Issue From NHDES
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	Scott Doane, NHDES
DATE:	26 August 1991
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #84 001-001
LONG TITLE:	Split Sampling Results
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	Johanna Hunter, EPA Richard Pease, NHDES
DATE:	9 September 1991
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #85 001-002
LONG TITLE:	Field Oversight - September 1991
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, USAF
DATE:	28 October 1991
TYPE:	Letter
SECOND REFERENCE:	PEA (3.4)
LOCATION:	ARF (Section 3.6 Binder)

#

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, EPA
RECIPIENT:	Ed Barnes, Roy F. Weston
DATE:	2 December 1991
TYPE:	Transmittal Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

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, EPA
RECIPIENT: Art Ditto, Pease AFB
DATE: 2 December 1991
TYPE: Letter
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (3.6) #88 001-001
LONG TITLE: Fugitive Dust Pathway in the Baseline Risk Assessment
AUTHOR: Arthur Ditto, USAF
RECIPIENT: Johanna Hunter, EPA
DATE: 3 January 1992
TYPE: Letter
SECOND REFERENCE: PEA (3.5)
LOCATION: ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (3.6) #89 001-001
LONG TITLE: Evaluation of the Air Pathway in Baseline Risk Assessment
AUTHOR: USAF
RECIPIENT: Johanna Hunter, EPA
DATE: 11 February 1992
TYPE: Letter
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

#

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 (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (3.6) #95 001-001
LONG TITLE: Transmittal Letter for Submittal of Baseline Risk Assessment Protocols
AUTHOR: Arthur Ditto, USAF
RECIPIENT: Richard Pease, NHDES
DATE: 25 February 1992
TYPE: Transmittal Letter
SECOND REFERENCE: Baseline Risk Assessment
LOCATION: ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (3.6) #96 001-001
LONG TITLE: Transmittal Letter for Revised Baseline Risk Assessment Protocols
AUTHOR: Arthur Ditto, USAF
RECIPIENT: Johanna Hunter, EPA
DATE: 25 February 1992
TYPE: Transmittal Letter
SECOND REFERENCE: Revised Baseline Risk Assessment
LOCATION: ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #98 001-003
LONG TITLE:	Request for EPA Split Sampling Results
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	Johanna Hunter, EPA
DATE:	9 March 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

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 (Section 3.6 Binder)

#

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, USAF
RECIPIENT:	Johanna Hunter, EPA
DATE:	24 March 1992
TYPE:	Transmittal Letter
SECOND REFERENCE:	PEA (3.1); PEA (3.3)
LOCATION:	ARF (Section 3.6 Binder)

#

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, USAF
RECIPIENT:	Richard Pease, NHDES
DATE:	24 March 1992
TYPE:	Transmittal Letter
SECOND REFERENCE:	PEA (3.1); PEA (3.3)
LOCATION:	ARF (Section 3.6 Binder)

#

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 (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #106 001-002
LONG TITLE:	Oversight Role of Regulatory Agencies at Pease AFB
AUTHOR:	Michael Daly, EPA
RECIPIENT:	Mark McKenzie, Pease AFB
DATE:	26 May 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

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 (Section 3.6 Binder)

#

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, EPA
DATE:	24 June 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #113 001-002
LONG TITLE:	Additional Field Oversight
AUTHOR:	USAF
RECIPIENT:	Michael Daly, EPA
DATE:	8 July 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

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, EPA Richard Pease, NHDES
DATE:	29 July 1992
TYPE:	Letter with Report
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #120 001-001
LONG TITLE:	Monitor Well Inventory and Inspection Report
AUTHOR:	USAF
RECIPIENT:	Johanna Hunter, EPA
	Richard Pease, NHDES
DATE:	18 August 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #122 001-002
LONG TITLE:	Results of Background Surface Water Sediment Location Walkover
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, Pease AFB
DATE:	27 August 1992
TYPE:	Letter
SECOND REFERENCE:	PEA (6.4)
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #123 001-005
LONG TITLE:	Risk Assessment Issues for Pease AFB
AUTHOR:	Lee dePersia, Roy F. Weston, Inc.
RECIPIENT:	Arthur Ditto, USAF
DATE:	28 August 1992
TYPE:	Letter Report
SECOND REFERENCE:	PEA (3.5)
LOCATION:	ARF (Section 3.6 Binder)

#

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
RECIPIENT:	Richard Pease, NHDES
	Johanna Hunter, EPA
DATE:	1 September 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #128 001-003
LONG TITLE:	Summary of Risk Issues Meeting of August 19, 1992
AUTHOR:	Johanna Hunter, EPA
RECIPIENT:	Arthur Ditto, USAF
DATE:	16 September 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #130 001-002
LONG TITLE:	Field Oversight - Mid-August-Mid-September
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, Pease AFB
DATE:	7 October 1991
TYPE:	Letter
SECOND REFERENCE:	PEA (3.4)
LOCATION:	ARF (Section 3.6 Binder)

#

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, EPA
DATE:	26 October 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

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 (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #142 001-001
LONG TITLE:	Transmittal Letter for Submittal of Stage 5 Health and Safety Plan
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	Johanna Hunter, EPA Richard Pease, NHDES
DATE:	17 November 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #146 001-001
LONG TITLE:	Application of the Reasonable Maximum Exposure (RME) in Risk Assessments
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	Richard Pease, NHDES
DATE:	1 December 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #147 001-001
LONG TITLE:	Explanation of Off-Base Well Inventory Report
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	Richard Pease, NHDES
DATE:	4 December 1992
TYPE:	Letter
SECOND REFERENCE:	Off-Base Well Inventory Letter Report of 17 September 1992 PEA (3.5)
LOCATION:	ARF (Section 3.6 Binder)

#

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, USAF
RECIPIENT:	Johanna Hunter, EPA Richard Pease, NHDES
DATE:	11 December 1992
TYPE:	Letter
SECOND REFERENCE:	PEA (3.1)
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #149 001-002
LONG TITLE:	Request for Deadline Extension
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	Johanna Hunter, EPA Richard Pease, NHDES
DATE:	23 December 1992
TYPE:	Letter
SECOND REFERENCE:	PEA (6.3)
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #152 001-002
LONG TITLE:	MULTIMED as a Replacement for the Summers Model
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	Art Ditto, AFBDA
DATE:	11 March 1993
TYPE:	Letter
SECOND REFERENCE:	PEA (4.5)
LOCATION:	ARF (Section 3.6 Binder)

#

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 (Section 3.6 Binder)

#

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) #182 001-002
LONG TITLE:	Interim Monitoring Plan, DES Review Comments
AUTHOR:	Arthur Ditto, AFBCA
RECIPIENT:	Richard Pease, NHDES
DATE:	25 April 1994
TYPE:	Letter, with Response to Comments
SECOND REFERENCE:	Section 10.1
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #183 001-063
LONG TITLE:	Pease AFB Second Quarter Report for 1994
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	12 July 1994
TYPE:	Letter Report
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #189 001-D.2
LONG TITLE:	1994 Third Quarter Report
AUTHOR:	Mark McKenzie, AFBCA
RECIPIENT:	Mike Daly, EPA Richard Pease, NHDES
DATE:	08 November 1994
TYPE:	Report
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER:	PEA (3.6) #194 001-001
LONG TITLE:	Regional Groundwater Modeling Letter Report for Pease AFB, NH
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	02 May 1994
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)

#

DOCUMENT NUMBER: PEA (4.1) #1 001-024
LONG TITLE: New Hampshire ARAR List Update
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, USAF
DATE: 13 April 1992
TYPE: Letter and Tables
SECOND REFERENCE: None (Section 4.1 Binder)
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

#

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)

#

DOCUMENT NUMBER: PEA (4.1) #7 001-001
LONG TITLE: Pease Air Force Base: Resolution of Env-Ws 410 ARARs Issue
AUTHOR: Joan Miles, Assistant Regional Counsel, EPA Region I
RECIPIENT: Anne Renner, EPA Region I
DATE: Assistant Attorney General, New Hampshire
TYPE: Letter
SECOND REFERENCE: PEA (6.3); PEA (11.2)
LOCATION: ARF (Section 4.1 Binder)

#

DOCUMENT NUMBER: PEA (4.2) #36 iii-ACR-3
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Zone 7 Remedial Investigation/Feasibility Study, Site 45, Old Jet Engine Test Stand-Text--DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: December 1993
TYPE: Report
SECOND REFERENCE: PEA 3.5 #106 ES.1-ACR. 3
LOCATION: ARF (Zone 7 Shelf)

#

DOCUMENT NUMBER: PEA (4.2) #37 iii-9.2-6
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Zone 7 Remedial Investigation/Feasibility Study Figures, --Site 45, Old Jet Engine Test Stand DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: December 1993
TYPE: Figures
SECOND REFERENCE: PEA 3.5 #107 001-9.2-6
LOCATION: ARF (Zone 7 Shelf)

#

DOCUMENT NUMBER: PEA (4.2) #38 a.1-G
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Zone 7 Remedial Investigation/Feasibility Study, Site 45, Old Jet Engine Test Stand-Appendices A, B, C, D, E, F and G--DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: December 1993
TYPE: Appendices
SECOND REFERENCE: PEA 3.5 #108 001-F
LOCATION: ARF (Zone 7 Shelf)

#

DOCUMENT NUMBER: PEA (4.2) #39 H.1-I2
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Zone 7 Remedial Investigation/Feasibility Study, Site 45, Old Jet Engine Test Stand-Appendices H, and I Part 2 of 2--DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: December 1993
TYPE: Appendices
SECOND REFERENCE: PEA 3.5 #109 001-J (K.6-1)
LOCATION: ARF (Zone 7 Shelf)

#

DOCUMENT NUMBER: PEA (4.2) #40 001-700
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Zone 7 Remedial Investigation/Feasibility Study, Site 45, Old Jet Engine Test Stand Appendix I Part 1 of 2 - -DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: December 1993
TYPE: Appendix
SECOND REFERENCE: PEA (3.5) #110 ES.1-ACR.3
LOCATION: ARF (Zone 7 Shelf)

#

DOCUMENT NUMBER: PEA (4.2) #41 J
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Zone 7, Site 45, Old Jet Engine Test Stand Remedial Investigation/ Feasibility Study Appendix J--DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: December 1993
TYPE: Appendices
SECOND REFERENCE: PEA (3.5) #111 L.1-Q.2
LOCATION: ARF (Zone 7 Shelf)

#

DOCUMENT NUMBER: PEA (4.2) #46 K-Q
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Zone 7 Remedial Investigation/Feasibility Study, Site 45, Old Jet Engine Test Stand Appendices K, L, M, N, O, P and Q – DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: December 1993
TYPE: Appendices
SECOND REFERENCE: Zone 7
LOCATION: ARF (Zone 7 Shelf)

#

DOCUMENT NUMBER: PEA (4.2) #54 001-004
LONG TITLE: Pease AFB Installation Restoration Program Site 45 Soil Vapor Extraction and Air Sparging Pilot Test Work Plan Comments
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, AFBCA
DATE: 26 July 1994
TYPE: Review Comments
SECOND REFERENCE: Site 45; PEA (10.1)
LOCATION: ARF (Section 4.2 Binder)

#

DOCUMENT NUMBER: PEA (4.2) #68 001-005
LONG TITLE: Site 45 Feasibility Study Supplement
AUTHOR: USAF
RECIPIENT: EPA
DATE: February 1995
TYPE: Report
SECOND REFERENCE: Zone 7
LOCATION: ARF

#

DOCUMENT NUMBER: PEA (4.2) #71 001-358
LONG TITLE: Pease Air Force Base Old Jet Engine Test Stand (OJETS) (Site 45) Treatability Study Letter Report
AUTHOR: Roy F. Weston, Inc.
RECEIPIENT: USAF
DATE: 31 January 1995
TYPE: Letter Report
SECOND REFERENCE: Site 45
LOCATION: ARF

#

4.3 Proposed Plan

DOCUMENT NUMBER:	PEA (4.3) #12 001-G.4
LONG TITLE:	Installation Restoration Program, Proposed Plan for IRP Site 45, Old Jet Engine Test Stand, Pease Air Force Base, NH
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	March 1995
TYPE:	Proposed Plan
SECOND REFERENCE:	Site 45
LOCATION:	ARF (Zone 2 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) #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 (Section 4.5 Binder)

#

DOCUMENT NUMBER:	PEA (4.5) #14 001-001
LONG TITLE:	Document Submittals
AUTHOR:	USAF
RECIPIENT:	Johanna Hunter, EPA Richard Pease, NHDES
DATE:	26 May 1992
TYPE:	Letter
SECOND REFERENCE:	Pea (10.1); Site 34
LOCATION:	ARF (Section 4.5 Binder)

#

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)

#

DOCUMENT NUMBER:	PEA (4.5) #65 001-001
LONG TITLE:	Regional Groundwater Model
AUTHOR:	Arthur Ditto, AFBCA
RECIPIENT:	John Regan, NHDES
DATE:	3 June 1994
TYPE:	Letter
SECOND REFERENCE:	Haven Well
LOCATION:	ARF (Section 4.5 Binder)

#

DOCUMENT NUMBER:	PEA (4.5) #74 001-002
LONG TITLE:	Pease AFB - Applicability of Emissions Controls for Continued Operation of the Soil Vapor Extraction/Air Sparging Pilot Study at Site 45
AUTHOR:	Arthur Ditto, AFBCA
RECIPIENT:	Alan Moulton, NHDES
DATE:	15 November 1994
TYPE:	Letter
SECOND REFERENCE:	Site 45
LOCATION:	ARF (Section 4.5 Binder)

#

DOCUMENT NUMBER:	PEA (4.5) #80 001-015
LONG TITLE:	EPA's Outstanding Issues on the Draft Final Remedial Investigation/Feasibility Study Report for the Old Jet Engine Test Stand, Pease Air Force Base, Newington, New Hampshire
AUTHOR:	Andrew F. Miniuks, EPA
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	05 January 1995
TYPE:	Letter with attachment
SECOND REFERENCE:	Zone 7; Site 45; PEA (4.2); PEA (10.1)
LOCATION:	ARF (Section 4.5 Binder)

#

DOCUMENT NUMBER:	PEA (4.5) #81 001-004
LONG TITLE:	EPA's Comments on the Draft Proposed Plan for the Old Jet Engine Test Stand, Pease Air Force Base, Newington, New Hampshire
AUTHOR:	Andrew F. Miniuks, EPA
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	20 January 1995
TYPE:	Letter with attachment
SECOND REFERENCE:	Zone 7; Site 45; PEA (4.2); PEA (10.1)
LOCATION:	ARF (Section 4.5 Binder)

#

DOCUMENT NUMBER:	PEA (4.5) #88 001-002
LONG TITLE:	EPA's Outstanding Issues on the Feasibility Study Supplement for the Old Jet Engine Test Stand, Pease Air Force Base, Newington, New Hamshire
AUTHOR:	Andred F. Miniuks, EPA
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	06 February 1995
TYPE:	Letter with attachment
SECOND REFERENCE:	Zone 7; Site 45; PEA (4.2); PEA (5.1)
LOCATION:	ARF (Section 4.5 Binder)

#

DOCUMENT NUMBER:	PEA (4.5) #89 001-001
LONG TITLE:	Site 45 (OJETS) Treatability Study Report, Pease AFB, NH
AUTHOR:	Lee dePersia, Roy F. Weston, Inc.
RECIPIENT:	Jim Snyder, AFCEE
DATE:	06 February 1995
TYPE:	Letter
SECOND REFERENCE:	Zone 7; Site 45; PEA (4.2)
LOCATION:	ARF (Section 4.5 Binder)

#

DOCUMENT NUMBER:	PEA (4.5) #90 001-002
LONG TITLE:	Submittal of the Draft Final Site 45 Proposed Plan
AUTHOR:	Mark McKenzie, AFBCA
RECIPIENT:	Mike Daly, EPA
DATE:	08 February 1995
TYPE:	Letter
SECOND REFERENCE:	Zone 7; Site 45; PEA (4.2)
LOCATION:	ARF (Section 4.5 Binder)

#

DOCUMENT NUMBER:	PEA (4.5) #101 001-001
LONG TITLE:	Submittal of the Site 45 Treatability Study Letter Report
AUTHOR:	Arthur Ditto, AFBCA
RECIPIENT:	Mike Daly, EPA
DATE:	28 February 1995
TYPE:	Letter
SECOND REFERENCE:	Zone 7; PEA (4.2)
LOCATION:	ARF (Section 4.5 Binder)

#

DOCUMENT NUMBER:	PEA (4.5) #106 001-001
LONG TITLE:	Soil Vapor Extraction Pilot Test - Site #45, Zone 7
AUTHOR:	Dennis R. Lunderville, Director, NHDES
RECIPIENT:	Krithika Jayaraman, Roy. F. Weston, Inc.; Arthur Ditto, AFBCA; Richard Pease, NHDES
DATE:	13 April 1994
TYPE:	Letter
SECOND REFERENCE:	Site 45; Zone 7
LOCATION:	ARF (Section 4.5 Binder)

#

DOCUMENT NUMBER:	PEA (4.5) #113 001-006
LONG TITLE:	Submittal of the Final Site 45 Feasibility Study Supplement
AUTHOR:	Mark McKenzie, AFBCA
RECIPIENT:	Michael Daly, EPA Richard Pease, NHDES
DATE:	20 March 1995
TYPE:	Letter with attachment
SECOND REFERENCE:	Site 45
LOCATION:	ARF (Section 4.5 Binder)

#

DOCUMENT NUMBER:	PEA (4.5) #117 001-001
LONG TITLE:	Site 45, Feasibility Study Supplement
AUTHOR:	Arthur Ditto, AFBCA
RECIPIENT:	Richard Pease, NHDES
DATE:	16 May 1995
TYPE:	Letter
SECOND REFERENCE:	Site 45; PEA (10.1)
LOCATION:	ARF (Section 4.5 Binder)

#

5.1 ROD

DOCUMENT NUMBER:	PEA (5.1) #7 001-D
LONG TITLE:	Record of Decision, Site 45, Old Jet Engine Test Stand, Pease Air Force Base, New Hampshire -- DRAFT
AUTHOR:	USAF
RECIPIENT:	EPA
	NHDES
DATE:	March 1995
TYPE:	ROD
SECOND REFERENCE:	Site 45
LOCATION:	ARF

#

5.2 Amendments to ROD

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

5.3 Explanation 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, EPA
DATE:	Unknown
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 5.4 Binder)

#

DOCUMENT NUMBER:	PEA (5.4) #4 001-002
LONG TITLE:	Pease AFB IRP ROD Review Process
AUTHOR:	Arthur Ditto, AFBCA/OL-A
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
	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)

#

DOCUMENT NUMBER:	PEA (5.4) #12 001-002
LONG TITLE:	Getting to a ROD
AUTHOR:	Arthur Ditto, AFBCA/OL-A
RECIPIENT:	Mike Daly, EPA
	Richard Pease, NHDES
DATE:	15 August 1994
TYPE:	Letter
SECOND REFERENCE:	Zone 1; Zone 2; Zone 3; Zone 4; Site 32/36; Site 45
LOCATION:	ARF (Section 5.4 Binder)

#

DOCUMENT NUMBER:	PEA (5.4) #24 001-006
LONG TITLE:	Document Review Schedule
AUTHOR:	Arthur Ditto, AFBCA/OL-A
RECIPIENT:	Mike Daly, EPA
	Richard Pease, NHDES
DATE:	14 November 1994
TYPE:	Letter with attachment
SECOND REFERENCE:	Zone 1; Zone 2; Zone 3; Zone 4; Site 32/36; Site 45
LOCATION:	ARF (Section 5.4 Binder)

#

DOCUMENT NUMBER:	PEA (5.4) #30 001-003
LONG TITLE:	Project Status and Schedule, Pease Air Force Base, Newington, New Hampshire
AUTHOR:	Mary Sanderson, EPA
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	02 March 1995
TYPE:	Letter with attachments
SECOND REFERENCE:	None
LOCATION:	ARF (Section 5.4 Binder)

#

DOCUMENT NUMBER:	PEA (5.4) #37 001-001
LONG TITLE:	Draft Zone 2 and Site 45 Records of Decision
AUTHOR:	Arthur Ditto, AFBCA/OL-A
RECIPIENT:	Hank Lowman, AFBCA/NE
DATE:	04 April 1995
TYPE:	Letter
SECOND REFERENCE:	Zone 2; Site 45
LOCATION:	ARF (Section 5.4 Binder)

#

DOCUMENT NUMBER:	PEA (5.4) #41 001-005
LONG TITLE:	Site 45, Draft Final ROD
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	Jim Snyder, AFCEE Mike Daly, EPA Patti Tyler, EPA Richard Pease, NHDES
DATE:	31 May 1995
TYPE:	Transmittal letter
SECOND REFERENCE:	Site 45; PEA (5.1)
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/USAF
RECIPIENT: USAF
DATE: 22 August 1980
TYPE: Memorandum of Understanding
SECOND REFERENCE: None
LOCATION: ARF (Section 6.1 Binder)

#

DOCUMENT NUMBER: PEA (6.1) #3 001-020
LONG TITLE: Defense and State Memorandum of Agreement
AUTHOR: USAF
RECIPIENT: NHDES
DATE: 14 December 1992
TYPE: DSMOA
SECOND REFERENCE: None
LOCATION: ARF (Section 6.1 Binder)

#

6.2 Federal Facility Agreement (FFA)

DOCUMENT NUMBER: PEA (6.2) #1 001-097
LONG TITLE: Federal Facility Agreement under CERCLA Section 120
AUTHOR: EPA; State of New Hampshire; USAF
RECIPIENT: EPA; NHDES; USAF
DATE: 24 April 1991
TYPE: Federal Facility Agreement
SECOND REFERENCE: None
LOCATION: ARF (Section 6.2 Binder)

#

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: (Section 6.2 Binder)

#

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 (Section 6.2 Binder)

#

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 (Section 6.2 Binder)

#

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 (Section 6.2 Binder)

#

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 (Section 6.2 Binder)

#

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 (Section 6.2 Binder)

#

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 Richard Pease, NHDES
DATE:	8 September 1993
TYPE:	FFA Modification
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.2 Binder)

#

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: USAF
RECIPIENT: See Distribution List
DATE: 11 March 1987
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 6.3 Binder)

#

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 (Section 6.3 Binder)

#

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: EPA
RECIPIENT: USAF
DATE: 29 September 1989
TYPE: Letter
SECOND REFERENCE: NPDES
LOCATION: ARF (Section 6.3 Binder)

#

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: USAF
RECIPIENT: See Distribution List
DATE: 21 November 1989
TYPE: Agenda and Meeting Notes
SECOND REFERENCE: None
LOCATION: ARF (Section 6.3 Binder)

#

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: USAF
RECIPIENT: J. Coit & M. Aldrich of Senator Humphrey's Office
DATE: 31 March 1989
TYPE: Letter
SECOND REFERENCE: None
LOCATION: ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER: PEA (6.3) #9 001-003
LONG TITLE: Recommendation to Place Pease AFB on the National Priority List (NPL)
AUTHOR: USAF
RECIPIENT: EPA
DATE: 27 June 1989
TYPE: Letter
SECOND REFERENCE: None
LOCATION: ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER: PEA (6.3) #10 001-004
LONG TITLE: Remedial Project Managers' Meeting Minutes of January 16, 1991
AUTHOR: Arthur Ditto, USAF
RECIPIENT: See Distribution List
DATE: 16 January 1991
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER: PEA (6.3) #11 001-004
LONG TITLE: Remedial Project Managers' Meeting Minutes of February 20, 1991
AUTHOR: Arthur Ditto, USAF
RECIPIENT: See Distribution List
DATE: 20 February 1991
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER: PEA (6.3) #12 001-004
LONG TITLE: Remedial Project Managers' Meeting Minutes
AUTHOR: USAF
RECIPIENT: See Distribution List
DATE: 20 March 1991
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER: PEA (6.3) #13 001-004
LONG TITLE: Remedial Project Managers' Meeting Minutes
AUTHOR: Arthur Ditto, USAF
RECIPIENT: See Distribution List
DATE: 17 April 1991
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER: PEA (6.3) #14 001-003
LONG TITLE: Remedial Project Managers' Meeting Minutes
AUTHOR: Arthur Ditto, USAF
RECIPIENT: See Distribution List
DATE: 21 May 1991
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #16 001-003
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	See Distribution List
DATE:	24 June 1991
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #17 001-003
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	See Distribution List
DATE:	24 July 1991
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #18 001-004
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	See Distribution List
DATE:	21 August 1991
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #19 001-004
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	See Distribution List
DATE:	26 September 1991
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #20 001-004
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	See Distribution List
DATE:	27 October 1991
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #21 001-003
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	See Distribution List
DATE:	20 November 1991
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #22 001-003
LONG TITLE:	Remedial Project Managers' Meeting Minutes of January 27, 1992
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	See Distribution List
DATE:	19 December 1991
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #23 001-003
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	See Distribution List
DATE:	27 January 1992
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #24 001-003
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	See Distribution List
DATE:	25 February 1992
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #25 001-002
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	See Distribution List
DATE:	07 April 1992
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #26 001-004
LONG TITLE:	NH Wetlands Permit for National Priorities List Related Work
AUTHOR:	USAF
RECIPIENT:	NHDES
DATE:	24 April 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #27 001-002
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	USAF
RECIPIENT:	See Distribution List
DATE:	22 April 1992
TYPE:	Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #28 001-008
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	See Distribution List
DATE:	3 June 1992
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #29 001-003
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	See Distribution List
DATE:	21 August 1992
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #30 001-003
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	See Distribution List
DATE:	10 September 1992
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #31 001-002
LONG TITLE:	New Hampshire Sites Where SVE is Used for NAPL Removal
AUTHOR:	John Regan, NHDES
RECIPIENT:	Art Ditto, Pease AFB
	Mike Daly, EPA
	Richard Pease, NHDES
	Scott Doane, NHDES
DATE:	30 September 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #32 001-002
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	See Distribution List
DATE:	20 October 1992
TYPE:	Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

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, EPA Capt. Woerhle, AFCEE
DATE:	22 October 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

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, EPA
DATE:	4 November 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

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 (Section 6.3 Binder); Arthur 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 (Section 6.3 Binder); Arthur 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 (Section 6.3 Binder); Arthur 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 (Section 6.3 Binder); Arthur 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 (Section 6.3 Binder); Arthur 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 (Section 6.3 Binder); Arthur 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, Pease AFB
RECIPIENT:	Johanna Hunter, EPA Richard Pease, NHDES
DATE:	19 January 1993
TYPE:	Transmittal Letter and Quarterly Report
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder); Arthur Ditto's office files

#

DOCUMENT NUMBER:	PEA (6.3) #43 001-E.1
LONG TITLE:	Quarterly Progress Report for Pease AFB
AUTHOR:	Art Ditto, Pease AFB
RECIPIENT:	Johanna Hunter, EPA Region 1 Richard Pease, NHDES
DATE:	26 April 1993
TYPE:	Report
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder); Arthur Ditto's office files

#

DOCUMENT NUMBER:	PEA (6.3) #46 001-002
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, AFBCA
RECIPIENT:	See Distribution List
DATE:	05 April 1994
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

DOCUMENT NUMBER:	PEA (6.3) #47 001-002
LONG TITLE:	Remedial Project Managers' Meeting Minutes
AUTHOR:	Arthur Ditto, AFBCA
RECIPIENT:	See Distribution List
DATE:	31 May 1994
TYPE:	Meeting Minutes
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.3 Binder)

#

6.4 General Correspondence

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:	USAF
DATE:	7 March 1990
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.4 Binder)

#

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
RECIPIENT:	Art Ditto, Pease AFB
DATE:	26 May 1992
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.4 Binder)

#

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)

#

DOCUMENT NUMBER:	PEA (6.4) #10 001-004
LONG TITLE:	Appropriateness of CERCLA Versus State or Other Authorities for Closing Military Installations
AUTHOR:	Robert Varney, Commissioner, NHDES
RECIPIENT:	Carol Browner, Administrator, EPA
DATE:	11 February 1994
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.4 Binder)

#

DOCUMENT NUMBER:	PEA (6.4) #12 001-B.3
LONG TITLE:	Quarterly Progress Report, Period of Performance October, November and December 1993
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	January 1994
TYPE:	Report
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.4 Binder)

#

DOCUMENT NUMBER:	PEA (6.4) #13 001-B.4
LONG TITLE:	Quarterly Progress Report, Period of Performance January, February and March 1994
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	April 1994
TYPE:	Report
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.4 Binder)

#

DOCUMENT NUMBER:	PEA (6.4) #14 001-022
LONG TITLE:	*Pease Air Force Base Installation Restoration Program January 13, 1994 Informal Dispute Resolution Meeting - Final Minutes*
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, AFBCA Michael Daly, EPA
DATE:	16 March 1994
TYPE:	Letter with Meeting Minutes Attached
SECOND REFERENCE:	Section 10.1
LOCATION:	ARF (Section 6.4 Binder)

#

DOCUMENT NUMBER:	PEA (6.4) #18 001-064
LONG TITLE:	Quarterly Progress Report, Period of Performance: Calendar Months April, May, and June 1994
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	July 1994
TYPE:	Report
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.4 Binder)

#

DOCUMENT NUMBER:	PEA (6.4) #19 001-022
LONG TITLE:	Quarterly Progress Report, Period of Performance: Calendar Months October, November, and December 1994
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	February 1995
TYPE:	Report
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.4 Binder)

#

DOCUMENT NUMBER:	PEA (6.4) #20 001-003
LONG TITLE:	Pease Air Force Base, Standard Operating Procedure for Well Abandonment
AUTHOR:	John Regan, NHDES
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	13 January 1995
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.4 Binder)

#

DOCUMENT NUMBER:	PEA (6.4) #22 001-004
LONG TITLE:	Background Contamination
AUTHOR:	Arthur Ditto, AFBCA
RECIPIENT:	Richard Pease, NHDES
DATE:	30 January 1995
TYPE:	Letter with attachment
SECOND REFERENCE:	None
LOCATION:	ARF (Section 6.4 Binder)

#

DOCUMENT NUMBER:	PEA (6.4) #23 001-001
LONG TITLE:	DDT Sediment Evaluation Report
AUTHOR:	Arthur Ditto, AFBCA
RECIPIENT:	Richard Pease, NHDES
DATE:	30 January 1995
TYPE:	Letter
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 (Section 7.3 Binder)

#

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 ENTIRES 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

*NOTE: NO ENTRIES IN THIS SECTIN AT THIS TIME.

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

#

8.3 General Correspondence

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

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

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

9.4 General Correspondence

DOCUMENT NUMBER:	PEA (9.4) #2 001-002
LONG TITLE:	Trustees for Natural Resources
AUTHOR:	Arthur Ditto, AFBCA/OL-A
RECIPIENT:	AFBCA/NE
DATE:	20 May 1994
TYPE:	Letter with Attachment
SECOND REFERENCE:	None
LOCATION:	ARF (Section 9.4 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #1 001-005
LONG TITLE: Response to Comments - Draft Final Community Relations Plan
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 7 February 1991
TYPE: Letter/Response to Comments
SECOND REFERENCE: PEA (10.2)
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #2 001-003
LONG TITLE: Draft Community Relations Plan Comments
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, USAF
DATE: 30 November 1990
TYPE: Letter Comment Report
SECOND REFERENCE: PEA (10.2)
LOCATION: ARF (Section 10.1 Binder)

#

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, EPA
RECIPIENT: Arthur Ditto, USAF
DATE: 7 December 1990
TYPE: Letter Comment Report
SECOND REFERENCE: PEA (10.2)
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #4 001-011
LONG TITLE: EPA Comments on Pease AFB Community Relations Plan with Air Force's Responses
AUTHOR: Unknown (From Air Force)
RECIPIENT: USAF
DATE: January 1991
TYPE: Comment Report
SECOND REFERENCE: PEA (10.2)
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #5 001-004
LONG TITLE: NHDES Comments on Pease AFB Community Relations Plan with Air Force Responses
AUTHOR: Unknown (From Air Force)
RECIPIENT: USAF
DATE: January 1991
TYPE: Comment Report
SECOND REFERENCE: PEA (10.2)
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #6 001-002
LONG TITLE: Review of Draft (Revised) Final Report IRP Community Relations Plan
AUTHOR: Johanna Hunter, EPA
RECIPIENT: Arthur Ditto, USAF
DATE: 25 March 1991
TYPE: Letter
SECOND REFERENCE: PEA (10.2)
LOCATION: ARF (Section 10.1 Binder)
#

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 (Section 10.1 Binder)
#

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 (Section 10.1 Binder)
#

DOCUMENT NUMBER: PEA (10.1) #12 001-003
LONG TITLE: Review Comments for Stage 4 Work Plan Addendum Number 2
AUTHOR: Richard H. Pease, NHDES
RECIPIENT: Arthur Ditto, USAF
DATE: 08 May 1992
TYPE: Letter
SECOND REFERENCE: PEA (3.3)
LOCATION: ARF (Section 10.1 Binder)
#

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, EPA
RECIPIENT: Arthur Ditto, USAF
DATE: 14 May 1992
TYPE: Transmittal Sheet, Letter and Comment Report
SECOND REFERENCE: PEA (3.1); PEA (3.3)
LOCATION: ARF (Section 10.1 Binder)
#

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 Daly, EPA
Federal Facilities Superfund Section
RECIPIENT: Arthur Ditto, USAF
DATE: 14 May 1992
TYPE: Letter with Comment Report
SECOND REFERENCE: PEA (3.1); PEA (3.3)
LOCATION: ARF (Section 10.1 Binder)
#

DOCUMENT NUMBER: PEA (10.1) #24 001-003
LONG TITLE: Comments on Haven Pump Test Design and Piezometer Installations
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, Pease AFB
DATE: 7 August 1992
TYPE: Comments
SECOND REFERENCE: PEA (6.3); Haven Well
LOCATION: ARF (Section 10.1 Binder)
#

DOCUMENT NUMBER: PEA (10.1) #26 001-002
LONG TITLE: Haven Well Pump Test at Pease Air Force Base, NH
AUTHOR: Johanna Hunter, EPA
RECIPIENT: Arthur Ditto, Pease AFB
DATE: 11 August 1992
TYPE: Comments
SECOND REFERENCE: Haven Well
LOCATION: ARF (Section 10.1 Binder)
#

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 (Section 10.1 Binder)
#

DOCUMENT NUMBER: PEA (10.1) #28 001-006
LONG TITLE: Haven Well Test Response to Comments
AUTHOR: James G. Spratt, Roy F. Weston, Inc.
RECIPIENT: Mark McKenzie, Pease AFB
DATE: 17 August 1992
TYPE: Response to Comments
SECOND REFERENCE: Haven Well
LOCATION: ARF (Section 10.1 Binder)
#

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, USAF
RECIPIENT:	Johanna Hunter, EPA
	Richard Pease, NHDES
DATE:	3 November 1992
TYPE:	Response to Comments
SECOND REFERENCE:	PEA (3.3); PEA (3.1)
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #42 001-003
LONG TITLE:	Comments on Pease Off-Base Well Inventory Letter Report
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, USAF
DATE:	12 November 1992
TYPE:	Comments
SECOND REFERENCE:	Zone 2; Zone 5; Site 8
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #44 001-002
LONG TITLE:	Review of Stage 4 Sampling and Analysis Plan Addendum 3, Pease AFB
AUTHOR:	Michael Daly; EPA
RECIPIENT:	Arthur Ditto, USAF
DATE:	23 November 1992
TYPE:	Comments
SECOND REFERENCE:	None
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #105 001-D.3
LONG TITLE:	Pease AFB Response to NHDES and EPA Comments on the Zones 6 and 7 Site Inspection Report
AUTHOR:	USAF
RECIPIENT:	EPA
	NHDES
DATE:	30 November 1993
TYPE:	Response to Comments
SECOND REFERENCE:	Zone 6; Zone 7
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #106 001-013
LONG TITLE:	Response to EPA Comments on the Draft Zone 7 (OJETS) RI/FS Report
AUTHOR:	USAF
RECIPIENT:	EPA
DATE:	17 December 1993
TYPE:	Response to Comments
SECOND REFERENCE:	Zone 7
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) #122 001-003
LONG TITLE:	General Review of September 1993 Draft Remedial Investigation/Feasibility Study, Zone 7, Pease AFB, NH
AUTHOR:	Fred Price, MITRE Corporation
RECIPIENT:	Major Charles Howell, AFCEE
DATE:	21 October 1993
TYPE:	Letter
SECOND REFERENCE:	Zone 7
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #123 001-009
LONG TITLE:	Review of the Air Force Installation Restoration Program Draft Zone 7 Remedial Investigation/Feasibility Study Report, Pease AFB, NH
AUTHOR:	EPA
RECIPIENT:	USAF
DATE:	4 November 1993
TYPE:	Letter with Attachment
SECOND REFERENCE:	Zone 7
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #124 001-008
LONG TITLE:	Pease AFB Zone 7 Draft Remedial Investigation/Feasibility Study Review Comments
AUTHOR:	NHDES
RECIPIENT:	USAF
DATE:	5 November 1993
TYPE:	Letter
SECOND REFERENCE:	Zone 7
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #144 001-004
LONG TITLE:	Review Comments, Old Jet Engine Test Stand, Draft Final Remedial Investigation/Feasibility Study, December 1993
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	22 February 1994
TYPE:	Review Comments
SECOND REFERENCE:	Zone 7, Old Jet Engine Test Stand; Section 3.5; Section 4.2
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #154 001-001
LONG TITLE:	Response to EPA Comments and Additional Responses to NHDES Comments on the Basewide Interim Monitoring Plan
AUTHOR:	Mark McKenzie, AFBCA
RECIPIENT:	Richard Pease, NHDES Mike Daly, EPA
DATE:	21 June 1994
TYPE:	Response to Comments
SECOND REFERENCE:	None
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #155 001-019
LONG TITLE:	Air Force Response to Comments
AUTHOR:	USAF
RECIPIENT:	EPA NHDES
DATE:	26 August 1994
TYPE:	Response to Comments
SECOND REFERENCE:	None
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #161 001-006
LONG TITLE:	Response to EPA and NHDES Comments on the Basewide Interim Monitoring Plan
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	16 June 1994
TYPE:	Response to Comments
SECOND REFERENCE:	PEA (3.5) #123 001-E.34; PEA (3.5) #124 001-007
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #162 001-002
LONG TITLE:	Pease AFB Installation Restoration Program Zone 7 OJETS Work Plan Comments
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	23 June 1994
TYPE:	Comments
SECOND REFERENCE:	Zone 7
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #166 001-012
LONG TITLE:	Pease AFB Basewide Interim Monitoring Plan, Response to Air Force June 21, 1994 Letter
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	21 July 1994
TYPE:	Comments
SECOND REFERENCE:	PEA (3.5) #121 001-007
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #167 001-003
LONG TITLE: Regional Groundwater Flow Model
AUTHOR: John M. Regan, NHDES
RECIPIENT: Arthur Ditto, AFBCA
DATE: 22 July 1994
TYPE: Comments
SECOND REFERENCE: Zone 3; Haven Well; Harrison Well; Smith Well
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #175 001-001
LONG TITLE: Response to Comments for the OJETS Treatability Study
AUTHOR: Mark McKenzie, AFBCA
RECIPIENT: Richard Pease, NHDES
DATE: 25 August 1994
TYPE: Response to Comments
SECOND REFERENCE: OJETS
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #189 001-022
LONG TITLE: Response to NHDES Comments on the Air Force's 21 June 1994 Letter Responding to NHDES 23 March 1994 Comments on the Pease AFB Basewide Interim Monitoring Plan
AUTHOR: USAF
RECIPIENT: NHDES
DATE: 07 December 1994
TYPE: Response to Comments
SECOND REFERENCE: PEA (3.5) #121 001-007; PEA (3.5) #123 001-E.34; PEA (3.5) #124 001-007; PEA (10.1) #161 001-006; PEA (10.1) #166 001-012
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #191 001-001
LONG TITLE: EPA's Comments on the Draft Final RI/FS Report for Old Jet Engine Test Stand and Zone 2, Pease AFB, NH
AUTHOR: Andrew Miniuks, EPA
RECIPIENT: Arthur Ditto, AFBCA
DATE: 10 January 1995
TYPE: Comments
SECOND REFERENCE: Zone 2; OJETS
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #192 001-003
LONG TITLE: DDT Sediment Evaluation Report for Pease AFB, NH – Comments
AUTHOR: Mike Daly, EPA
RECIPIENT: Arthur Ditto, AFBCA
DATE: 11 January 1995
TYPE: Comments
SECOND REFERENCE: None
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #193 001-005
LONG TITLE:	DDT Sediment Evaluation Report Review Comments
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	12 January 1995
TYPE:	Comments
SECOND REFERENCE:	None
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #194 001-5.2
LONG TITLE:	Sediment Bioassay and Hardness Letter Reports Evaluation Review Comments
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	12 January 1995
TYPE:	Comments
SECOND REFERENCE:	Zone 3; PEA (3.5) #120 001-008; PEA (11.1)
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #222 001-003
LONG TITLE:	EPA's Comments on the Draft Final Proposed Plan for the Old Jet Engine Test Stand, Pease Air Force Base, Newington, New Hampshire
AUTHOR:	Mike Daly, EPA
RECIPEINT:	Arthur Ditto, AFBCA
DATE:	01 March 1995
TYPE:	Letter with attachment
SECOND REFERENCE:	Zone 7; PEA (10.1)
LOCATION:	ARF (Section 4.3 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #206 001-003
LONG TITLE:	Draft Proposed Plan; Site 45 - Old Jet Engine Test Stand, March 1994 DES Review Comments
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	09 May 1994
TYPE:	Comments
SECOND REFERENCE:	Site 45; PEA (4.3)
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #222 001-003
LONG TITLE:	EPA's Comments on the Draft Final Proposed Plan for the Old Jet Engine Test Stand, Pease Air Force Base, New Hampshire
AUTHOR:	Michael Daly, EPA
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	01 March 1995
TYPE:	Comments
SECOND REFERENCE:	Zone 7; PEA (4.3)
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #230 001-002
LONG TITLE:	Pease Air Force Base, Old Jet Engine Test Stand (OJETS) Feasibility Study Supplement, March 1995; DES Review Comments
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	20 April 1995
TYPE:	Comments
SECOND REFERENCE:	Site 45; PEA (4.2)
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #231 001-003
LONG TITLE:	Pease AFB, Old Jet Engine Test Stand (OJETS) Treatibility Study Letter Report, February 1995: DES Review Comments
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	24 April 1995
TYPE:	Comments
SECOND REFERENCE:	Site 45; PEA (4.2)
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #234 0012
LONG TITLE:	Review of the Draft Record of Decision for Site 45, Old Jet Engine Test Stand and Review of the Draft Record of Decision for Zone 2
AUTHOR:	Christine S. Beling, EPA Region I
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	28 April 1995
TYPE:	Letter
SECOND REFERENCE:	Site 45; Zone 2; PEA (5.1) #8 001-D; PEA (5.1) #7 001-D
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #235 001-003
LONG TITLE:	Pease AFB, Old Jet Engine Test Stand (OJETS), Site 45, Draft Record of Decision, March 1995
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	2 May 1995
TYPE:	Comments
SECOND REFERENCE:	Site 45; PEA (5.1) #7 001-D
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER:	PEA (10.1) #237 001-011
LONG TITLE:	Review Comments on Draft Record of Decision for Site 45, Old Jet Engine Test Stand and Review Comments on Draft Record of Decision for Zone 2
AUTHOR:	Christine Beling, EPA Region I
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	8 May 1995
TYPE:	Comments
SECOND REFERENCE:	Zone 2; Site 45; PEA (5.1) #7 001-D; PEA (5.1) #8 001-D
LOCATION:	ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #244 001-005
LONG TITLE: Review Comments on Draft Final RODs for Site 45 and Zone 2
AUTHOR: Christine Beling, EPA Region I
RECIPIENT: Arthur Ditto, AFBCA
DATE: 20 June 1995
TYPE: Comments
SECOND REFERENCE: Site 45, Zone 2; PEA (5.1)
LOCATION: ARF (Section 10.1 Binder)

#

DOCUMENT NUMBER: PEA (10.1) #245 001-002
LONG TITLE: Review Comments on Draft Final ROD for Site 45
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, AFBCA
DATE: 27 June 1995
TYPE: Comments
SECOND REFERENCE: Site 45, PEA (5.1)
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 i-L.1
LONG TITLE: Pease Air Force Base Installation Restoration Program Revised Community Relations Plan
AUTHOR: Dynamac Corporation
230 Peachtree St., N.W., Ste. 700
Atlanta, GA 30303
RECIPIENT: USAF
DATE: October 1994
TYPE: Community Relations Plan
SECOND REFERENCE: None
LOCATION: ARF

#

10.3 Public Notices

DOCUMENT NUMBER: PEA (10.3) #14 001-001
LONG TITLE: Paid Advertisement in *Foster's Daily Democrat* Announcing the Public Hearing and Comment Period for the Site 45 and Zone 2 Proposed Plans
AUTHOR: Arthur Ditto, AFBCA
RECIPIENT: Local Communities via *Foster's Daily Democrat*; Public
DATE: 08 April 1995
TYPE: Public notice
SECOND REFERENCE: Zone 2; Site 45; PEA (5.1)
LOCATION: ARF (Section 10.3 Binder)

#

DOCUMENT NUMBER:	PEA (10.3) #15 001-001
LONG TITLE:	Paid Advertisement in the *Portsmouth Herald* Announcing the Public Hearing and Comment Period for the Site 45 and Zone 2 Proposed Plans
AUTHOR:	Arthur Ditto, AFBCA
RECIPIENT:	Local Communities via the *Portsmouth Herald*; Public
DATE:	09 April 1995
TYPE:	Public notice
SECOND REFERENCE:	Zone 2; Site 45; PEA (5.1)
LOCATION:	ARF (Section 10.3 Binder)

#

10.4 Public Meeting Transcripts

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
RECIPIENT:	USAF
DATE:	12 January 1993
TYPE:	Meeting Summary
SECOND REFERENCE:	None
LOCATION:	IR

#

DOCUMENT NUMBER:	PEA (10.4) #14 001-037
LONG TITLE:	Pease AFB Official Transcript of Public Hearing for Proposed Plans for Zone 2 and Site 45
AUTHOR:	APEX Reporting
RECIPIENT:	USAF
DATE:	11 April 1993
TYPE:	Transcript
SECOND REFERENCE:	Zone 2 (Site 45)
LOCATION:	ARF (Zone 2 Shelf)

#

DOCUMENT NUMBER:	PEA (10.4) #15 001-Tab #6
LONG TITLE:	Summary of Pease AFB Public Hearings on Proposed Plans for Zone 2 and Site 45
AUTHOR:	Dynamac Corporation
RECIPIENT:	USAF
DATE:	11 April 1995
TYPE:	Hearing Summary Report
SECOND REFERENCE:	Zone 2 (Site 45)
LOCATION:	ARF (Zone 2 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:	USAF
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:	USAF
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:	USAF
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:	USAF
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:	USAF
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:	USAF
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:	USAF
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:	USAF
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: USAF
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: USAF
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: USAF
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: USAF
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:	ARF (Section 10.5 Binder)

#

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)

#

DOCUMENT NUMBER: PEA (10.5) #40 001-001
LONG TITLE: January 13, 1994, Informal Dispute Resolution Meeting - Final Minutes
AUTHOR: Arthur Ditto, AFBCA/OL-A
RECIPIENT: AFBCA/NE
DATE: 11 April 1994
TYPE: Memorandum
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #41 001-013
LONG TITLE: Meeting Minutes of Technical Review Committee/Restoration Advisory Board
AUTHOR: USAF
RECIPIENT: TRC/RAB Distribution List
DATE: 5 May 1994
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #42 001-004
LONG TITLE: Meeting Minutes of Technical Review Committee/Restoration Advisory Board
AUTHOR: USAF
RECIPIENT: TRC/RAB Distribution List
DATE: 28 June 1994
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #43 001-013
LONG TITLE: Meeting Minutes of Technical Review Committee/Restoration Advisory Board
AUTHOR: USAF
RECIPIENT: TRC/RAB Distribution List
DATE: 26 July 1994
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #44 001-006
LONG TITLE: Meeting Minutes of Technical Review Committee/Restoration Advisory Board
AUTHOR: USAF
RECIPIENT: TRC/RAB Distribution List
DATE: 30 August 1994
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #45 001-011
LONG TITLE: Meeting Minutes of Technical Review Committee/Restoration Advisory Board
AUTHOR: USAF
RECIPIENT: TRC/RAB Distribution List
DATE: 04 October 1994
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #46 001-010
LONG TITLE: Pease Air Force Base Restoration Advisory Board/Technical Review Committee Meeting Minutes
AUTHOR: USAF
RECIPIENT: TRC/RAB Distribution List
DATE: 07 February 1995
TYPE: Meeting Minutes
SECOND REFERENCE: None
LOCATION: ARF (Section 10.5 Binder)

#

DOCUMENT NUMBER: PEA (10.5) #47 001-001
LONG TITLE: Pease Air Force Base Restoration Advisory Board/Technical Review Committee Meeting Cancellation Notice
AUTHOR: Arthur Ditto, AFBCA
RECIPIENT: TRC/RAB Distribution List
DATE: 28 February 1995
TYPE: Letter
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: USAF
RECIPIENT: Media
DATE: 30 September 1987
TYPE: News Release
SECOND REFERENCE: None
LOCATION: ARF (Section 10.6 Binder)

#

DOCUMENT NUMBER: PEA (10.6) #5 001-004
LONG TITLE: News Release Regarding Off-Base Well Water Sampling Results
AUTHOR: USAF
RECIPIENT: Media
DATE: 7 June 1989
TYPE: News Release
SECOND REFERENCE: None
LOCATION: ARF (Section 10.6 Binder)

#

DOCUMENT NUMBER: PEA (10.6) #7 001-003
LONG TITLE: Superfund Program Draft Interagency Agreement Fact Sheet
AUTHOR: EPA, Region I
RECIPIENT: See Mailing List
DATE: December 1990
TYPE: Fact Sheet
SECOND REFERENCE: PEA (6.2)
LOCATION: ARF (Section 10.6 Binder), IR

#

DOCUMENT NUMBER: PEA (10.6) #8 001-008
LONG TITLE: Pease Air Force Base Installation Restoration Program Update: Remedial Investigation/Feasibility Study Fact Sheet
AUTHOR: USAF
RECIPIENT: 1991 Mailing List
DATE: October 1991
TYPE: Fact Sheet
SECOND REFERENCE: None
LOCATION: ARF (Section 10.6 Binder), IR

#

DOCUMENT NUMBER: PEA (10.6) #9 001-011
LONG TITLE: Pease Air Force Base Installation Restoration Program Update Fact Sheet
AUTHOR: USAF
RECIPIENT: 1992 Mailing List
DATE: December 1992
TYPE: Fact Sheet
SECOND REFERENCE: None
LOCATION: ARF (Section 10.6 Binder), IR

#

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

#

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: Quarterly Newsletter
SECOND REFERENCE: None
LOCATION: ARF (Section 10.6 Binder), IR

#

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), IR

#

DOCUMENT NUMBER: PEA (10.6) #27 001-006
LONG TITLE: Pease AFB *Environmental Reporter*, Volume 1, No. 3
AUTHOR: USAF
RECIPIENT: Mailing List
DATE: August 1994
TYPE: Newsletter
SECOND REFERENCE: None
LOCATION: ARF (Section 10.6 Binder), IR

#

DOCUMENT NUMBER: PEA (10.6) #30 001-006
LONG TITLE: Pease AFB *Environmental Reporter* Volume 1, No. 4
AUTHOR: USAF
RECIPIENT: See Mailing List
DATE: December 1994
TYPE: Newsletter
SECOND REFERENCE: None
LOCATION: ARF (Section 10.6 Binder); IR

#

DOCUMENT NUMBER: PEA (10.6) #33 001-004
LONG TITLE: Pease AFB Installation Restoration Program Update Fact Sheet – Proposed Plan for Site 45
AUTHOR: USAF
RECIPIENT: See Mailing List
DATE: March 1995
TYPE: Fact Sheet
SECOND REFERENCE: Site 45
LOCATION: ARF (Section 10.6 Binder); IR

#

DOCUMENT NUMBER: PEA (10.6) #34 001-001
LONG TITLE: Pease AFB Public Hearing and Comment Period Announcement for the Proposed Plans for Zone 2 and Site 45
AUTHOR: USAF
RECIPIENT: See Mailing List
DATE: March 1995
TYPE: Public Hearing Announcement
SECOND REFERENCE: Zone 2; Site 45
LOCATION: ARF (Section 10.6 Binder); IR

#

10.7 Responsiveness Summary

DOCUMENT NUMBER: PEA (10.7) #6 001-003
LONG TITLE: Site 45 Responsiveness Summary
AUTHOR: Arthur Ditto, AFBCA
RECIPIENT: Mike Daly, EPA
Richard Pease, NHDES
Site 45 ROD
DATE: May 1995
TYPE: Responsiveness Summary
SECOND REFERENCE: Site 45
LOCATION: ARF (Section 10.7 Binder)

#

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 (Section 10.10 Binder)

#

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 (Section 10.10 Binder)

#

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, EPA
RECIPIENT:	Karen Cowden, Roy F. Weston, Inc.
DATE:	19 June 1990
TYPE:	Letter
SECOND REFERENCE:	PEA (10.2)
LOCATION:	ARF (Section 10.10 Binder)

#

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, EPA
RECIPIENT:	Col. James R. Wilson, Pease AFB
DATE:	27 August 1990
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 10.10 Binder)

#

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, EPA
DATE: 11 October 1990
TYPE: Letter
SECOND REFERENCE: None
LOCATION: ARF (Section 10.10 Binder)

#

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

#

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 (Section 10.10 Binder)

#

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

#

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 (Section 10.10 Binder)

#

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 (Section 10.10 Binder)

#

DOCUMENT NUMBER:	PEA (10.10) #12 001-001
LONG TITLE:	Submittal of Draft Final Primary Documents
AUTHOR:	USAF
RECIPIENT:	Johanna Hunter, EPA
DATE:	5 February 1991
TYPE:	Letter
SECOND REFERENCE:	PEA (3.1); PEA (3.3)
LOCATION:	ARF (Section 10.10 Binder)

#

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

#

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 (Section 10.10 Binder)

#

DOCUMENT NUMBER:	PEA (10.10) #33 001-001
LONG TITLE:	Site 45 (OJETS) Draft Proposed Plan
AUTHOR:	Arthur Ditto, AFBCA
RECIPIENT:	Ronald Gehl, SCOPE Technical Advisor
DATE:	30 March 1994
TYPE:	Letter
SECOND REFERENCE:	Site 45, Section 4.3
LOCATION:	ARF (Section 10.10 Binder)

#

DOCUMENT NUMBER:	PEA (10.10) #35 001-001
LONG TITLE:	Draft Final Community Relations Plan
AUTHOR:	USAF
RECIPIENT:	EPA NHDES
DATE:	13 July 1994
TYPE:	Letter
SECOND REFERENCE:	PEA (10.2) #3
LOCATION:	ARF (Section 10.10 Binder)

#

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: EPA
RECIPIENT: USAF
DATE: 14 July 1992
TYPE: Guidance
SECOND REFERENCE: None
LOCATION: ARF (Section 11.1 Binder)

#

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: Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto's Office

#

DOCUMENT NUMBER: PEA (11.1) #7 001-I.13
LONG TITLE: Community Relations in Superfund: A Handbook
AUTHOR: Office of Emergency and Remedial Response, EPA, Washington, DC (EPA/540/R-92/009)
RECIPIENT: USAF
DATE: January 1992
TYPE: Guidance
SECOND REFERENCE: PEA (10.0)
LOCATION: Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto'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:	Arthur Ditto'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:	Arthur Ditto'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:	Arthur Ditto'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:	Arthur Ditto'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:	Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto'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:	Arthur Ditto'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:	Arthur Ditto's Office

#

DOCUMENT NUMBER:	PEA (11.1) #25 001-A.20
LONG TITLE:	CERCLA Compliance with Other Laws Manual: Interim Final
AUTHOR:	USEPA, Office of Emergency and Remedial Response, Washington, D.C.
RECIPIENT:	USAF
DATE:	August 1988
TYPE:	Guidance
SECOND REFERENCE:	None
LOCATION:	Arthur Ditto's Office

#

DOCUMENT NUMBER:	PEA (11.1) #26 001-A.6
LONG TITLE:	Ecological Assessments of Hazardous Waste Sites: A Field and Laboratory Reference Document
AUTHOR:	USEPA, Office of Research and Development, Washington, D.C.
RECIPIENT:	USAF
DATE:	March 1989
TYPE:	Guidance
SECOND REFERENCE:	None
LOCATION:	Arthur Ditto's Office

#

DOCUMENT NUMBER:	PEA (11.1) #27 001-E.8
LONG TITLE:	Guidance for Performing Site Inspections Under CERCLA
AUTHOR:	USEPA, Office of Emergency and Remedial Response, Washington, D.C.
RECIPIENT:	USAF
DATE:	September 1992
TYPE:	Guidance
SECOND REFERENCE:	None
LOCATION:	Arthur Ditto's Office

#

DOCUMENT NUMBER:	PEA (11.1) #28 001-E.11
LONG TITLE:	Guidance for Performing Preliminary Assessments Under CERCLA
AUTHOR:	USEPA, Office of Emergency and Remedial Response, Washington, D.C.
RECIPIENT:	USAF
DATE:	September 1991
TYPE:	Guidance
SECOND REFERENCE:	None
LOCATION:	Arthur Ditto's Office

#

DOCUMENT NUMBER:	PEA (11.1) #29 001-A.57
LONG TITLE:	Hazard Ranking System Guidance Manual
AUTHOR:	USEPA, Office of Solid Waste and Emergency Response
RECIPIENT:	USAF
DATE:	November 1992
TYPE:	Guidance
SECOND REFERENCE:	None
LOCATION:	Arthur Ditto's Office

#

DOCUMENT NUMBER:	PEA (11.1) #30 51532-51667
LONG TITLE:	Federal Register: Part II, Environmental Protection Agency 40 CFR Part 300, Hazard Ranking System Final Rule
AUTHOR:	USEPA
RECIPIENT:	USAF
DATE:	14 December 1990
TYPE:	Guidance
SECOND REFERENCE:	None
LOCATION:	Arthur Ditto's Office

#

DOCUMENT NUMBER:	PEA (11.1) #31 001-054
LONG TITLE:	Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals)
AUTHOR:	USEPA, Office of Research and Development
RECIPIENT:	USAF
DATE:	December 1991
TYPE:	Guidance
SECOND REFERENCE:	None
LOCATION:	Arthur Ditto's Office

#

DOCUMENT NUMBER:	PEA (11.1) #32 001-065
LONG TITLE:	Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part C, Risk Evaluation of Remediation Alternatives)
AUTHOR:	USEPA, Office of Research and Development
RECIPIENT:	USAF
DATE:	December 1991
TYPE:	Guidance
SECOND REFERENCE:	None
LOCATION:	Arthur Ditto's Office

#

DOCUMENT NUMBER: PEA (11.1) #33 8813-8865
LONG TITLE: Federal Register: Part II, Environmental Protection Agency 40 CFR Part 300, National Oil and Hazardous Substance Pollution Contingency Plan Final Rule
AUTHOR: EPA
RECIPIENT: USAF
DATE: 08 March 1990
TYPE: Guidance
SECOND REFERENCE: None
LOCATION: *Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto'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 (Section 11.3 Binder)

#

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:	Arthur Ditto'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:	Arthur Ditto'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:	Arthur Ditto's Office

#

DOCUMENT NUMBER:	PEA (11.3) #7 001-017
LONG TITLE:	List of Standards and Advisory Levels Used by New Hampshire Division of Public Health Services to Evaluate Drinking Water Quality
AUTHOR:	New Hampshire Department of Health and Human Services, Division of Public Health Services
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	7 January 1993
TYPE:	Guidance
SECOND REFERENCE:	None
LOCATION:	ARF (Section 11.3 Binder)

#

DOCUMENT NUMBER:	PEA (11.3) #8 001-039
LONG TITLE:	New Hampshire Code of Administrative Rules, Part Evn-A 1121
AUTHOR:	State of New Hampshire
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	12 August 1994
TYPE:	Guidance
SECOND REFERENCE:	None
LOCATION:	ARF (Section 11.3 Binder)

#

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

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 (Section 11.4 Binder)
#

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 (Section 11.4 Binder)
#

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 (Section 11.4 Binder)
#

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 (Section 11.4 Binder)
#

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 (Section 11.4 Binder)

#

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 (Section 11.4 Binder)

#

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 (Section 11.4 Binder)

#

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 Laboratory Technical Services Division
RECIPIENT: Pease AFB
DATE: May 1989
TYPE: Handbook
SECOND REFERENCE: None
LOCATION: Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto's Office

#

DOCUMENT NUMBER: PEA (11.4) #12 001-IX.A1.3
LONG TITLE: Recommended Sampling Procedures
AUTHOR: Air Force Occupational and Environmental Health Laboratory
RECIPIENT: Pease AFB
DATE: March 1989
TYPE: Guidance
SECOND REFERENCE: None
LOCATION: Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto'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: Arthur Ditto'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; USAF
DATE: 8 March 1991
TYPE: Letter Report
SECOND REFERENCE: None
LOCATION: ARF (Section 11.6 Binder)

#

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; USAF
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; USAF
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:	USAF
RECIPIENT:	NHDES
DATE:	14 August 1990
TYPE:	Procedures
SECOND REFERENCE:	None
LOCATION:	ARF (Section 11.6 Binder)

#

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:	USAF
RECIPIENT:	EPA
DATE:	20 March 1991
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 11.7 Binder)

#

DOCUMENT NUMBER:	PEA (11.7) #2 001-002
LONG TITLE:	Letter Concerning Use of Drilling Mud
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	26 December 1990
TYPE:	Letter
SECOND REFERENCE:	None
LOCATION:	ARF (Section 11.7 Binder)

#

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

#

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 (Section 11.7 Binder)

#

12.1 *Privileged Documents (Extractions)*

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