EPA/ROD/R01-95/110
1995

EPA Superfund
Record of Decision:

PEASE AIR FORCE BASE
EPA ID: NH7570024847
OU 06
PORTSMOUTH/NEWINGTON, NH
09/18/1995

<IMG SRC 0195110>

Record of Decision
Zone 2
Pease Air Force Base, New Hampshire

September 1995

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DECLARATION

SITE NAME AND LOCATION

Pease Air Force Base (AFB), Zone 2, New Hampshire

STATEMENT OF BASIS AND PURPOSE

This decision document presents a selected remedial action designed to protect human and ecological receptors at Zone 2, Pease AFB, New Hampshire. Zone 2 includes the following six sites: Site 1 (Landfill 1 or LF-1), Site 7 (Fire Department Training Area 1 or FDTA-1), Site 10 (Leaded Fuel Tank Sludge Area or LFTS), Site 22 (Burn Area 1 or BA-1), Site 37 (Burn Area 2 or BA-2), and Site 43 (McIntyre Road Drum Disposal Area or MRDDA). Site 24 (Peverly Ponds and Bass Pond) also is addressed as part of the Zone 2 action. 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). Through this document, the Air Force plans to remedy the threat to human health, human welfare, or the environment posed by contamination at BA-1 in Zone 2. This decision is based on the Administrative Record for the site. The Administrative Record for the site is located at the Information Repository in Building 43 (61 International Drive) at Pease International Tradeport (formerly Pease AFB). The Administrative Record Index as it applies to Zone 2 is provided in Appendix E. The State of New Hampshire Department of Environmental Services (NHDES) concurs with the selected remedy.

DESCRIPTION OF THE SELECTED REMEDY

This action addresses the principal threat posed by leaching of contaminants to groundwater at BA-1 and the associated groundwater contaminant plumes [discussed as groundwater operable units (OUs)] that encompass the LFTS/BA-1/MRDDA and BA-2 Areas of Concern (AOCs). 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 includes in situ treatment of BA-1 source area light, nonaqueous-phase liquids (LNAPLs) and residual LNAPL with enhancement of soil vapor extraction (SVE) by air sparging, which involves injection of air below the water table. Extracted soil vapor will be treated for removal of volatile organic compounds (VOCs). The remedy selected for BA-1 addresses the groundwater plumes associated with zonewide groundwater contamination. The selected remedy also includes establishment of institutional controls restricting future use of Zone 2 groundwater, including a Groundwater Management Zone (GMZ) and performance of long-term monitoring. The selected remedy for Zone 2 also includes natural attenuation of groundwater contamination. No action is proposed for source control under CERCLA for LF-1, FDTA-1, LFTS, BA-2, and MRDDA. In a separate action that is not part of this ROD, the Air Force will perform final closure of LF-1 in a non-CERCLA action under state law. As part of the selected remedy for BA-1, surface water, sediment, and fish tissue sampling will be conducted at the Peverly Ponds and Bass Pond, although BA-1 is not considered a source of surface water and sediment contamination. The reuse for the portion of Zone 2 located east of McIntyre Road will be under the jurisdiction of the Pease Development Authority (PDA) to support airport operations. Reuse of the portion of Zone 2 west of McIntyre Road will be under the jurisdiction of the U.S. Fish and Wildlife Service to support a National Wildlife Refuge.

STATUTORY DETERMINATIONS

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. This 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, the U.S. Environmental Protection Agency (EPA), and NHDES no less than 5 years after implementation to ensure that the remedy provided adequate protection of human health and the environment.

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

Concur and recommended for immediate implementation:

U.S. Air Force

<IMG SRC 0195110A>
By:_____ Date:_____
Alan K. Olsen
Director, Air Force Base Conversion Agency

U.S. Environmental Protection Agency

<IMG SRC 0195110B>
By:_____ Date:_____
Linda M. Murphy
Director, Waste Management Division

I. SITE NAME, LOCATION, AND DESCRIPTION

Pease Air Force Base (AFB) is included on the federal National Priorities List (NPL). Based on Remedial Investigations and Feasibility Studies (RI/FSs) conducted at Pease AFB, a number of sites were identified which require remedial actions to address sources of contamination to the environment. This Record of Decision (ROD) addresses contamination at six sites within Installation Restoration Program (IRP) Zone 2, which is located northwest of the runway at Pease AFB (Figure 1). Zone 2 is bordered by the runway to the east/northeast, and the Peverly Pond System to the west. The six sites include: Site 1 (Landfill 1 or LF-1), Site 7 (Fire Department Training Area 1 or FDTA-1), Site 10 (Leaded Fuel Tank Sludge Area or LFTS), Site 22 (Burn Area 1 or BA-1), Site 37 (Burn Area 2 or BA-2), and Site 43 (McIntyre Road Drum Disposal Area or MRDDA). Site 24 (Peverly Ponds and Bass Pond) is also addressed as part of the Zone 2 action. In addition, groundwater flowing beneath Zone 2 is addressed (see Section IV) in this ROD.

Pease AFB is located in the Towns of Newington and Greenland, and in the City of Portsmouth, located m Rockingham County, New Hampshire. As shown in Figure 1, Pease AFB is located on a peninsula bounded on the west and southwest by Great Bay; on the northwest by Little Bay; and on the north and northeast by the Piscataqua River. Pease AFB occupies 4,365 acres and is located in the center of the peninsula. The City of Portsmouth is located approximately 3 miles east and southeast of the base.

At the beginning of World War II, the U.S. Navy used an airport located at the current Pease AFB location. 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 has been the home of the 100th Bombardment Wing and the 509th Bombardment Wing, whose mission was to maintain a combat-ready force capable of long-range bombardment operations. The New Hampshire Air National Guard (NHANG) relocated the 157th Military Airlift Group (MAG) from Gremer Field at Manchester, New Hampshire, to Pease in 1966. The mission of the group was changed in 1975, when it was designated as the 157th Air Refueling Group. Over time, various quantities of fuels, oils, solvents, lubricants, and protective coatings were used at the base, and releases of contaminants into the environment occurred 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 will be divided between the State of New Hampshire's Pease Development Authority (PDA), the Department of the Interior (DOI), and the Air Force.

All Air Force activity within Zone 2 was halted when the base officially closed on 31 March 1991. Land uses at the base since closure include industrial, commercial, and military. Stewardship of the area west of McIntyre Road, including LF-1 and MRDDA, has been granted to the U.S. Fish and Wildlife Service, and the area is operated as part of the Great Bay National Wildlife Refuge. This area is largely wooded, and contains Upper and Lower Peverly Ponds and Bass Pond. Between McIntyre Road and the runway to the east are two former burn areas, a former fire training area, and an area formerly used for sludge disposal. Reuse of the portion of Zone 2 located east of McIntyre Road will be under the jurisdiction of the PDA to support airport operations. A VHS Omni-Range Tactical Air Navigation unit (VORTAC) (required for instrument approaches to both ends of the runway, and an airway running north from Boston) is located approximately 625 feet from the runway, and Tactical Air Navigation instrumentation is located southwest of the VORTAC at the edge of BA-2. Much of Zone 2 east of McIntyre Road has been cleared of vegetation to comply with the operational requirements of the VORTAC. Reuse of the portion of Zone 2 west of McIntyre Road will be under the jurisdiction of the U.S. Fish and Wildlife Service to support a National Wildlife Refuge. Figure 2 shows historic and current land uses within Pease AFB and Zone 2. Figure 3 shows a general location map of the IR sites
within Zone 2.

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The southeastern section of Zone 2 contains the highest elevation within the zone and the base as a whole [>110 feet above mean sea level (ft MSL)]. This area is situated on a bedrock high that controls local topography. Slopes dip away from this high to the northwest and north, and to the west toward the Peverly Ponds, where the lowest elevation of the zone exists, at 35 ft MSL. Topographic lows correspond to wetlands associated with the Peverly Ponds. Topography m the eastern part of Zone 2 has been altered, presumably during construction of the runway, with some areas showing evidence of fill, while others have been excavated (see Subsection 3.9 of the Draft Final Zone 2 RI Report) (G-626). Bedrock outcrops were observed between 59 and 65 ft MSL on the slopes east of the Peverly Ponds and south of Nottingham Road.

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 NHDES information, it was determined that a number of these dwellings have wells and/or springs located on their associated properties. The Town of Newington in particular has a large number of private wells. The majority of Portsmouth residences surveyed are serviced by town water only. A complete compilation of area springs and wells for Pease AFB, based on information available to date, is presented in the Pease AFB Off-Base Well Inventory Letter Report (G-599). The closest dwelling to Zone 2 that has a well or spring is approximately 2,000 feet away. This property is located south of BA-2.

Surface drainageways at Pease AFB flow radially away from the center of the peninsula, into Great Bay toward the west, Little Bay to the northwest and north, and the Piscatoqua River to the east. Little Bay flows into the Piscataqua River at the northern end of the peninsula. Great Bay, Little Bay, and the Piscataqua River are all tidally influenced. Consequently, these water bodies are subject to semidiurnal water-level variations.

Zone 2 is located m the Peverly Brook drainage system within the Great Bay watershed. Within Zone 2, the Peverly Brook drainage is composed primarily of three manmade ponds (see Figure 4). From upstream to downstream they are Upper Peverly Pond, Lower Peverly Pond, and Bass Pond. Defined channels are located between McIntyre Road and Upper Peverly Pond, and between Lower Peverly Pond and Bass Pond. Surface water from Bass Pond discharges directly into Great Bay. Surface flow on the eastern side of Peverly Brook is toward the west. A series of seeps and drainage areas is located there. Wetlands have been identified bordering the surface water bodies. A more complete description of the zone is presented in the Draft Final Zone 2 RI Report (G-626).

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II. SITE HISTORY AND ENFORCEMENT ACTIVITIES

A. Site 1 (LF-1) Use and Response History

Landfill (LF-1) is a fan-shaped landform located approximately 100 feet east of Upper Peverly Pond and north of Nottingham Road in the northwestern corner of Zone 2 (Figure 3). Most of the approximately 7-acre landfill is on the western side of McIntyre Road; however, a small portion of the landfill is also evident on the eastern side of the road.

Two terraces are evident on the landfill. The upper terrace covers an area slightly larger than 5 acres. The lower terrace extends outward approximately 200 feet beyond the upper terrace as an arc to the north. The upper terrace of the landfill is sparsely vegetated with grasses and low shrubs, while the lower terrace and its steep slopes are tree-covered with locally dense understory. Seeps are present along the steep north and northwestern slopes of the landfill and at the base of the fill. Between the northern extent of the landfill and Upper Peverly Pond are several mounded areas approximately 2 feet high and 3 feet wide, with lengths ranging from approximately 5 feet to greater than 10 feet. The mounded areas are believed to consist of mounded soil and/or ash from the burning of houses and other structures during base construction.

LF-1 was the original base landfill and was operated from 1953 to 1961. The site was developed on a steep embankment west of the northern end of the runway; waste was apparently dumped over the edge of the embankment and covered with native fill material pushed over the top of the hill (G-84).

According to base records, the types of waste deposited in the landfill included construction debris that accumulated during base construction, domestic solid waste, and shop wastes. In addition, the IRP Phase I records search (G-84) reports sporadic disposal of waste offs and solvents, paint strippers, outdated paints, paint thinners, pesticide containers, empty cans and drums, and drums containing waste solution from an on-base cadmium plating shop. The records search also indicated likely disposal of solids from the wastewater treatment plant grit removal chamber, which contained biodegradable, putrescible materials, along with inert sand and other solids (G-84). In contrast to these records, test pit excavations and soil borings at LF-1 uncovered primarily construction rubble, vegetation (tree stumps and branches, and decomposed plant material), metallic objects, and metal debris partially exposed at existing ground surface.

Previous Investigations at LF-1

Stage 1

The 1983 IRP Phase I Investigation (G-84) ranked LF-1 fourth among the known IRP sites showing significant potential for environmental concern. LF-1 was recommended for further investigation, and was

included in the Stage 1 investigation, undertaken from November 1984 through August 1987. The objectives of the Stage 1 investigation were to confirm environmental contamination at each site, and to evaluate the potential for contaminant migration and, subsequently, environmental and human health risks resulting from migrating contaminants. The Stage 1 field activities occurred from November 1984 through January 1986, and included monitor well installation, followed by groundwater and surface water sampling to assess the impact of the landfill on these media. In addition, in sire permeability tests were conducted on the monitor wells. The results of the investigation were summarized in the Phase II Stage 1 Confirmation/Quantification Final Report (G-527). As a result of the investigation, LF-1 was rated as a Category I site (i.e., no further action required). However, as a result of NHDES and EPA comments, further investigation at LF-1 was deemed necessary to gather sufficient data to confirm that the site has not had a significant impact on the environment.

Stage 2

Stage 2 activities were conducted at LF-1 from October 1987 through December 1988. At LF-1, the objectives of the Stage 2 investigation were to identify the extent of fill and to further evaluate soil and groundwater quality. Field activities performed during Stage 2 at LF-1 included a magnetometer survey, excavation of test pits, installation of additional monitor wells and piezometers, groundwater sampling, and collection of soil samples for geotechnical analysis. Additional surface geophysical surveys [i.e., ground-penetrating radar (GPR) surveys] were planned but were not executed because of terrain and vegetation constraints. The results of these investigations were summarized in the IRP Stage 2 Final Report (G-540).

Stage 4

The purpose of the Stage 4 investigation was to provide additional data needed to complete a risk assessment and a detailed analysis of remedial alternatives. The Stage 4 field effort at LF-1 was performed between August 1991 and September 1993. Field activities at LF-1 during Stage 4 included the installation of overburden and bedrock wells to monitor groundwater quality and flow direction. Further soil characterization was performed via collection of soil boring, surface soil, and test pit soil samples. Initial findings from the Stage 4 effort at LF-1 were discussed in the Zone 2 Site Characterization Summary (scs) (G-591). Follow-on field work has continued in LF-1; a description of the results of those field efforts is presented in Section 4 of the Draft Final Zone 2 RI Report (G-626).

B. Site 7 (FDTA-1) Use and Response History

Fire Department Training Area 1 (FDTA-1, Site 7) is located north of Nottingham Road, west of the flightline, and east of McIntyre Road (see Figure 3). FDTA-1 is a relatively flat area approximately 300 feet in diameter. An approximate 100-foot-diameter area of blackened surface soil is located in the center of this circular area. Most of the burn activities likely occurred in the area of blackened soil.

The land immediately surrounding FDTA-1 is sparsely vegetated. The area is generally devoid of topsoil, which was most likely removed during runway construction. No obvious surface drainage pathway is evident; precipitation rapidly infiltrates the coarse surface soils. North of FDTA-1, the ground surface slopes steeply to the northwest, where seeps and small streams are present. Relatively steep slopes border the western perimeter of the site. There is no evidence of recent use of FDTA-1.

A 1952 aerial photograph, taken before fire training activities began, shows that FDTA-1 was a wooded plateau. Subsequently, the area's topsoil and the upper portion of the subsoil apparently were removed as part of runway construction activities. FDTA-1 then served as the main fire training site between 1956 and 1961, after which fire training moved to FDTA-2 (Site 8) m Zone 5. According to interviews with base personnel during the Phase I records search (G-84), between 120,000 and 200,000 gallons of waste fuels, oils, and spent solvents were burned during the 6 years that the training area was used.

Previous Investigations at FDTA-1

Stage 1

FDTA-1 was first identified as an area of possible environmental concern in the IRP Phase I Investigation in 1983 (G-84). This report ranked FDTA-1 fifth in the priority listing of Pease AFB sites showing the highest potential for environmental concerns. Although FDTA-1 was not considered to potentially affect the base water supply aquifer, the primary concern was the potential for contamination of the nearby Peverly Ponds and surrounding wetlands, as well as the potential for long-term groundwater contaminant migration beyond the base boundary. In addition, the report concluded that a study of the area was necessary because of the known disposal of moderate quantifies of hazardous wastes, and the proximity of the site to the Munitions Maintenance Squadron (MMS) wells (3,200 feet away), an inactive base domestic

well (2,000 feet away), and Great Bay, a critical environment for shellfishing (G-84).

The Stage 1 investigation was designed to confirm environmental contamination within FDTA-1, and to assess the potential impact of this contamination on local groundwater. In response to Phase I recommendations, Stage 1 began with a test pit operation in January 1985 to assess the lateral and vertical extent of soil contamination. Following this test pit investigation, a monitor well was installed northwest of the former burn area in February 1985 to evaluate groundwater quality. This well was sampled three times (March, May, and August 1985). The Stage 1 results were summarized in the Phase II, Stage 1 Confirmation/Quantification Final Report (G-527). Based on Stage 1 findings, FDTA-1 was rated as a Category. II site, requiring additional investigation to assess the extent of contamination.

Stage 2

The objective of the Stage 2 effort was to identify specific contaminants that could pose potential hazards to human health and the environment. Stage 2 investigations of FDTA-1 began in October 1987 with an aerial photograph review, which was summarized in Interim Technical Report No. 1 (G-530). In a 1952 photograph, taken before training activities began, FDTA-1 was a wooded plateau. A 1960 photograph shows an approximate 6-acre burn area, with one large area and several smaller areas of blackened soil. A 1976 photograph shows the same darkened areas and also a north-south-trending scar, believed to be an underground utility trench. A well- traveled dirt road, bordering the site to the northeast, is also evident in the 1976 photograph. A soil-gas survey was conducted at FDTA-1 near the darkened stained areas to screen for halogenated and aromatic compounds and petroleum hydrocarbons.

Based on the findings of the soil-gas survey, the FDTA-1 Stage 2 investigation continued with soil boring drilling in March and October 1988 to collect soil samples for lithologic characterization and laboratory analysis. Piezometers were installed in selected borings to determine groundwater elevations. In September 1988, a bedrock well was installed as a couplet with the Stage 1 hybrid well (a well screened across the OB and BR). Groundwater samples were collected from both wells in December 1988 and May 1989 to assess overburden and bedrock groundwater quality.

Based on Stage 2 findings, FDTA-1 was recommended for No Further Action m the Stage 2 Final Report (G-540). It was subsequently included in the No Further Action Proposed Plan for Landfill 3, Field Maintenance Squadron Equipment Cleaning Site, and FDTA-1 (G-538). However, the review comments to the Proposed Plan by EFA and NI-DFS recommended additional characterization of site soil and groundwater, to be completed during Stage 4.

Stage 4

The Stage 4 FDTA-1 investigation began with an exploratory boring program conducted between August and November 1991. Soil samples collected during this program were used to delineate further the extent of soil contamination at the site. Drilling continued with risk assessment borings in March 1992. Soil samples collected during this effort were used to determine potential risk to both human health and the environment that may be associated with site soil. Based on the analytical results of risk assessment sampling, additional soil samples for dioxin analysis were collected during September 1992. In addition, piezometers were installed to verify groundwater flow direction. Groundwater samples were collected from wells and piezometers at the site in August 1991, May 1992, and January and September 1993 to assess groundwater quality in the area.

C. Site 10 (LFTS) Use and Response History

The Leaded Fuel Tank Sludge Disposal Area (LFTS) (Site 10) is a relatively flat area located between the runway and McIntyre Road. LFTS consists of two separate areas on the eastern and western sides of Nottingham Road (see Figure 3).

Based on the Phase I records search (G-84), LFTS was used from the late 1950s to 1978 for disposal of sludges from cleaning of the leaded aviation gasoline (AVGAS) tanks, which were located at the Bulk Fuel Storage Area (BFSA). Sludge from the cleaning operations included rust, water, residual fuels, fuel sludge, and residue from sand blasting tank interiors. Approximately 350 gallons of sludge was estimated to be generated from these cleanings over 23 years. In early years, this sludge was drummed and buried at LFTs. In subsequent years, the sludge was spread on the ground surface.

Previous Investigations at LFTS

Stage 1

LFTS was identified as an area of potential environmental concern during the Phase 1 investigation in 1983 (G-84). The report ranked LFTS ninth in the priority listing of Pease AFB sites showing the highest potential for environmental concerns. Further study was recommended because of the known disposal of small quantifies of hazardous wastes at the site and because of the proximity of the site to the Haven well (4,800 feet to the east) and Great Bay.

The objective of the Stage 1 investigation at LFTS was to confirm contamination, to locate disposal sites at LFTS, and to assess potential off-site contaminant migration Because the precise location of the buried drums at LFTS was unknown, a geophysical investigation was conducted to investigate site boundaries and potential buried drums. This survey was conducted in October 1984 using GPR and magnetomerry.

Following completion of the geophysical survey, a power auger and test pit investigation was conducted to further evaluate the extent of contamination at LFTS. Power auger borings were drilled during November and December 1984 in areas of suspected waste disposal. In January 1985, test pits were excavated near anomalies detected during the geophysical survey. During the test pit operation, a pocket of three buried drums was found. Samples of adjacent stained soil were collected for analysis, and the drums were removed from the site to an interim staging area at Landfill 5 (LF-5) until they could be properly disposed of. As a result of the test pit investigation, two monitor wells were installed at LFTS in January 1985 to assess the impact of the site on groundwater quality and to monitor background groundwater quality. Groundwater samples were subsequently collected three times (March, May, and August 1985). Based on Stage 1 findings, LFFS was rated as a Category II site, requiring additional investigation to assess the extent of contamination. The results of the Stage 1 investigation were summarized in the Stage 1 Final Report (G-525).

Stage 2

The objective of the Stage 2 effort was to identify specific contaminants that could pose potential hazards to human health and the environment, and to confirm the locations of drum disposal areas on-site. Based on Stage 1 recommendations, Stage 2 investigations at LFTS were undertaken between October 1987 and January 1988 with magnetomerry and GPR surveys to identify potential drum burial sites. Based on anomalies encountered during this survey, test pits were excavated in March 1988. During this effort, a concrete block with steel reinforcing rods, a steel pipe, and two crushed drums were discovered and removed.

A soil-gas survey was also conducted at LFTS during Stage 2. Soil-gas samples collected at LFTS were analyzed for selected halogenated and aromatic volatile organic compounds (VOCs), methyl ethyl ketone (MEK), and total hydrocarbons. The results of the survey indicated the presence of low concentrations of PCE in the northern portion of the site; elevated concentrations of petroleum hydrocarbons near the center of the site; and elevated concentrations of aromatic VOCs in three areas (surrounding and immediately northwest of the area of elevated hydrocarbon concentrations, and southeast of the VORTAC).

Based on the results of the geophysical and soil-gas investigations, soil borings were drilled at LFTS in March, April, and November 1988. Soil samples were collected for lithologic information and laboratory analysis. In addition, several piezometers were installed to obtain groundwater elevation measurements.

In September 1988, an Upper Sand (US) monitor well was installed as a couplet with the Stage 1 hybrid well. A bedrock well also was installed in September 1988 to monitor bedrock groundwater quality. Groundwater samples were collected from all monitor wells in December 1988 and May 1989. A short-term pumping test was performed to characterize the hydraulic properties of the US water-bearing unit. Based on Stage 2 findings, LFTS was recommended for further study during the Stage 4 investigations. The Stage 2 effort at the LFTS was summarized in the Stage 2 Final Report (G-540).

Stage 4

Stage 4 activities at LFTS were designed to collect data for the risk assessment and detailed analysis of remedial alternatives. The LFTS Stage 4 investigation began with the collection of three surface soil samples in August 1991. These samples were collected adjacent to localized areas of contamination discovered during the Stage 2 effort to aid in risk evaluation. Exploratory borings were drilled and sampled during September and October 1991 to characterize site soil. Piezometers were installed in selected borings to monitor groundwater flow direction and to allow for collection of groundwater samples for screening purposes. Drilling continued with soil sampling for the risk assessment, stratigraphic sampling to characterize site soil, and monitor well installation between March and May 1992. Existing and newly installed wells were sampled in May 1992. The results of this Stage 4 work were summarized in the Zone 2 SCS (G-591). Follow-on work subsequent to issuing the SCS continued in October 1992 and included additional soil borings to assess the extent of soil contamination in the source area. Additional overburden and bedrock wells were installed to investigate the extent of groundwater

contamination, and to provide for a more detailed assessment of groundwater flow characteristics. In addition to the drilling activities, a short-duration step test and 48-hour, constant-rate pumping test were performed on well 6048 in December 1992. Additional soil sampling and XRF analyses for lead were completed in June 1994 based on NHDES comments. The results of this effort were described in the letter report titled "Leaded Fuel Tank Sludge Area X-Ray Fluorescence (XRF) Letter Report" (November 1994) (G-735).

D. Site 22 (BA-1) Use and Response History

Burn Area I (BA-1) is a relatively flat area of stressed vegetation located east of McIntyre Road and southwest of Nottingham Road (see Figure 3). Most of the site is devoid of topsoil and, therefore, unable to support vegetation. No obvious surface drainage pathways are evident; precipitation apparently infiltrates rapidly in the sandy surface soil. The main source area of contamination at BA-1 is believed to be a circular former burn area, characterized by blackened or stained soil and little or no vegetation. Another smaller area of stained soil exists west of the main former burn area near McIntyre Road. This area is littered with burned clothing, shoes, and other materials. Mounded soil south of the main former burn area represents an additional potential source area of contamination.

BA-1 was first identified during an aerial photograph review prior to the start of Stage 1 activities. The site was reported to have been used for burning spent fuels/solvents or as a fire training area some time between 1954 and 1976 (G-540). Aerial photograph review indicated that BA-1 was forested at least through 1952. By 1960, the area had been denuded of vegetation. The 1962 aerial photograph shows a circular blackened area surrounded by what appears to be a berm in the southeastern portion of the site. The 1976 aerial photograph shows BA-1 as a sparsely vegetated area with a dark stain at the southern border. A blackened area, adjacent to LFTS, evident in aerial photographs, roughly corresponds to the current location of the main former burn area. By 1987, the area was revegetated, and showed little evidence of past activities.

Previous Investigations at BA-1

Stage 1

BA-1 was not included in the 1983 Phase I records search, but was identified on aerial photographs prior to the onset of the Phase II Stage 1 activities. At that time, the site was rated as Category II (i.e., requiring additional investigation), and field work was recommended. The work performed consisted of reassessing aerial photographs, installing monitor wells, collecting groundwater samples, and performing GPR and electromagnetic (EM) surveys. Stage 1 field activities were performed in 1985 and included the aforementioned tasks, an in situ permeability test of an overburden monitor well, and a test pit excavation operation.

Stage 2

Stage 2 field activities were conducted in Zone 2 between October 1987 and December 1988 and included sampling soil-gas, drilling soil borings, and installing piezometers and monitor wells. These efforts were conducted to locate the source of contamination at the site. Groundwater and soil samples from the site were collected and analyzed to characterize the nature and extent of contamination. Geotechnical tests were performed on site soil, and slug tests were conducted in monitor wells to assess the hydraulic properties of the overburden. The results of the Stage 2 investigation are summarized in the IRP Stage 2 Final Report (G-540). As a result of the Stage 2 findings, BA-1 was classified as Category II, requiring additional investigation. Recommendations for additional work included the installation of one domgradient overburden well for use as a potential recovery well because of the presence of free-phase petroleum product found in a piezometer; installation of one stream gage at Lower Peverly Pond; sampling of existing and proposed wells for VOCs, semivolatile organic compounds (SVOCs), and metals; and performing hydraulic testing on the proposed well.

Stage 4

Stage 4 field activities at BA-1 were initiated in September 1991 with the drilling and sampling of exploratory soil borings to characterize the nature and extent of soil contamination at the site. Field work continued in April 1992 with the installation of monitor wells and piezometers to assist in groundwater quality and flow direction assessment and with the abandonment of the Stage 1 hybrid well. A groundwater sampling round was conducted on previously existing and newly installed wells in May 1992. Risk assessment borings were also drilled and sampled at BA-1 in March 1992 to evaluate the potential risk to human health and the environment presented by contaminated on-site soil and groundwater. Based on the analytical results of this effort, additional soil samples were collected for dioxin analysis in September 1992. The results of the initial Stage 4 field efforts at BA-1 are summarized in the Zone 2

SCS (G-591). Stage 4 follow-on work continued at BA-1 between October 1992 and September 1993; the results of Stage 4 efforts are summarized in Section 4 of the Draft Final Zone 2 RI Report (G-626) are in Section V of this report.

E. Site 37 (BA-2) Use and Response History

Burn Area 2 (BA-2) is located southwest of LFTS near the eastern side of McIntyre Road (see Figure 3). This site covers approximately 3.4 acres and consists of wooded ground surrounding roughly circular areas characterized by blackened surface soil with little or no vegetation. BA-2 and its surrounding area exhibit little topographic relief, and no surface drainage is evident. A small building (Building 415) is situated at the northeastern edge of the site This building is an Air Force electrical transfer station used to support Air Force TACAN equipment. The site was originally considered part of LFTS, but it was studied as a separate site during the Stage 4 effort because evidence indicated that the area was used for different purposes than LFTS, and, therefore, different contaminants might be present.

BA-2 was suspected to be a former fire training area or fuel/waste solvent burn area. The exact period of use is not certain, but based on aerial photograph reviews, use of BA-2 began sometime between 1954 and 1960 and ended before 1976. A smaller, circular area of blackened soil located southeast of the main former burn area is also believed to be associated with burn activities. Identification of the area as a former burn site is based on the current presence of blackened soil and charred materials.

Previous Investigations at BA-2

Stage 2

BA-2 was not included in the January 1984 Phase I report, and also was not investigated during the Phase II, Stage 1 effort. The site was identified and investigated during the Stage 2 effort. when it was considered part of LFTS. Stage 2 field work at BA-2 was performed from March 1988 through May 1989, and included a soil-gas survey, EM survey, monitor well installation, and soil and groundwater sampling and analysis. As a result of the Stage 2 investigation, the site was rated as Category II, requiring additional investigation. The Stage 2 Final Report (G-540) summarizes the results of this field effort. Recommendations following the Stage 2 efforts included creating a separate designation for BA-2, drilling and sampling three soil borings around the perimeter of the former burn area, installing and sampling monitor wells, and assessing the hydraulic properties of the water-bearing unit.

Stage 4

In August 1991, Stage 4 field activities were initiated to further characterize the nature and extent of contamination at BA-2. This field effort began with drilling and sampling exploratory, and characterization borings. Field work continued in spring 1992 with installation and sampling of monitor wells. In March 1992, risk assessment borings were drilled to assess potential risk to human health and the environment, and follow-on risk assessment samples were collected in September 1992. The results of the initial Stage 4 effort were discussed in the Zone 2 SCS (G-591). Additional Stage 4 work included further assessment of the extent of soil and water contamination and groundwater flow directions.

F. Site 43 (MRDDA) Use and Response History

The McIntyre Road Drum Disposal Area (MRDDA), located west of McIntyre Road and south of Nottingham Road in Zone 2 (see Figure 3), is generally open, with a thick growth of low brush and small trees covering the northern quarter of the site. Elsewhere ground surface is generally devoid of topsoil and is covered with sand and gravel. The area is generally fiat along the side bordering McIntyre Road; however, the southwestern edge has a steep embankment with a topographic relief of approximately 30 feet. This embankment resulted from sand and gravel excavation adjacent to MRDDA.

Little information is available concerning the history and use of MRDDA. When first discovered during the IR Stage 2 effort, MRDDA showed signs of past earthmoving activities. An elongated ridge, approximately 4 feet high, and approximately 50 feet by 425 feet in size, was parallel to McIntyre Road. A cluster of 55-gallon drums and 5-gallon can, was partially exposed at the surface of the ridge; consequently, the ridge and adjacent areas were suspected to be locations of historic subsurface disposal. The buried drums were suspected to have been associated either with disposal from other sites within the zone, or with the construction of McIntyre Road in 1972.

Previous Investigations at MRDDA

Stage 3B

MRDDA was first investigated in August 1990 during the Stage 3B Preliminary Assessment/Site Investigation (PA/SI) (G-553) as Point of Interest (POI) 15. Analytical results from surface soil samples collected during the PA/SI effort suggested that past disposal practices at the Site may have affected surface soil in the area. Recommendations for additional investigation resulting from the PA/SI work included a geophysical survey and test pit operation to locate, characterize, and remove buried wastes from the site.

Stage 4

Geophysical surveys were conducted in July 1991 to locate buried metal objects and disposal pits. Subsequently, an Intensive Test Pit Operation (ITPO) was performed in September 1991. During the ITPO, the berm was excavated and potential sources of contamination (e.g., drums and pails) were removed from the site and disposed of off base. The results of this investigation are discussed in the Letter Report for the Intensive Test Pit Operation at the McIntyre Road Drum Disposal Area (G-597). The soil immediately adjacent to the excavated drums was neither stained nor contaminated. Based on the lack of soil contamination, the excavated drums and containers were probably empty at the time of disposal.

Stage 4 activities at MRDDA continued with monitor well installation and groundwater sampling. Drilling at the site was conducted between October 1991 and October 1993. Soil samples were collected during drilling to characterize site soil more fully and to identify whether soil contamination was present at this site. Overburden and bedrock monitor wells were installed and sampled to evaluate groundwater quality. In addition, overburden piezometers were installed to obtain information on groundwater flow directions.

Two additional test pit operations were performed during spring 1993. One was at the McIntyre Road Sand Pit Area (MRSPA), located southwest of MRDDA, and the other was at an area west of MIKDDA where surficial disposal was evident. All potential sources of contamination (e.g., drums, scrap metals, and tires) were removed from both areas during these efforts.

Tables 2.1-1, 2.2-1, and 2.4-1 in the Draft Final Zone 2 RI Report provide a summary of the Zone 2 field investigation activities in Stages 1, 2, and 4. Field activities conducted in Zone 2 during Stage 3 were limited to the MRDDA and are discussed under investigations at MRDDA (Stage 3B). A more detailed description of Zone 2 history is presented in Sections 1 and 2 of the Draft Final Zone 2 RI Report (G-626).

G. Site 24 (Peverly Ponds and Bass Pond)

Zone 2 is located in the Peverly Brook drainage system within the Great Bay watershed. Within Zone 2, the Peverly Brook drainage is composed primarily of three manmade ponds (see Figure 4). From upstream to downstream, they are Upper Peverly Pond, Lower Peverly Pond, and Bass Pond. Defined channels are located between McIntyre Road and Upper Peverly Pond, and between Lower Peverly Pond and Bass Pond. Surface water from Bass Pond discharges directly into Great Bay. Surface water flow on the eastern side of Peverly Brook is toward the west, where a series of seeps and drainage areas is located. Wetlands have been delineated bordering the surface water bodies.

The Federal Facilities Agreement (FFA) identifies Site 24 as part of Zone 8, which includes many of the waterways of Pease AFB. Because the Peverly and Bass Ponds are located adjacent to and downgradient of the northern and western edges of Zone 2, they are subject to potential contamination from surface runoff and groundwater discharge migration from sites in Zone 2. As such, these areas were investigated as part of Zone 2 during the RI/FS effort.

Previous Investigations at Site 24

Stage 1

Four surface water locations (SW-13 through SW-16) in the Upper and Lower Peverly Ponds were sampled during Stage 1 to assess the potential for contamination from surface runoff and groundwater migration. These samples were collected in November 1984, and March, August. September, and December 1985. Sampling locations SW-14 and SW-15 were later sampled in Stage 2 as 800 series locations 816 and 817, respectively.

Stage 2

To further evaluate the potential impact of historic activities in Zone 2 on surface water and sediment in Upper and Lower Peverly Ponds, surface water and sediment samples were collected from four locations (814 and 817) in November 1988 and May 1989.

Stage 4

Surface water and sediment samples were collected and analyzed from 20 stations within the Peverly Pond drainage area in 1991 and 1992. These stations included points in Upper Peverly Pond, Lower Peverly Pond, and Bass Pond; staff gages at an unnamed stream east of McIntyre Road; and selected seeps and springs in the area.

Quantitative macrobenthos samples were collected at four stations in the Peverly Pond drainage system during 1991 to characterize existing conditions and to evaluate the potential impacts of zone-related contaminants on the aquatic communities. The macrobenthos stations were located to correspond to surface water and sediment sampling locations. This placement was designed to facilitate the integration of biological community information with surface water and sediment analytical results.

Fish sampling also was conducted as part of the Stage 4 activities at Site 24. This sampling was completed in October 1991 along the shoreline of Bass Pond. All available fish habitats in the area were surveyed during the sampling effort.

H. Zone 2 Enforcement History

The enforcement history relative to Pease AFB, including Zone 2, 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 21 February 1990.

- On 24 April 1991, the Air Force, EPA, and NHDES signed an 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 (OUs) based on geographic location, potential receptors, and potential future uses. RI/FS reports were prepared for each of these seven zones. An eighth zone, which included selected waterways at Pease AFB, also was identified in the FFA. Because of its geographic location, Site 24, which was originally identified as part of Zone 8, was investigated as part of the Zone 2 RI/FS effort.

III. COMMUNITY PARTICIPATION

Throughout the recent history of the Zone 2 sites, there has been community concern and involvement. EPA, NHDES, and the Air Force have kept the community and other interested parties apprized of site activities through informational meetings, fact sheets, press releases, public meetings, and Restoration Advisory Board - Technical Review Committee (RAB-TRC) meetings.

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

Numerous fact sheets have been released by the Air Force throughout the IRP program at Pease AFB. These fact sheets are intended to keep the public and other concerned parties apprized of developments and milestones in the Pease IRP. The fact sheets released to date that concern LF-1, FDTA-1, LFTS, BA-1, BA-2, and MRDDA are listed as follows.

Fact Sheet	Release Date
Pease AFB Installation Restoration Program Update	October 1991
Pease AFB Installation Restoration Program Update	December 1992
Zone 2 Proposed Plan	March 1995

In addition to the fact sheets, a number of public meetings have been held concerning the remedial activities at Pease AFB including Zone 2 sites. On 14 November 1991 an IRP update public meeting was held, and on 12 January 1993 an IRP public workshop and meeting was conducted to provide the public with information on the status of the IRP at Pease AFB. The Air Force held a public informational meeting on 11 April 1995 to describe the preferred remedy for Zone 2. Responses to verbal comments from this meeting are included in the Responsiveness Summary (see Appendix D). A full transcript of the public hearing is available in the Administrative Record file at Pease AFB. In addition, a formal public comment period for the Proposed Plan was conducted between 22 March and 21 April 1995. There were no written comments received during that period.

An administrative record containing documents and correspondence pertaining to the Pease AFB IRP is maintained at Pease AFB in Building 43. An index of the administrative record is maintained in the EPA Region I in Boston, Massachusetts, and is also presented in a condensed form in Appendix E.

IV. SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION

Zone 2 consists of six sites: Site I (Landfill 1 or LF-1), Site 7 (Fire Department Training Area 1 or FDTA-1), Site 10 (Leaded Fuel Tank Sludge Area or LFrs), Site 22 (Burn Area 1 or BA-1), Site 37 (Burn Area 2 or BA-2), and Site 43 (McIntyre Road Drum Disposal Area or MRDDA). Site 24 (Peverly Ponds) is also addressed as part of the Zone 2 action. The locations of these sites are shown in Figure 3. In addition to the aforementioned sites, groundwater flowing beneath these sites also is addressed as part of Zone 2 remedial action.

The overall zone cleanup strategy focuses on three remedial issues:

- Source control for any of the aforementioned six sites whose contents (i.e., waste material, free-phase product, or contaminated soils) pose significant human health or ecological risk. In assessing this risk, both direct contact with source materials and leaching of contaminants from source materials to groundwater/surface water are considered (see Sections VI and VII).

- Management of migration of contaminants detected in Zone 2 groundwater at concentrations that could potentially pose risk to receptors. This portion of the overall remedy also addresses protection of potential future on-zone groundwater receptors.

- Long-term monitoring of surface water and sediments, including fish tissue sampling, to ensure that Zone 2 source areas do not impact the Peverly Ponds and Bass Pond (Site 24).

The remedial actions outlined in this ROD are intended as the only final actions for Zone 2. No other RODs exist for Zone 2.

Remediation at a Superfund site typically involves activities to remove or isolate contaminant source materials in conjunction with activities that mitigate migration of contamination through groundwater and/or surface water pathways. As stated previously, this ROD addresses both source control and management-of-migration measures at Zone 2. The remedial alternative developed for Zone 2 was designed to reduce potential human health and environmental risks identified in the risk assessment for Zone 2. The results of the risk assessment, which are presented in the Draft Final Zone 2 RI Report (G-626) and summarized in Section VI of this ROD, form the basis for concluding that soil media at FDTA-1, BA-2, LFTS, and MRDDA do not require remediation. No further source control action is proposed for these sites under CERCLA.

Because of the lack of significant contamination at LF-1, and because significant sources of contamination were not identified at the site, no further action is proposed for source materials at this site under CERCLA. In a separate action, which is not part of this ROD, the Air Force will perform final closure of IF-1 in accordance with NHDES landfill closure, groundwater protection, and other applicable requirements. NHDES will have jurisdiction over closure activities, and plans will be coordinated with the respective NHDES divisions, independent of CERCLA and the FFA.

At BA-1, the ecological risk assessment indicated that arsenic was the only contaminant detected in soil that may pose an unacceptable ecological risk. However, arsenic was detected at concentrations above background at only 2 of 13 sampling locations. Arsenic was detected at a concentration above leaching-based cleanup goals (i.e., concentration that could potentially leach from soil into groundwater and cause groundwater contamination that may present an unacceptable human health risk) at only 1 of 13 locations. LNAPL and residual product are present at BA-1. For this reason, the removal of LNAPL and residual product from BA-1 was established as a remedial action objective (RAO). Subsection VILA presents medium-specific RAOs in detail.

Additionally, contaminants associated with site soil have leached to groundwater and resulted in groundwater contaminant concentrations that exceeded ARARs and may present an unacceptable human health risk. The human health risk assessment indicated that contaminants in overburden and bedrock groundwater at Zone 2 may pose a health risk to potential future groundwater users in excess of EPA acceptable risk range (10-4 to 10-6 for cancer risk, and a hazard index of less than 1 for noncancer risk).

In the Zone 2FS Report (G-625), the Air Force established cleanup levels for contaminants in Zone 2 groundwater to address groundwater contamination in Zone 2. For the purposes of risk assessment, cleanup goal selection, and evaluation of remedial alternatives, soil and debris at each of the six sites were considered to represent distinct source areas. However, groundwater flowing beneath the sites was grouped into OUs. A total of four groundwater OUs resulted as follows:

- Groundwater beneath LF-1.
- Groundwater beneath FDTA-1.
- Groundwater beneath BA-2.
- Groundwater beneath BA-1, LFTS, and MRDDA, collectively.

The remedial alternative developed for Zone 2 addresses LNAPL, residual LNAPL, and contaminated groundwater.

Pesticides were detected in a limited number of sediment samples from Upper and Lower Peverly and Bass Ponds (Site 24) at levels that do not pose significant ecological risk. DDD and DDE were detected in fish tissue collected from these water bodies at levels that may present risk to ecological receptors. Inorganics were detected in these water bodies at levels exceeding regulatory standards. In addition, sediment samples from Zone 2 seeps contained elevated levels of arsenic, nickel, and silver. However, in view of the limited number of sampling locations affected, and because of the potential for resuspension of sediment contaminants during remediation, the remedial alternative for Zone 2 includes long-term monitoring only.

In summary, the preferred alternative consists of the following actions:

- In situ SVE treatment of BA-1 source area LNAPL and residual LNAPL with enhancement of SVE by injection of air below the water table into the Marine Clay and Silt (MCS), and treatment of extracted soil vapor for removal of VOCs.

- Establishment of institutional controls restricting the future use of Zone 2 groundwater, including a GMZ, and conducting long-term GMZ monitoring.

- Natural attenuation of groundwater contamination During and following the completion of SVE treatment of source area LNAPL and residual LNAPL enhanced by injection of air below the water table, groundwater quality will be remediated by natural attenuation.

- Long-term monitoring of surface water, sediment, and fish tissue in Upper and Lower Peverly and Bass Ponds.

These remedial actions are discussed in detail in Sections VIII through X of this ROD.

V. SUMMARY OF SITE CHARACTERISTICS

Section 1 of the Draft Final Zone 2 FS Report (G-625), contains an overview of the Draft Final Zone 2 RI Report (G-626). Based on the results of the RI, a working conceptual model was developed that incorporates all available data (from Stages 1 through 4) concerning Zone 2 and its vicinity, including geological, hydrological, and analytical data and field measurements and visual observations. These data show that soil and groundwater have been affected by past disposal practices in Zone 2. The salient points of the conceptual model are summarized as follows:

- Chemicals of concern remaining in the unsaturated soil are primarily total petroleum hydrocarbons (TPHs) at FDTA-1, BA-1, LFTS, and BA-2, and dioxins and lead at concentrations above background at BA-2. Low levels of contaminants remain in unsaturated soil at LF-1 and the MRDDA; however, as discussed later in this section, many of the compounds detected were present at levels below quantification limits.

- The principal source areas of concern in the zone are the burn areas at BA-1 and BA-2 and the LFTS, in the vicinity of wells 543 and 5059. Although the soil in the unsaturated zone in these areas is generally devoid of contaminants (with the exception of dioxins and lead above background levels in surface soil at BA-2), the saturated soils in these three areas have significant associated residual contamination, including benzene, toluene, ethylbenzene, and xylenes (BTEX) and TPHs. The highest level of contamination is at the US/MCS interface.

- A small area of free-phase product occurs at the US/MCS interface at BA-1, adjacent to a former burn area. This is the only location in Zone 2 where free-phase product has been observed.

- Groundwater contamination in Zone 2 consists primarily of the following compounds: BTEX, other aromatic hydrocarbons (AHCs), low levels of halogenated hydrocarbons (HHCs), and metals (including arsenic, manganese, and lead).

- The following organic compounds have exceeded the Maximum Contaminant Levels (MCLs) in groundwater from the central part of the zone: benzene, ethylbenzene, toluene, and naphthalene in overburden and benzene in bedrock. Ethylene dibromide (EDB) exceeded the MCL at one Lower Sand (LS) location at BA-1. Metals concentrations exceeded primary MCLs at LF-1 and BA-1 (arsenic) and LFTS (lead) (see Figure 5).

- Overburden BTEX plumes emanate from source areas at BA-1, LFTS, and BA-2. The plume at BA-1 flows northward 1,200 feet from the source area at two former burn areas within the US and LS/Glacial Till (GT) (see Figure 5). North of the source areas, where bedrock is highly fractured, the plume extends into the shallow bedrock groundwater flow zone. BTEX contamination in the bedrock from BA-1 extends 300 feet in a northwesterly direction toward LF-1 and approximately 1,200 feet west to southwest of the source area (see Figure 6). This west-southwest plume flows directly under the MRDDA.

- BTEX contamination from the LFTS source area flows both east and west in the overburden and bedrock groundwater flow units because this site is located on the groundwater divide (see Figures 5 and 6). The northwestward extent of the LFTS overburden plume merges with the BA-1 overburden plume. Beneath the source area, contaminants extend into the LS/GT flow unit. In the bedrock, this plume and the BA-1 plume are included as one because it is not possible to distinguish the source from which the bedrock contamination has originated.

- BTEX contamination at BA-2 appears to be restricted to a small area in the overburden only. Beneath the source area at BA-2, the MCS may have acted to effectively retard downward migration of contaminants.

- Surface water does not appear to have been impacted by past practices in Zone 2. Sediment samples contain pesticides and metals above background levels. The pesticides are the result of basewide pesticide use and not a result of spillage or disposal of pesticides in Zone 2. A source of metals contamination has not been identified in Zone 2. Instead, metals appear to be concentrated in sediment, where organic matter and Eh and pH conditions favor precipitation and/or sorption of metals.

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The subsections that follow provide site-specific summaries on contamination in the soil, groundwater, surface water, and sediment.

A. Distribution of Contaminants in Soil

Source characterization at Zone 2 included the collection and analysis of subsurface soil, buried debris, and surface soil samples. Surface soil refers to that material from 0 to 2 feet below ground surface (ft BGS), and subsurface soil refers to material collected at a depth of 2 feet or greater. Soil contamination was most significant in BA-1. Maximum concentrations of contaminants detected in surface and subsurface soil are presented on a site-specific basis in Tables 1 through 12 in Appendix A. Also

included in the tables are relevant background concentrations and regulatory guidance values. Summaries of soil contamination at each site are presented in the following subsections.

LF-1

It is estimated that approximately 19,800 yd3 of saturated fill material exist at LF-1 across approximately 6.6 acres. All of the saturated fill material is believed to be natural organic fill. The volume of saturated fill would be greatest during periods of the year when the water table elevation is highest, although all of the saturated fill would still be natural organic materials. The entire volume of inert debris and solid waste at LF-1 has been estimated at approximately 617,000 yd3. Analytical results from soil samples collected from surface soil, soil borings, and test pits were used to evaluate the extent of soil contamination in both fill and naturally occurring soil at LF-1. Figure 7 illustrates the distribution of contaminants at the site.

The only VOCs detected above quantification limits in LF-1 surface soil were acetone, diethyl ether, and trichlorofluoromethane (TCFM) in a sample collected from the mound at the toe of the landfill (location 3025) and MEK in a sample from the top of the landfill (location 3006). VOCs were not detected in any of the LF-1 test pit samples. MEK and toluene were the only VOCs detected above laboratory quantification limits in LF-1 subsurface samples. In addition to these two compounds, VOCs detected below instrument quantification traits consisted of tetrachloroethene, ethylbenzene, toluene, xylenes, and 1,1,1-trichioroethane. With the exception of MEK, detected in one sample from boring 7942, all the VOCs detected were present in samples collected from unsaturated fill material.

TPHs were not detected in any of the surface soil samples. The maximum detected value for TPH was 43 J mg/kg in the duplicate of a sample collected from boring 7942. All three samples were collected from unsaturated fill material. Benzoic acid was the only SVOC detected above laboratory quantification limits in surface soil. Several SVOCs, primarily PAHs, were detected in subsurface soil at LF-1 at concentrations above laboratory quantification limits. All other SVOCs were either not detected or were detected below laboratory quantification limits.

With the exception of DDT, detected at a concentration below laboratory quantification limits, no other pesticides or PCBs were detected in surface soil at LF-1. Alpha-endosulfan, heptachlor epoxide, and pp'DDD were the only pesticides/PCBs detected in subsurface soil samples; these were detected at concentrations below laboratory quantification limits in soil from the unsaturated zone. No other pesticides or PCBs were detected in subsurface soil at LF-1.

Arsenic and calcium were the only metals detected at concentrations above current established background levels (G-609) in LF-1 surface soil. Several metals were detected in the subsurface sod samples at levels that exceeded established background values. The metals were arsenic, boron, calcium, copper, iron, lead, manganese, selenium, sodium, and zinc.

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MRDDA

Analytical results from surface soil borings and test pits were used to evaluate soil contamination at MRDDA. Four surface sod samples (307 through 310) were collected from the former berm at MRRDA during the 1990 Stage 3B PA/SI. In these surface soil samples, VOCs were detected at concentrations below laboratory quantification limits and included the compounds tetrachloroethene (PCE), toluene, and 1,1,1-TCA TCFM. As Figure 8 shows, these sampling locations at the former berm were removed as a result of excavation activities during the 1991 ITPO at the site. PCE and acetone were the only VOCs detected above laboratory quantification limits in subsurface soil at MRDDA. Diethyl ether and toluene were detected at estimated concentrations below laboratory quantification limits in one sample each.

TPHs were detected in the surface soil samples, with a maximum concentration of 390 mg/kg. With the exception of one sample, collected adjacent to an electrical motor coil in test pit 9024, TPHs were not detected in any subsurface samples.

DDT was the only pesticide detected above laboratory quantification limits in the surface and subsurface soil at MRDDA. This compound was detected in one surface and one subsurface sample.

Mercury, detected in the four Stage 3B surface samples collected at MRDDA, was the only metal detected above the background level. As discussed previously, the soil associated with these sampling locations was removed during the 1991 ITPO excavation activities. None of the subsurface samples collected at MRDDA contained metals above the established background.

FDTA-1

The results of analyses of soil samples collected from surface soil and borings were used to evaluate soil contamination at FDTA-1. Figure 9 illustrates the distribution of contaminants in surface soil at FDTA-1 and Figure 10 illustrates the distribution of maximum TPH concentrations in unsaturated FDTA-1 soil.

In surface soil samples, VOCs were either not detected or were present at concentrations below laboratory quantification limits. These compounds include carbon disulfide, MEK, TCFM, and diethyl ether. With the exception of carbon disulfide, all of these compounds were detected in one location, and none of these compounds were detected in a duplicate of this sample. Therefore, based on the quality assurance review, the MEK, TCFM, and diethyl ether results are suspect, and it is assumed that these compounds are not present in surface soil.

In subsurface soil samples, carbon disulfide and TCE were the only VOCs detected at concentrations at or above laboratory, quantification limits. TCE was detected in samples

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from a boring analyzed by WESTON's mobile laboratory. Samples from similar depths in adjacent borings did not contain TCE. These samples were analyzed immediately after samples from Zone 3, which had very high concentrations of TCE. Mobile laboratory instrument contamination is believed to be responsible for the presence of TCE in these FDTA-1 soil samples. Trans-1,2-dichloroethene (trans-1,2-DCE), 1,2-dichloroethane (1,2-DCA), benzene, ethylbenzene, and m-xylene were detected in saturated subsurface soil samples at concentrations below laboratory quantification limits.

TPHs were detected above laboratory quantification limits in all but one of the surface soil samples at FDTA-1, at a maximum concentration of 15,000 mg/kg (see Figure 10). In subsurface soil samples, the highest TPH concentrations were detected above the water table, with a maximum concentration of 6,500 mg/kg. The elevated TPH results for surface and subsurface soil appear to be primarily from locations within the former burn area.

The dioxin compound groups HXCDD, OCDD, and TCDF were detected at very low concentrations in several surface soil samples at FDTA-1. Later sampling of surface samples for specific congener analyses did not reveal any dioxin compounds at these same locations. In subsurface soil samples, the dioxin/furan TCDF was detected at concentrations below laboratory quantification limits in four of the six samples submitted for analysis. The second round of sampling at these locations for specific TCDF congeners also failed to detect any dioxin compounds.

Lead was detected in surface soil samples from three borings located in the former central burn area above background concentrations. All other metals results were below established background concentrations.

BA-1

Surface soil and soil boring samples were used to evaluate the extent Of 0rgalflc contaminants and metals in soil at BA-1. Figure 11 illustrates the location of contaminant cross sections A-A' and B-B', which are shown in Figures 12 and 13, respectively. Figures 14 and 15 present the distribution of VOC contamination in the unsaturated and saturated subsurface soil samples, respectively.

AHCs, in particular, BTEX compounds, were the primary VOC group detected at BA-1. In surface soil samples, toluene and xylene were the only VOCs detected above instrument quantification limits. BTEX compounds also were detected in unsaturated subsurface soil samples from the former burn area at concentrations above laboratory quantification limits. MEK, TCE, toluene, and xylene were detected in unsaturated soil samples below laboratory quantification limits (see Figure 14).

The highest total BTEX concentration were detected in saturated subsurface soil samples collected at or near the MCS interface from locations at the two former burn areas (7709 and 740)(see Figures 12, 13, and 15). Several HHCs also were detected in subsurface soil samples at BA-1, but at concentrations below laboratory quantification limits. In surface soil, the highest TPH concentration was 1,220 mg/kg. TPH concentrations increased in the subsurface soil samples at BA-1, and were highest in the saturated subsurface soil samples from borings located within the former burn areas.

Based on these analytical results, contaminated soil at BA-1 has been conservatively estimated to exist across an area of approximately 15,400 ft2. LNAPL and residual product have been conservatively

estimated to exist between 26 and 34 ft BGS. This represents an estimated volume of contaminated soil of approximately 4,560 yd3. This contamination occurs predominantly in the US and MCS, and is almost entirely within the saturated zone.

The dioxin compound groups OCDD, OCDF, and TCDF were detected in several BA-1 soil samples. Resampling of soil was performed to verify the presence of specific congeners of these dioxins. OCDD was detected in a surface soil sample from this second sampling round.

Arsenic, detected in one surface soil sample, was the only metal detected above established background values in surface soil samples from BA-1. Arsenic, calcium, and nickel were detected in one subsurface soil sample above background concentrations. Thallium also was detected in a subsurface soil sample; however, no background value has been established for this metal.

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LFTS

Soil sample analytical results from the surface and soil borings in LFTS were used to evaluate the extent of soil contamination at that site. Figure 16 illustrates the distribution of VOC contamination in surface soil.

In surface soil samples at LFTS, TCFM (detected in one sample) was the only VOC whose concentration was above laboratory quantification limits. Diethyl ether and toluene were detected at concentrations below laboratory quantification limits in surface soil at LFTS. VOC contamination in the subsurface soil at LFTS consisted primarily of BTEX compounds. Toluene, ethylbenzene, and xylene were the only VOCs detected above laboratory quantification limits in the southwestern section of LFTS, west of Nottingham Road. AHC concentrations were highest in samples collected from directly at and below the water table in borings located at the center of the southwestern section of LFTS, the presumed source area.

In the northeastern section of LFTS, east of Nottingham Road, TCE was detected at concentrations both above and below laboratory quantification limits in samples from one location only. These samples were analyzed at the mobile laboratory with samples from Zone 3, which had elevated concentrations of TCE. Therefore, mobile laboratory instrument contamination may have contributed to the presence of TCE in LFTS samples. The compounds 1,1,1-trichloroethane (1,1,1-TCA) and toluene also were detected in the northeastern section of LFTS at concentrations below laboratory quantification limits in soil samples collected above the water table from two borings.

TPHs were detected at concentrations above laboratory quantification limits in six surface soil samples at LFTS. The maximum TPH concentration detected was 34,000 mg/kg in surface soil sample 3023, collected from adjacent to a drum exposed at the ground surface. An additional surface soil sample was collected in a soil boring adjacent to sample 3023. TPHs were not detected in this surface soil sample.

TPHs were detected in 14 unsaturated subsurface samples and eight saturated subsurface soil samples at LFTS. As with VOC contamination, TPH concentrations were highest at or just above the water table.

The pesticides DDT and p,p'-DDE were detected at concentrations above laboratory quantification limits in a surface soil sample collected from boring 7806. These compounds were not detected in any other surface or subsurface soil sample collected at LFTS.

Antimony was detected at a concentration of 11.9 mg/kg in one subsurface LFTS sample. There is no established basewide background value for this metal, as it was not detected in any of the basewide background soil samples (G-609). The detected concentration of antimony in this sample was, however, lower than the detection limits of antimony for the background soil samples. Copper was detected at a concentration slightly above background in a subsurface soil sample collected from boring 7411. Lead was detected above the basewide background concentration of 65.3 mg/kg in one surface soil sample collected near the presumed source area during the XRF study. The XRF screening result for lead, 120 mg/kg, was not confirmed by laboratory analysis; the laboratory confirmation result from this location was 59.4 mg/kg, which is below the basewide background value for lead (G-735). No other metals were detected above background concentrations.

BA-2

Figures 17, 18, and 19 illustrate the distribution of contaminants in surface and unsaturated and saturated subsurface soil at BA-2, respectively.

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<IMG SRC 0195110T>

The only VOCs in the surface soil samples at BA-2 were detected at concentrations below laboratory quantification limits. These compounds were 1,1,1-TCA, PCE, TCE, toluene, and xylenes. All VOCs present in unsaturated subsurface soil samples at BA-2 also were detected at concentrations below laboratory quantification limits. Compounds detected below laboratory quantification limits in one unsaturated subsurface sample located in the former main burn area were TCE, and TCFM. PCE was detected in one sample from characterization boring 7336.

The following VOCs were detected in one saturated subsurface soil sample at BA-2 (boring 730): 1,1,2,2-tetrachloroethane, chlorobenzene, ethylbenzene, methyl isobutyl ketone, TCE, and xylenes. 1,1,1-TCA and toluene also were detected in this sample at concentrations below laboratory quantification limits. TCFM was detected at concentrations below laboratory concentration limits in samples from boring 7930, located 50 feet downgradient of 730.

TPHs were detected in five surface soil samples collected at BA-2. Three of the five samples analyzed for TPH had concentrations exceeding 1,000 mg/kg. The maximum TPH concentration in the unsaturated subsurface soil was 3,200 mg/kg, in a sample collected from the main former burn area (boring 7395). TPH levels in unsaturated soil exceeding 100 mg/kg were detected in samples from borings 7336, 7394, and 7396. The maximum TPH concentration in saturated subsurface soil was 640 mg/kg, in a boring located approximately 50 feet downgradient of the main former burn area.

All SVOCs present in the surface and subsurface soil samples at BA-2 were detected at concentrations below laboratory quantification limits. The PCB congener Aroclor-1260 was detected at concentrations below laboratory quantification limits in two surface and one subsurface soil samples, and p,p'-DDE was detected below reporting limits in one surface soil sample at BA-2.

Figure 1.5-24 of the Draft Final Zone 2 FS Report (G-625) shows the distribution of dioxins in surface soil at BA-2. HPCDD, HPCDF, HXCDD, OCDD, and OCDF were detected in samples from two risk assessment borings. These locations are within or adjacent to the former main bum area. PCDD, HXCDD, HXCDF, OCDD, and OCDF were detected at concentrations below laboratory quantification limits in samples from four borings. To confirm these results, and to identify specific dioxin compounds, additional samples were collected and analyzed. 1,2,3,4,6,7,8-HPCCD, HPCDD, HPCDF, HXCDD, and OCDD were detected in the samples collected during this second round of dioxin sampling, as illustrated in Figure 1.5-24 of the Draft Final Zone 2 FS Report (G-625). Dioxin concentrations in subsurface soil at BA-2 were lower than dioxin concentrations in surface soil.

Lead, detected in three samples, was the only metal that exceeded background levels (G-609) in BA-2 surface soil samples. Antimony was detected in a subsurface sample and its associated duplicate. There is no established background value for this metal because it was not detected in any of the basewide background soil samples (G-609). However, the detected value for antimony in sample 776 was only slightly above background sample detection limits.

Vanadium was detected at a concentration slightly above background in the duplicate of a subsurface soil sample. Vanadium was detected below background in the associated standard sample. Thallium was detected at concentrations above laboratory quantification limits in a sample from characterization boring 7335 (14.6 mg/kg), and at concentrations below laboratory quantification limits in a subsurface soil sample and its duplicate. Thallium was not detected in the background soil samples collected at Pease AFB.

B. Distribution of Groundwater Contaminants

Groundwater samples collected from wells and selected piezometers within Zone 2 were analyzed to assess the distribution of contaminants in groundwater in the zone. Maximum concentrations of contaminants detected in Zone 2 overburden and bedrock groundwater, as well as relevant background concentrations and regulatory guidance values, are presented in Table 13 in Appendix A. The subsections that follow summarize the results of chemical analyses of groundwater samples within the overburden and bedrock at Zone 2.

To describe the distribution of contaminants in groundwater, the lithologic units at Zone 2 were grouped into two categories: overburden and bedrock. The units that make up the overburden are fill, US, MCS, LS, and GT. In this report, LS and GT are not always differentiated and are referred to as the LS/GT.

Hybrid and shallow bedrock wells also are included with the overburden wells. Maps showing contaminant distribution in the overburden and bedrock groundwater flow zones are presented in Figures 5, 6, 20, 21, and 22.

Distribution of Organic Compounds

A review of the analytical data indicates that total BTEX is the only organic contaminant category to depict an overburden contaminant plume (see Figure 5), and benzene is the only organic contaminant prevalent enough to depict a bedrock contaminant plume within Zone 2 (see Figure 6). Benzene, toluene, ethylbenzene, ethylene dibromide, naphthalene, and trichloroethene were detected at concentrations above federal Safe Drinking Water Act MCLs and NHDES Ambient Groundwater Quality Standards (AGQSs) in the central part of the zone. A map depicting the locations where these compound concentrations exceeded MCLs in overburden groundwater is presented in Figure 20.

Non-BTEX organic contaminants were detected at widely scattered locations across Zone 2. The contaminants appear to be more prevalent near known source areas; however, they are not abundant or consistent enough to generate useful concentration contour maps.

Other chemical categories detected in the groundwater included HHCs, PAHs, and phthalates (PHTs). All were detected at very low concentrations and were below MCLs.

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Overburden Groundwater

Figure 5 depicts the distribution of total BTEX in groundwater within the unconsolidated overburden. The total BTEX contours on the overburden map show three distinct source areas at LFTS, BA-1, and BA-2. BTEX compounds have not been detected at FDTA-1, and only relatively minor amounts of HHCs and phthalates were detected at LF-1. Low concentrations of BTEX compounds have been detected in two overburden wells (5134 and 7338) at the MRDDA; however, no source area for groundwater contamination has been identified at this site. As such, although these wells are located at the MRDDA, they monitor the BA-1 plume, which has migrated to the west from the BA-1 source area.

BTEX in the groundwater at BA-1 appears to originate along an area that stretches from piezometer 7935 and well 5105, which contain free-phase product, to the vicinity of monitor well 5065. From wells 5062, 5065, and 6107, the contaminants appear to have migrated to the north. The northern downgradient extent of the plume in the overburden is defined by location 7687. West of the source area,. BTEX contamination appears to have migrated into MRDDA as fax as piezometer 7934, and, additionally, 3 µg/L of benzene was detected in a sample from LS well 5134 at MRDDA. The plume migration implied by the total BTEX contours is consistent with the direction of groundwater flow direction indicated by the Zone 2 water table elevation contour map (see Figure 1.4-19 of the Draft Final Zone 2FS Report (G-625).

Ethylene dibromide was contained in multiple rounds of groundwater samples from LS well 5107. This compound was not detected in any other BA-1 wells (see Figure 20).

At LFTS, the extent of the total BTEX contamination is defined by nondetect results in all directions except to the south. The total BTEX contours indicate a plume migration direction to the north from a source area near well 543, which exhibited the highest BTEX concentrations. Benzene and naphthalene were the two organic contaminants detected in LFTS overburden groundwater at concentrations above Applicable or Relevant and Appropriate Requirements (ARARs) from multiple wells.

At BA-2, total BTEX and halogenated VOCs were limited to the immediate vicinity of piezometers 730 and 7931, and well 5125 (see Figures 5 and 20). The extent of the BA-2 BTEX plume is delineated by the nondetects in the following wells and piezometers: 7582 to the north, 542 to the west, 7802 to the east, and 5108 and 5057 to the south. The majority of the BTEX contamination was attributable to xylenes. TCE was detected at and above the MCL in piezometers 7931 and 730, respectively. TCE was not detected in downgradient overburden groundwater samples.

Figure 21 illustrates the overburden groundwater samples with soluble metals concentrations above background and any applicable MCLs and Secondary Maximum Contaminant Levels (SMCLs). Most metals were detected above background concentrations in overburden groundwater samples from at least one location within Zone 2. The common rock-forming cations (i.e., iron manganese, silicon, and sodium) were found above background levels at many sampling locations. Soluble metals concentrations that exceeded background include: arsenic at LF-1 and BA-1, lead and cadmium at LFTS, and manganese at LF-1, LFTS, and BA-1.

Bedrock Groundwater

Benzene was detected in samples from six bedrock monitor wells, and concentrations in five of these six were above the MCL during at least one sampling round. Figure 6 illustrates the contaminant contour for total benzene in bedrock wells. The benzene plume in bedrock is defined by nondetects in several wells.

The shape of the bedrock plume and the concentrations of total BTEX detected indicate that maximum concentrations and areal extent of the plumes are reduced in the bedrock compared with the overburden. With the exception of benzene, the remaining BTEX compounds were detected at concentrations significantly below their MCLs. There is no evidence of bedrock groundwater BTEX contamination at FDTA-1, LF-1, or BA-2.

Unfiltered metals analytical results from groundwater samples collected from Zone 2 bedrock wells were compared with background values determined for Pease AFB and with regulatory. guidelines. The results were also compared with field turbidity measurements recorded at the time of field sampling. Comparison of total dissolved solids (TDS), total suspended solids (TSS), and turbidity results indicate that the highest results were in groundwater from LF-1. Bedrock wells at LF-1 tended to have higher turbidity than other bedrock wells within Zone 2.

Most metals results exceeded background in at least one bedrock groundwater sample from Zone 2. Many metals were detected above the total background concentration in one or more wells from LF-1. Concentrations of soluble and total sodium exceeded background in most samples throughout Zone 2. The occurrences of metals at concentrations above MCLs in Zone 2 bedrock groundwater were limited.

Light, Nonaqueous-Phase Liquid

Light, nonaqueous-phase liquid (LNAPL, or product) was observed at BA-1 to the west of the former main burn area and a smaller former burn area, as shown in Figure 22. Product was initially detected in piezometer 741, which was installed in March 1988. In November 1992, US well 5105 was installed and also contained product. Product thickness was measured monthly in well 5105, and these measurements indicate that product thickness in well 5105 has varied from 0.02 to 0.70 foot since the well was installed. Analyses of the product from piezometer 741 and well 5105 were performed and the results of these analyses indicate that the product is degraded JP-4 jet fuel.

To define the areal extent of product, four piezometers (7932 through 7935) were installed around well 5105 in August 1993 (see Figure 22). On 23 September 1993, piezometer 7395 contained 0.12 foot of product. Product was not observed in the other three piezometers (7932, 7933, and 7934). Based on these data, it is estimated that 0.1 foot of LNAPL exists within an area of approximately 9,800 ft2 at BA-1. Based on a soil porosity of 32%, it is estimated that 2,400 gallons of LNAPL may be present in this area. No other piezometers or wells in BA-1 have been found to contain product.

C. Distribution of Surface Water and Sediment Contaminants

Surface water and sediment samples were collected in the Peverly Brook drainage bordering Zone 2 to investigate the nature and extent of contamination from sites within Zone 2. Surface water and sediment samples were collected and analyzed from 20 stations within the three ponds of the Peverly Brook drainage area from 1988 to 1992. Data from seven staff gage stations that drain into Upper and Lower Peverly Ponds are included in the discussion of Zone 2 surface water and sediment chemistry.

Surface water analytical data were compared to NHDES Surface Water Quality Regulations, Ambient Water Quality Criteria (AWQC) for the Protection of Human Health) Fish Consumption Only (FCO), and to the maximum background surface water analytical results collected at sampling locations outside Pease AFB (G-609). Freshwater Chronic Criteria were used when FCO criteria were not available. Sediment analytical data were compared with National Oceanographic and Atmospheric Administration (NOAA) biological effects range) low (ER-L) sediment values and biological effects range) median (ER-M) sediment values (G415), Ontario Ministry of the Environment (MOE) lowest and severe effect levels, and to the off-base maximum background sediment analytical data results (G-609) in the following discussion. In addition, the Equilibrium Partitioning (EqP) approach, a method recognized by EPA as a measure of bioavailability, was used to subsequently assess the potential impact of hydrophobic organic chemicals on sediment. Interstitial water concentrations calculated by the EqP approach were compared with Freshwater Chronic Criteria.

Figures 23 and 24 show the locations of sampling stations and also summarize surface water and sediment analytical results for each location sampled in Zone 2. Maximum concentrations of surface water and sediment contaminants, as well as relevant background concentrations and regulatory guidance values, are presented in Tables 14 through 21 in Appendix A. The paragraphs that follow summarize the sampling

results.

Upper Peverly Pond

No organic compounds were detected at concentrations above Remedial Objectives (ROs) in surface water samples collected from Upper Peverly Pond. Six metals (aluminum, arsenic, iron, lead, manganese, and zinc) were detected at concentrations above one or more regulatory-based RO in the September 1993 sample collected from location 8018. Iron and manganese also were detected at concentrations above regulatory-based ROs in the most recently collected sample from location 816.

Four organic compounds (2-butanone, benzo(k)fluoranthene, DDD, and DDE) were detected in Upper Peverly Pond sediment samples at concentrations that exceeded the maximum background concentrations (see Figure 25). EqP values calculated for these compounds did not exceed AWQC chronic criteria.

Fourteen metals were detected in Upper Peverly Pond sediment samples at concentrations that exceeded the maximum background concentrations. Four of the 14, arsenic, lead, nickel, and zinc, were detected in Upper Peverly Pond sediments at concentrations that exceeded the NOAA ER-L and the maximum background concentrations. The NOAA ER-M concentration was only exceeded for arsenic, nickel, and zinc at one station each. Copper was detected above the maximum background concentration but below the NOAA ER-L.

Nine of the 14 metals (aluminum, barium, beryllium, calcium, cobalt, iron, manganese, sodium and vanadium) were detected in Upper Peverly Pond sediment samples at concentrations that exceeded the maximum background concentrations. No ER-L or ER-M concentrations are available for these nine metals.

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Lower Peverly Pond

Surface water and sediment samples were collected for analysis from five stations in Lower Peverly Pond to assess potential contamination from Zone 2 (Figures 23 and 25).

Two inorganic analytes (cyanide and zinc) were detected in Lower Peverly Pond surface water samples at concentrations exceeding background values and Freshwater Chromic Criteria. Cyanide was detected in a November 1988 sample collected from station 817. Cyanide was not detected in surface water samples collected during subsequent sampling events at any station located in Lower Peverly Pond.

Four organic compounds and four pesticides (DDT, DDD, DDE, and Lindane) were detected in Lower Peverly Pond sediment samples at concentrations exceeding the maximum background concentrations. The EqP value for DDT exceeded AWQC chronic criteria. The EqP value for pyrene also exceeded chronic criteria; however, the concentration of pyrene detected was below the maximum background concentration.

Eleven metals were detected in lower Peverly Brook drainage sediment samples at concentrations that exceeded the maximum background concentrations. No NOAA ER-L or ER-M values are available for eight of these metals (i.e., aluminum, barium, beryllium, calcium, cobalt, iron, manganese, and vanadium). Arsenic and zinc were detected at concentrations above NOAA ER-L concentrations, but below NOAA ER-M concentrations. Copper was detected a; concentrations below the NOAA ER-L.

Bass Pond

Surface water and sediment samples were collected and analyzed from eight stations in Bass Pond to assess potential contamination from Zone 2. The location of these eight stations and a summary. of the analytical results for surface water and sediment samples included in this evaluation are shown in Figures 23 and 24, respectively.

No organic compounds were detected at concentrations above ROs in surface water samples collected from Bass Pond. Iron and manganese were each detected in one sample above a regulatory-based RO, but below the background concentrations for surface water.

Three pesticides (DDD, DDE, and DDT) were detected in the Bass Pond sediments at concentrations exceeding both the NOAA ER-L and ER-M concentrations. The EqP value for DDT exceeded AWQC chronic criteria. The highest concentrations of DDD and DDE were detected at the uppermost station in Bass Pond. No VOCs or SVOCs were detected in Bass Pond sediments at concentrations exceeding maximum background concentrations. Two metals (arsenic and zinc) were detected in the Bass Pond sediments at concentrations that exceeded the NOAA ER-L and the maximum background concentrations. Chromium and copper were detected at concentrations above maximum background concentrations, but below NOAA ER-L values. No ER-L or ER-M

concentrations are available for the 10 metals detected above maximum background concentrations: aluminum, barium, beryllium, calcium, iron, magnesium, manganese, potassium, sodium, and vanadium,

VI. SUMMARY OF SITE RISKS

A risk assessment was performed to estimate the probability and magnitude of potential adverse human health and environmental effects from exposure to contaminants identified in Zone 2. The human health risk assessment followed a four-step process:

1. Contaminant identification, which identified those chemicals that, given the specifics of each of the sites in the zone, were of significant concern. A summary of the chemicals of concern, by medium, is presented in Table 22 in Appendix A.

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

3. Toxicity assessment, which considered the types and magnitude of adverse health effects associated with exposure to hazardous substances at each of the sites.

4. Risk characterization, which integrated the three earlier steps to summarize the potential and actual risks posed by hazardous substances at each site, including cancer and noncancer risks.

For a complete explanation of risks posed by Zone 2, refer to the baseline risk assessment presented in Section 6 of the Draft Final Zone 2 RI Report (G-626), which is available in the Administrative Record at the Pease AFB Information Repository. Table 23 in Appendix A presents the human health risks on a medium-specific basis. A summary of the findings of the human health and ecological risk assessments for each Zone 2 site is presented in the subsections that follow.

LF-1, (Site 1)) Soil and Groundwater

Human Health Risk: The risk assessment results indicated that there are no significant noncancer health risks (hazard index is less than 1) associated with exposure of current or future potential workers to soil contaminants at LF-1. The estimated risks are within the EPA range of generally acceptable risk levels (10-4 to 10-6 for cancer risk and a hazard index of less than 1 for noncancer risk). In addition, because of the absence of sensitive receptors, such as on-zone residents, the Air Force believes that these risk levels do not require action. For example, because the area covered by LF-1 is owned by the U.S. Fish and Wildlife Service, it is unlikely that there will be any future residents in this area. Additionally, much of the LF-1 area is thickly vegetated and very steep. As such, it is generally inaccessible to standard well drilling equipment.

Risks posed by groundwater exposure were evaluated for a future worker. Cancer risks of greater than 10-4 and/or hazard indices of greater than 1 were calculated for LF-1 overburden and shallow bedrock groundwater, and for deep bedrock groundwater. Arsenic and manganese presented the greatest risk for the overburden and shallow bedrock groundwater. The maximum cancer risk posed by arsenic via groundwater ingestion was approximately 4 x 10-3, which is only slightly higher than the risk associated with the arsenic at MCL concentration. Beryllium contributed to the majority of the estimated risk for deep bedrock groundwater.

Ecological Risk: The representative terrestrial and avian species selected to evaluate potential ecological risk from exposure to soil at LF-1 were the short-tailed shrew and the chipping sparrow, respectively. The ecological risk assessment indicates that there is potential risk posed to the shrew as a result of ingestion of invertebrates exposed to LF-1 soil, and to the chipping sparrow as a result of ingestion of chemicals through exposure to vegetation and soil. Arsenic was the chemical of concern, which had total hazard indices greater than 1 for these receptors.

FDTA-1 (Site 7)) Soil and Groundwater

Human Health Risk: The results of the risk assessment indicate that there are no significant adverse health risks (i.e., cancer risks greater than 10.6, or noncancer hazard indices greater than 1) associated with the exposure of current or future potential receptors to soil at FDTA-1. The cancer risk levels were within the EPA range of generally accepted levels (10-4 to 10-6 for cancer risk and a hazard index of less than 1 for noncancer risk) for FDTA-1 overburden and shallow bedrock groundwater based on exposure to a residential future receptor. The hazard indices for FDTA-1 overburden and shallow bedrock groundwater were slightly greater than the target value of 1 because of manganese. There were no carcinogenic chemicals of concern identified in the deep bedrock groundwater.

Ecological Risk: The results of the ecological risk assessment indicate that there was no potential risk to the selected receptors as a result of exposure to soil at FDTA-1. None of the chemicals of concern had total hazard indices exceeding 1.

LFTS (Site 10)) Soil

Human Health Risk: The results of the human health risk assessment for soil contaminants at LFTS indicated that soil at the site did not pose a significant risk to current or potential future human receptors. Cancer risks were less than 104, and the noncancer hazard indices were less than 1.

Ecological Risk: The results of the ecological risk assessment indicate that there was no potential risk to the selected ecological receptors as a result of exposure to EFTS soil. None of the chemicals of concern had total, average, or maximum cumulative hazard indices greater than 1.

BA-1 (Site 22)) Soil

Human Health Risk: The results of the risk assessment indicate that there are no significant adverse health effects associated with exposure of current or future receptors to soil at BA-1. Cancer risks were less than 10-6, and noncancer hazard indices were less than 1.

Ecological Risk: The deer mouse and chipping sparrow were the ecological receptors selected to evaluate potential ecological risk from soil at BA-1. The results of the risk assessment indicate minimal potential for adverse effects to the chipping sparrow through exposure to arsenic via soil and vegetation ingestion. Average and maximum cumulative hazard indices for the deer mouse at BA-1 were less than 1.

MRDDA (Site 43)) Soil

Human Health Risk: Risk from exposure to MRDDA soil was assessed for future receptors. The results of the risk assessment indicate no significant adverse health effects associated with exposure to soil from this site. The cancer risks were less than 10-6, and the noncancer hazard indices were less than 1.

Ecological Risk: An ecological risk assessment was not performed at MRDDA because the top 2 feet of soil had been removed during the 1991 ITPO at the site.

LFTs (Site 10), BA-1 (Site 22), and MRDDA (Site 43)) Groundwater

The overburden and shallow bedrock groundwater at LFTS, BA-1, and MRDDA were evaluated collectively in the risk assessment. The deep bedrock groundwater at LFTS and BA-1 also were evaluated as one unit. Risk posed by groundwater exposure was evaluated for a future residential receptor. The exposure pathways evaluated were groundwater ingestion (drinking) and dermal contact (bathing and domestic use). This was performed to account for the possibility of a water supply well that could be located within the zone serving off-zone residents, although the scenario within the zone itself is not residential. The results of the human health risk assessment indicate that cancer risks greater than 10-4 and hazard indices of greater than 1 were calculated for LFTS, BA-1, and MRDDA main overburden and shallow bedrock groundwater. Benzene, arsenic, lead, and manganese were the contaminants of greatest concern for potential adverse health effects.

In addition to the main overburden and shallow bedrock groundwater, three hot spots were evaluated. Hot spot I corresponds to an area at LFTS where leaded fuel tank sludge was disposed of. Overburden and shallow bedrock groundwater associated with hot spot I posed risks within the EPA range of generally acceptable risk levels (10-4 to 10-6 for cancer risk and a hazard index of less than 1 for noncancer risk). The noncancer hazard indices for hot spot I exceeded 10. Manganese, naphthalene, 1,2,4-trimethylbenzene, and lead were the chemicals of greatest concern for potential noncancer health effects in hot spot I groundwater.

The results of the risk assessment for hot spot II, which corresponds to an area near BA-1 at which LNAPL has been historically observed, indicate potential cancer risks exceeding 10-4 and hazard indices above 100. Arsenic, manganese, naphthalene, and 1,2,4-trimethylbenzene contributed to the majority of the risk levels.

For hot spot in groundwater, which includes wells at BA-1 in which LNAPL is present, the total cancer risk also exceeded 10-4. The majority of the cancer risk was contributed by benzene, 1,2-dibromomethane, and arsenic. The hazard indices associated with hot spot II exceeded 1,000 primarily as a result of ethylbenzene and toluene. Among the other chemicals potentially posing a health concern were naphthalene, 1,2,4-trimethylbenzene, and manganese.

The results of the risk assessment indicated that there are no significant noncancer health risks (hazard index is less than 1) associated with residential exposure to deep bedrock groundwater at EFTS and BA-1. The cancer risks associated with the same scenario are within the range of generally accepted risk levels (10-4 to 10-6 for cancer risk and a hazard index of less than 1 for noncancer risk).

BA-2 (Site 37)) Soil and Groundwater

Human Health Risk: Risk from exposure to BA-2 soil was assessed for current and future receptors. The results of the risk assessment indicate that there are no significant adverse health effects associated with occupational exposure to soil at BA-2. Cancer risks were less than 10-6, and noncancer hazard indices were less than 1.

Risks associated with exposure to BA-2 overburden groundwater and bedrock groundwater were evaluated for a future residential receptor. Additionally, a BA-2 overburden hot spot was assessed that corresponds to the center of the main former burn area. The BA-2 hot spot analysis was based on the analytical results from one well.

The results of the risk assessment indicate no significant potential cancer risk associated with exposure to BA-2 main overburden groundwater or hot spot overburden groundwater. Cancer risks for these media did not exceed 10-6. The maximum hazard index calculated for main overburden groundwater was slightly greater than the criterion of concern of 1 because of the concentrations of 1,2,4-trimethylbenzene. The hazard index for hot spot overburden groundwater exceeded 10. The chemicals of greatest potential concern were 1,2,4-trimethylbenzene, naphthalene, and 2-methylnaphthalene.

An assessment of BA-2 bedrock groundwater indicated no significant potential adverse health effects associated with exposure to this medium. The hazard indices were less than 1, and there were no carcinogenic chemicals of concern.

Ecological Risk: The deer mouse and chipping sparrow were the ecological receptors selected to evaluate potential ecological risk from soil at BA-2. The results of the risk assessment indicated minimal potential for adverse effects to the chipping sparrow and deer mouse. Lead was the only chemical with an associated hazard index that exceeded 1.

Surface Water and Sediment) Upper and Lower Peverly and Bass Ponds

Human Health Risk: Risk from exposure to surface water in Upper and Lower Peverly Ponds and sediment in Upper and Lower Peverly and Bass Ponds was evaluated for current and future receptors. Because none of the chemicals of concern in surface water has evidence of carcinogenicity through the exposure route of concern, potential cancer risk was not evaluated for this medium. There were no significant cancer risks associated with exposure to sediment in these surface water bodies; all calculated cancer risks were less than 10-6. The noncarcinogenic risks were negligible for exposure to surface water or sediment; both media had hazard indices of less than 1.

Risk from ingestion of recreationally caught catfish and bass from Bass Pond also was evaluated. Based on the evaluated chemicals, there is no apparent risk of significant adverse health effects through the ingestion of these species. Hazard indices were less than 1, and cancer risks were within the EPA range of generally acceptable risk levels (10-4 to 10-6). However, because of the absence of sensitive receptors, the Air Force believes that these risk levels do nor require action. EPA typically requires action for cancer risk levels greater than 10-4.

Ecological Risk: Based on the results of the ecological risk assessment, the risk to terrestrial receptors at population levels appears to be negligible.

For the purposes of this evaluation, the aquatic environment is defined as the water and sediment of Lower and Upper Peverly Ponds and Bass Ponds.

Risk to receptors associated with aquatic habitats can be summarized as follows:

- Pesticides were found in sediment at only a limited number of locations at levels that exceed 1 based on EqP calculations.
- The pesticides DDD and DDE appear in fish tissue at levels that may present some level of risk to piscivores.
- Exceedances of Ontario Ministry of Environment (OMOE) severe effects levels (SELs) were detected for arsenic. Iron and manganese exceeded OMOE Sediment Quality Levels. Currently, there is no toxicological information available for iron, and toxicological information on

manganese is limited. However, it is known that under naturally occurring aerobic conditions, arsenic, iron, and manganese will tend to precipitate. This precipitation would make these compounds less bioavailable than they would be in soluble form. In addition, iron precipitate may act as a complexing agent for certain toxic metals, rendering these metals less bioavailable.

In summary, the concentrations of pesticides in the sediment pose a limited risk in these water bodies based on EqP calculations. In addition, these pesticides are not considered to be related to Zone 2 activities. Therefore, any removal of the pesticide-contaminated sediments that exceed Water Quality Criteria (WQC) (based on EqP calculations), or based on sediment quality guidelines for inorganic analytes, may pose a greater risk of exposure as a result of resuspension in the water column.

Heavy metals tend to be concentrated in environmental settings where changes in Eh and/or pH occur. Under reducing conditions, metals such as iron and manganese are mobile. When Eh increases or conditions become more oxidizing, iron and manganese are likely to precipitate from water. Elevated levels of iron and manganese typically coincide with elevated levels of arsenic in sediment and surface water samples from the surface water bodies adjacent to Zone 2. The correlation of iron and manganese with arsenic most likely results from coprecipitation or adsorption of these metals onto the surface of iron and manganese oxide particles. Aluminum, copper, iron, vanadium, and zinc values are higher where total organic carbon values are higher in sediment samples. These metals may be concentrated by adsorption onto organic particles. In general, metals are concentrated in areas where sediments have high organic content, or in areas where Eh and pH conditions favor precipitation of metals (such as in areas where reduced groundwater contacts oxygenated surface conditions at seeps). Additional evidence of metals precipitation was observed in areas of iron-stained sediment and iron flocculation in surface water at specific locations downgradient of the western side of the runway in Zone 2 and at LF-1.

A source for levels of metals above background in sediment adjacent to Zone 2 has not been identified in the zone. Instead, it appears that metals are concentrated in sediment where chemical conditions favor precipitation and/or absorption.

Seeps

Seeps also were evaluated for their input into these water bodies. Sediment and surface water samples were collected at these seeps, and the analytical results indicated the following:

- The surface water samples contained elevated levels of arsenic, cadmium, and iron.
- Sediment samples from the seeps at Upper Peverly Pond indicated elevated levels of arsenic, lead, mercury, nickel, and silver. Therefore, a limited exposure pathway may exist.

In view of the limited bioavailability of pesticides and the potential for resuspension of the sediments if the sediments were to be removed, the alternatives for Zone 2 will include long-term monitoring of the sediment, surface water quality, and fish tissue.

VII. DEVELOPMENT AND SCREENING OF ALTERNATIVES

A. Statutory Requirements/Response Objectives

Statutory Requirements

Section 121 of CERCLA establishes several statutory requirements and preferences, including: 1) remedial actions must be protective of human health and the environment; 2) when complete, remedial actions must comply with all federal and more stringent state environmental standards, requirements, criteria, or limitations unless a waiver is invoked; 3) the remedial action selected must be cost-effective and use permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; 4) and a preference for remedies in which treatment that permanently and significantly reduces the toxicity, mobility, or volume (TMV) of the hazardous substances is a principal element over remedies not involving such treatment. Remedial action alternatives were developed to be consistent with these mandates.

Based on available information relating to types of contaminants, environmental media of concern, and potential exposure pathways, Remedial Action Objectives (RAOs) were developed to aid in the development and screening of alternatives. These RAOs were developed to mitigate existing and future potential threats to human health and the environment via source control. RAOs are general (i.e., nonnumerical) goals that must be achieved by remedial response actions. Typically, RAOs include protection of human and ecological receptors from excess risk resulting from exposure to site contaminants, reduction of

off-site contaminant migration, and compliance with ARARs.

Prior to development of RAOs for the Zone 2 media of concern, Remedial Objectives (ROs) were developed. As described in Section 2 of the Draft Final Zone 2 FS Report (G-625), ROs are numerical goals to which contaminant levels in Zone 2 must be reduced in order to achieve RAOs. In instances in which no ROs were established for a particular medium, then no RAOs were developed because RAOs are attained for that medium with no further action For those sites/media for which ROs were developed, three types of preliminary ROs were developed: regulatory-based, risk-based, and leaching-based ROs (soil only). The three types of ROs were compared to maximum background concentrations for each medium and chemical of concern. Those ROs exceeding background concentrations were retained for incorporation into RAOs. If no ROs exceeded background levels, then background levels were retained for use in developing RAOs. ROs and RAOs for each of the sites in Zone 2, which were presented in detail in the Draft Final Zone 2 FS Report (G-625), are discussed briefly in the following paragraphs.

Development of Risk-Based ROs

The results of the baseline risk assessment (BRA) for Zone 2, completed as part of the RI and summarized in Subsection VI of this report, indicated that risks are within the acceptable range (10-4 to 10-6 for cancer risk and a hazard index of less than 1 for noncancer risk) and hazard indices were less than 1 for noncancer risk resulting from incidental ingestion of, or dermal contact with, contaminated soil, sediment, or surface water are expected. Therefore, human health risk-based ROs were not calculated for soil, surface water, or sediment.

The BRA indicated that exposure to contaminated groundwater at some locations in Zone 2 could result in a cumulative cancer risk greater than 10-4 for human receptors. Consequently, human-health risk-based objectives have been calculated for groundwater at certain sites (or OUs) only (see Section IV for a description of the Zone 2 groundwater OUs).

The ecological risk assessment indicated that risks in excess of a hazard quotient of 1 were posed to ecological receptors by contaminants in Zone 2 surface soil, surface water, and sediment. Risks posed by surface water and sediment contaminants resulted from only a few chemicals (zinc in surface water and DDT, lead, benzo(a)anthracene, and phenanthrene in sediment). DDT is not related to past Zone 2 activities, and the other contaminants were detected very infrequently, and, in the case of zinc, during only one sampling event. In addition, some of the regulatory-based ROs for sediment (ER-Ls, ER-Ms, and EqP values) are risk-related. For these reasons, ecological risk-based ROs were not calculated for Zone 2 surface water and sediment.

Chemicals of concern in Zone 2 soil were found to pose risks of adverse effects to select ecological target species. As a result, ecological risk-based concentrations for soil were derived for each chemical of concern based on a hazard index goal of 1. These risk-based concentrations were derived for three chemicals of concern in Zone 2 on a site-specific basis. The chemicals for which soil ROs were developed were as follows:

- DDT (LF-1).
- Arsenic (LF-1 and BA-1).
- Lead (BA-2).

Development of Regulatory-Based ROs

Medium- and chemical-specific regulatory-based ROs were developed for Zone 2 based on existing exceedances of or noncompliance with environmental and public health ARAs. Subsection 2.2 of the Draft Final Zone 2 FS Report (G-625) provides a detailed discussion of ARARs for the zone. Typically, regulatory-based ROs for Zone 2 groundwater were based on Safe Drinking Water Act (SDWA) MCLs. Where MCLs were not available, other federal or state groundwater ARARs were chosen.

Regulatory-based ROs for surface water were selected from among available federal and state AWQC (the more conservative value was used) for protection of aquatic life or protection of human health based on fish consumption only. Separate ROs were derived for Upper Peverly Pond, Lower Peverly Pond, and Zone 2 seeps.

Regulatory-based ROs were developed for Zone 2 sediment based on exceedances of NOAA ER-Ls and maximum allowable sediment concentrations based on the EqP approach for selected hydrophobic organic compounds for which the hazard quotients calculated using estimated interstitial pore water concentrations exceeded 1. Regulatory-based ROs for pesticides in sediment were not specified because pesticides are not considered to be zone-related.

Development of Leaching-Based ROs

Modeling of potential organic contaminant leaching potential was conducted as part of RO development for Zone 2 soil. The objective of this modeling was to estimate maximum contaminant concentrations that could exist in unsaturated soil without resulting in groundwater contamination that exceeds regulatory- or risk-based ROs. Leaching-based ROs were developed for LF-1 and BA-1 soil based on the Summers model.

Development of RAOs

Based on the ROs developed for soil, groundwater, sediment, and surface water in Zone 2, the following site-specific RAOs were developed:

- LF-1 solid waste and inert debris) Compliance with State of New Hampshire Solid Waste Rules concerning closure of solid waste facilities. (No further action under CERCLA.)
- FDTA-1 Soil) No RAOs were established because there were no exceedances of ROs.
- LFTS Soil) No RAOs were established because there were no exceedances of ROs.
- BA-1 Soil) Removal of LNAPL and residual product from BA-1 soil.
- BA-2 Soil) No RAOs were established because there was a limited extent of contamination.
- MRDDA Soil) No RAOs were established because there were no exceedances of ROs.
- Overburden and bedrock groundwater.
    -) Protect human receptors from contaminated groundwater that may present an unacceptable health risk (total cancer risk greater than 10-4, or a hazard index of greater than 1), given site-specific exposure scenarios (LFTS/BA-1/MRDDA and BA-2 groundwater OUs).
    -) Comply with chemical-specific regulatory-based ROs (LFTS/BA-1/MRDDA, LF-1, and BA-2 groundwater OUs).
    -) Prevent contaminated groundwater from affecting surface water quality (LFTS/BA-1/MRDDA, BA-2, and LF-1 OUs).
    -) Protect against potential leaching of soil contaminants from soil to groundwater at levels that could cause exceedances of groundwater ROs (BA-1 OU).
- Surface water in Upper and Lower Peverly and Bass Ponds
    -) Monitoring of surface water quality over time.
- Sediment in Upper and Lower Peverly and Bass Ponds
    -) Monitoring of sediment quality over time.

Cleanup goals were established for each medium of concern. These cleanup goals were established for use in development of remedial actions to address the RAOs outlined previously. Cleanup goals for Zone 2 are discussed in Section X of this ROD. A more detailed discussion of Zone 2 RAOs is presented in Subsection 2.5 of the Draft Final Zone 2 FS Report (G-625).

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, a range of remedial technologies were screened, and a range of alternatives was developed for sites in Zone 2.

With respect to source control, the RI/FS developed a range of alternatives in which treatment that reduces the TMV of the hazardous substances is a principal element. This range included an alternative that removes or destroys hazardous substances to the maximum extent feasible, eliminating or minimizing to the degree possible the need for long-term management, This range also included alternatives that treat the principal threats posed by the site but vary in the degree of treatment used and the quantities and characteristics of the treatment residuals and untreated waste that must be managed; alternatives

that involve little or no treatment but provide protection through engineering or institutional controls; and a no-action alternative.

In Section 3 of the Draft Final Zone 2 FS Report (G-625), technologies were identified, assessed, and screened based on implementability, effectiveness, and cost. These technologies were placed in the categories identified in Section 300.430 (e)(3) of the NCP. Section 4 of the Draft Final Zone 2 FS Report (G-625) presents the remedial alternatives developed by combining the technologies. An initial screening of alternatives was conducted to reduce the number of potential remedial actions for further detailed analysis while preserving a range of options. The alternatives retained alter the initial screening are evaluated in detail in Section 5 of the Draft Final Zone 2 FS Report (G-625).

VIII. DESCRIPTION OF ALTERNATIVES

This section provides a narrative summary of each alternative that was evaluated in detail in Section 5 of the Draft Final Zone 2 FS Report (G-625). A detailed tabular assessment of each alternative is presented in Tables 5.2-1 through 5.2-8 of the Draft Final Zone 2 FS Report (G-625). Each remedial alternative was evaluated in detail with respect to the nine criteria specified in the NCP.

The alternatives analyzed for the sites in Zone 2 include the following:

- Alternative BA1-1: No action (always considered as required by CERCLA).
- Alternative BA1-2: LNAPL recovery from BA-1 and off-zone disposal, capping of LFTS and BA-1, and institutional controls (groundwater use restrictions, groundwater monitoring, and establishment of a GMZ). Long-term surface water, sediment, and fish tissue monitoring.
- Alternative BA1-3A: Extraction of overburden groundwater, on-zone metals removal, nutrient/oxygen addition, and on-zone discharge; LNAPL recovery from BA-1 and off-zone disposal; and institutional controls. Long-term surface water, sediment, and fish tissue monitoring.
- Alternative BA1-3B: Extraction of overburden groundwater, on-zone treatment, and on-zone discharge; LNAPL recovery from BA-1 and off-zone disposal; and institutional controls. Long-term surface water, sediment, and fish tissue monitoring.
- Alternative BA1-3C: Extraction of overburden groundwater; on-zone treatment, and on-zone discharge; LNAPL recovery from BA-1 and off-zone disposal; and institutional controls. Long-term surface water, sediment, and fish tissue monitoring.
- Alternative BA14B: In situ SVE at BA-1; extraction of overburden groundwater, on-zone treatment, and on-zone discharge; and institutional controls. Long-term surface water, sediment, and fish tissue monitoring.
- Modified Alternative BA1-4B: In situ SVE at BA-1, extraction of overburden groundwater and in situ treatment via air sparging, and institutional controls. Long-term surface water, sediment, and fish tissue monitoring.

Modified Alternative BA1-4B was developed after submittal of the Draft Final Zone 2 FS Report (G-625). This alternative is identical to Alterative BA1-4B in all aspects, except that groundwater treatment in Modified Alternative BA1-4B is achieved via air sparing below the water table rather than by extraction and ex situ treatment of groundwater. A thorough comparative analysis of the implementation of Modified Alternative BA1-4B in relation to other alternatives presented in the Draft Final Zone 2 FS Report is presented in the Zone 2 ES Addendum 1 (G-741).

Because Modified Alternative BA1-4B is intended to replace the original Alternative BA1-4B, no further discussion of Alternative BA1-4B is presented in this ROD. Details on Alternative BA1-4B are presented in the Draft Final Zone 2 FS Report (G-62s) and the Zone 2 FS Addendum 1 (G-741).

Alternative BA1-1: No Action

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

Alternative BA1-2: LNAPL Recovery and Off-Zone Disposal, Capping of LFTS and BA-1, and Institutional Controls

This alternative would consist of the following components:

- Establishment of institutional controls restricting future use of groundwater in Zone 2.
- Installation of LNAPL recovery wells at BA-1.
- Preparation of site for capping. Construction of a single barrier cap over portions of LFTS and BA-1.
- Establishment of a GMZ, and performance of long-term GMZ monitoring,
- Long-term monitoring of surface water, sediment, and fish tissue.

Estimated time for design and construction: 3 months.
Estimated period of operation: 30 years.
Estimated capital cost: $1,168,500.
Estimated operation and maintenance cost (net present worth): $1,730,500.
Estimated total cost (net present worth): $2,899,100.

Alternative BA1-3A: LNAPL Recovered from BA-1 and Off-Zone Disposal, Extraction of Groundwater, On-zone Metals Removal, Nutrient/Oxygen Addition and On-Zone Discharge, and Institutional Controls

This alternative would consist of the following components:

- Establishment of institutional controls restricting future use of Zone 2 groundwater.
- Establishment of a GMZ and performance of long-term GMZ monitoring.
- Source area overburden groundwater extraction at LFTS and BA-1. Installation of new wells, if required.
- Overburden groundwater treatment for metals removal, nutrient/oxygen addition, on-zone disposal in recharge trenches, and enhanced in situ treatment of organic contaminants in groundwater.
- LNAPL recovery from BA-1 followed by off-zone disposal.
- Long-term monitoring of surface water, sediment, and fish tissue.

Estimated time for design and construction: 9 months.
Estimated period of operation: 30 years.
Estimated capital cost: $1,283,900.
Estimated operation and maintenance cost (net present worth): $5,265,300.
Estimated total cost (net present worth): $6,549,200.

Alternative BA1-3B: LNAPL Recovery from BA-1 and Off-Zone Disposal, Extraction of Overburden Groundwater, On-Zone Treatment and On-Zone Discharge, and Institutional Controls

This alternative would consist of the following components:

- Establishment of institutional controls restricting future use of Zone 2 groundwater.
- Establishment of a GMZ and performance of long-term GMZ monitoring.
- Source area overburden groundwater extraction at LFTS and BA-1. Installation of new wells, if required.
- Overburden groundwater treatment for metals and organic contaminant removal, and disposal in recharge trenches on-zone.
- LNAPL recovery from BA-1 followed by off-zone disposal.
- Long-term monitoring of surface water, sediment, and fish tissue.

Estimated time for design and construction: 9 months.
Estimated period of operation: 30 years.
Estimated capital cost: $1,291,500.
Estimated operation and maintenance cost (net present worth): $6,589,500.
Estimated total cost (net present worth): $7,881,000.

Alternative BA1-3C: LNAPL Recovery from BA-1 and Off-Zone Disposal, Extraction of Source Area Overburden Groundwater and Bedrock Groundwater, On-Zone Treatment, On-Zone Discharge, and Institutional Controls

This alternative would consist of the following components:

- Establishment of institutional controls restricting future use of Zone 2 groundwater.
- Establishment of a GMZ and performance of long-term GMZ monitoring.
- Source area overburden and bedrock groundwater extraction at LFTS and BA-1. Installation of new wells, if required.
- Groundwater treatment for metals and organic contaminant removal, and disposal in recharge trenches on-zone.
- LNAPL recovery from BA-1 followed by off-zone disposal.
- Long-term monitoring of surface water, sediment, and fish tissue.

Estimated time for design and construction: 9 months.
Estimated period of operation: 30 years.
Estimated capital cost: $1,704,700.
Estimated operation and maintenance cost (net present worth): $7,625,200.
Estimated total cost (net present worth): $9,329,900.

Modified Alternative BA1-4B) In Situ SVE of Source Area LNAPL with Enhancement of SVE by Injection of Air Below the Water Table into the MCS Unit and Institutional Controls

This alternative consists of the following actions:

- In situ SVE treatment of BA-1 source area LNAPL with enhancement of SVE by injection of air below the water table into the MCS, and treatment of extracted soil vapor for removal of VOCs.
- Establishment of institutional controls restricting the future use of Zone 2 groundwater, including a GMZ, and performance of long-term GMZ monitoring.
- Natural attenuation of bedrock groundwater contamination. During and following the completion of SVE treatment of source area LNAPL enhanced by injection of air below the water table, bedrock groundwater quality will be remediated by natural attenuation and biodegradation.
- Long-term monitoring of surface water, sediment, and fish tissue.

Estimated time for design and construction: 9 to 12 months.
Estimated period of operation: 3 years for SVE/air sparging.
Estimated period of operation: 30 years.
Estimated capital cost: $926,222.
Estimated operation and maintenance cost (net present worth): $470,758.
Estimated total cost (net present worth): $1,397,000.

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, the NCP has promulgated nine evaluation criteria to be used in assessing the individual remedial alternatives.

A detailed analysis was performed on the alternatives using the nine evaluation criteria to select a site remedy. 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 the NCP:

1. Overall protection of human health and the environment addresses whether a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

2. Compliance with ARARs addresses whether a remedy will meet all of the ARARs or other federal and state environmental laws and/or provide grounds for invoking a waiver.

Primary Balancing Criteria

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 TMV of contaminants through treatment addresses the degree to which alternatives employ recycling or treatment that reduces TMV 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 achieved.

6. Implementability addresses the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

7. Cost includes estimated capital, O&M, and present-worth costs.

Modifying Criteria

The following modifying criteria are used in the final evaluation of remedial alternatives generally after public comments on the RI/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/FS Reports. Community acceptance of both the original and the revised Proposed Plans for Zone 2 was evaluated based on written comments and verbal comments received in public meetings during the public comment period.

A detailed tabular assessment of each alternative according to the threshold and balancing criteria is presented in Tables 5.2-1 through 5.2-8 of the Draft Final Zone 2 FS Report (G-625). 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 24 in Appendix A.

Subsections IX.A through IX.I present the nine criteria, including the two modifying criteria not discussed in the Zone 2 FS Report; a brief narrative summary of the alternatives; and the strengths and weaknesses of each alternative according to the detailed and comparative analysis. A long-term surface water, sediment, and fish tissue monitoring component is included in all of the alternatives discussed. For this reason, this particular component is discussed only once for each of the nine subsections that follow rather than including it in each remedial alternative discussion.

A. Overall Protection of Human Health and the Environment

Overall protection of human health and the environment addresses how an alternative as a whole will protect human health and the environment. This includes an assessment of how both human health and environmental risks are properly eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

BA-1 Alternatives

All the BA-1 alternatives, except the no-action alternative, provide adequate protection of human health and the environment. Alternative BA1-2 provides protection by removing free-phase product and by capping to lower the water table and enhance aerobic degradation of dewatered saturated soil:

Alternatives BA1-3A, BA1-3B, BA1-3C, and Modified BA1-4B provide protection of human health and the environment from risks posed by contaminated groundwater by imposing institutional controls and by incorporating different degrees of active treatment. Alternative BA1-3B would likely provide protection in a shorter time period than would Alternative BA1-3A. Alternative BA1-3C would likely provide protection in a shorter time period than would Alternative BA1-3B. Protection is expected to be attained in a shorter time period with implementation of Modified Alternative BA1-4B.

Long-Term Monitoring of Zone 2 Surface Water Bodies

Long-term monitoring of surface water, sediment, and fish tissue would be conducted in conjunction with implementation of each of the BA-1 alternatives, except the no-action alternative. A long-term monitoring plan would be developed during the remedial design.

This remedial component will enhance the protectiveness of each alternative by providing the data necessary to determine whether risks to potential human and ecological receptors are being reduced, or at least not increased, through implementation of the BA-1 alternatives.

B. Compliance with Applicable or Relevant and Appropriate Requirements

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 substances, pollutants, or contaminants; (2) location-specific requirements that are restrictions on activities based on the characteristics of a site and its immediate environment; and (3) action-specific requirements that are controls or restrictions on particular types of activities or treatment technologies. If an ARAR cannot be met, the reasons must be clearly stated, and a waiver by the appropriate federal and/or state regulatory agencies may be required.

Each alternative was evaluated for compliance with ARARs, including chemical-, action-, and location-specific. Alternative-specific evaluations are presented in Appendix F of the Draft Final Zone 2 FS Report (G-625). ARARs specific to Modified Alternative BA1-4B are presented in Table 4 of the Zone 2 FS Addendum 1 (G-741).

BA-1 Alternatives

Alternative BAI-1 would not meet any ARARs. Alternative BA1-2 would comply with the as in the long term. Alternatives BA1-3A, BA1-3B, BA1-3C, and Modified BA1-4B would meet all of the respective ARARs in a shorter time than would Alternative BA1-2 as a result of active treatment of all media of concern. Compliance is expected to be attained in a shorter time period with implementation of Modified Alternative BA1-4B than for the other alternatives.

Long-Term Monitoring of Zone 2 Surface Water Bodies

As discussed in Subsection IX.A, surface water, sediment, and fish tissue monitoring would accompany implementation of all BA1 alternatives, except the no-action alternative. This remedial component would monitor the effectiveness of implementation of the preferred BA-1 alternative in complying with ARARs pertaining to Zone 2 surface water bodies.

C. Long-Term Effectiveness and Permanence

Long-term effectiveness and permanence refers to the ability of an alternative to maintain reliable protection of human health and the environment over time once the cleanup goals have been met.

BA-1 Alternatives

Modified Alternative BA1-4B and Alternative BA1-3C afford the highest degrees of long-term effectiveness and permanence because these alternatives use treatment technologies to reduce hazards posed by all known wastes at the site. Although both alternatives would reduce the contaminants to safe levels, Modified Alternative BA1-4B would reduce the contaminants more quickly through in situ SVE treatment of source area LNAPLs enhanced by injection of air below the water table into the MCS.

Alternative BA1-2 eliminates the risk posed by free-phase product significantly; however, it relies on a cap for controlling infiltration into the site to enhance aerobic degradation of subsurface contamination. Although capping is an effective and accepted approach for reducing risk from contact with wastes, Alternative BA1-2 would be less effective than alternative BA1-3A, in which groundwater would be extracted actively from the overburden water-bearing unit to help attain cleanup goals faster. Alternative BA1-3B provides a higher degree of groundwater contaminant treatment than Alternative BA1-3A through treatment for metals and VOC removal. Alternative BA1-3C has a higher level of control compared to Alternatives BA1-3A and BA1-3B because it includes groundwater extraction from both overburden and bedrock wells. Alternatives BA1-3A, BA1-3B, and BA1-3C are similar in terms of long-term operation of the groundwater pump-and-treat systems; the systems are expected to be operated for 30 years. However, the system for Alternative BA1-3C is capable of handling higher flow rates. Modified Alternative BA1-4B is expected to attain cleanup goals in approximately 3 years.

With respect to risks associated with the free-phase product source, Alternatives BA1-2, BA1-3A, BA1-3B, and BA1-3C have similar risks through LNAPL recovery. Because direct LNAPL recovery is not a component of Modified Alternative BA1-4B, there is no direct risk associated with handling free-phase product, except the free-phase product that is volatilized and subsequently extracted by the SVE system.

Remedial activities would likely be completed in less time for Modified Alternative BA1-4B than for any of the other alternatives because of the direct treatment of source area soil and groundwater. A longer duration than predicted may result from possible nonuniform soil treatment by air sparging in Modified Alternative BA1-4B, although the total remedial time for this option would still be less than for other alternatives. As a result of the extraction and treatment of groundwater, in addition to LNAPL removal, Alternative BA1-3A would require less time to achieve cleanup goals than would Alternative BA1-2. Alternative BA1-3B may require less time than Alternative BA1-3A because VOCs would be treated directly in the groundwater treatment plant (GWTP). Since Alternative BA1-3C involves the extraction and treatment of both overburden and bedrock groundwater, the time required for this alternative to attain cleanup goals may be further reduced in comparison to Alternative BA1-3B.

Long-Term Monitoring of Zone 2 Surface Water Bodies

Long-term monitoring of surface water, sediment, and fish tissue from Upper and Lower Peverly and Bass Ponds would provide a means of determining the long-term effectiveness and permanence of the BA1 alternative that is ultimately implemented. If results of the long-term monitoring indicate a lack of effectiveness or permanence, other remedial options may be considered.

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

Reduction of TMV of contaminants through treatment is a principal measure of the overall performance of an alternative. The 1986 Amendments to the Superfund Statute emphasize that, whenever possible, a remedy should be selected that uses a treatment process that permanently reduces the level of toxicity of contaminants at the site, the spread of contaminants at the site, the spread of contaminants away from the source of contamination, and the volume or amount of contamination at the site.

BA-1 Alternatives

Alternatives BA1-3A, BA1-3B, BA1-3C, and Modified BA1-4B use treatment technologies to reduce the inherent hazards posed by all known wastes at the sites. All these alternatives involve pumping and treating groundwater, except Modified Alternative BA1-4B, in which SVE enhanced by air injection is used instead to reduce all risks posed by LNAPL and groundwater. Alternatives BA1-3A, BA1-3B, and BA1-3C involve the treatment of contaminated groundwater. For Alternatives BA1-3B and BAI-3C, carbon regeneration would ultimately destroy all contaminants adsorbed onto the carbon. Modified Alternative BA1-4B and Alternative BA1-3C are ranked very similar in terms of treatment processes used and amount of contaminated materials to be treated; however, the GWTP component of Alternative BA1-3C is likely to generate a large quantity of treatment residuals. Alternative BA1-3C will generate a slightly larger, although not significant, quantity of residuals than would Alternatives BA1-3A and BA1-3B because of the larger volume of groundwater to be treated. For Modified Alternative BA1-4B, the SVE system includes catalytic oxidation to destroy the extracted VOCs. All these alternatives satisfy the statutory preference for treatment as a principal element. Alternatives BA1-3A and BA1-3B treat approximately 13

gallons per minute (gpm) of groundwater, and Alternative BA1-3C treats approximately 38 gpm of groundwater. Modified Alternative BA1-4B is expected to remove a contaminant mass of approximately 40 kg/day.

Alternative BA1-2 treats the principal threat posed by the free-phase product, and thus would satisfy the statutory preference for treatment as a principal element. Alternative BA1-2 also reduces the volume and toxicity of contaminated groundwater.

For all alternatives in which groundwater treatment and/or LNAPL recovery are involved, residuals would be sent to a licensed, off-zone facility for disposal.

Long-Term Monitoring of Zone 2 Surface Water Bodies

Long-term monitoring of surface water, sediment, and fish tissue from Upper and Lower Peverly and Bass Ponds would not enhance the reduction of TMV in any of the BA-1 alternatives. However, monitoring would serve as a means of determining whether, and to what extent, implementation of any of the BA-1 alternatives (except the no-action alternative) is reducing the TMV of contaminants in Zone 2 surface water bodies. This knowledge would prove valuable several years after implementation of the selected remedy, when re-evaluation of the success of the chosen alternative would be necessary to make decisions regarding continuation of the alternative, modification of the alternative, or discontinuation of remedial action (i.e., TMV of contaminants in all media of concern have been reduced to acceptable levels).

E. Short-Term Effectiveness

Short-term effectiveness refers to the likelihood of adverse impacts on human health or the environment that may be posed during the construction and implementation of an alternative until cleanup goals are achieved.

BA-1 Alternatives

Implementation of Alternative BA1-1 would pose no additional risks other than those identified in the baseline risk assessment because no remedial activities would be implemented in the no-action alternative. Alternative BA1-2 would present the greatest potential for particulate emissions because of construction of the single-barrier cap. However, dust control methods would reduce the risk. Other than short-term particulate emissions, Alternative BA1-2 presents the least mount of risk to workers, the community, and the environment next to Alternative BA1-1. Compared to Alternative BA1-2, Alternatives BA 1-3A, BA1-3B, and BA1-3C present slightly greater potential short-term risk to workers as a result of inhalation of, ingestion of, or dermal contact with groundwater contaminants and LNAPLs. Modified Alternative BA1-4B is expected to have the fewest adverse short-term impacts on the community because most of the remedial action is achieved in situ. This remedial action results in minimal contact with BA-1 contamination because of the absence of capping and groundwater extraction components. VC)Cs released during SVE in Modified Alternative BA1-4B will be treated prior to discharge.

The time required to achieve short-term protectiveness would be shorter for Alternative BA1-2 than for any other alternative. It is expected that only 3 months would be required to install a new cap. Recovery of LNAPL is a component of Alternatives BA1-2, BA1-3A, BA1-3B, and BA1-3C, and the time for completion of this action has not been estimated. However, it would be the same for all these alternatives. Alternatives BA1-3A, BA1-3B, and BA1-3C are very similar with respect to overall short-term effectiveness. There is a small potential for risk to workers and the environment through VOC emissions during construction activities and groundwater treatment. Alternative BA1-3B has a slightly greater, but not significant, potential for risk during groundwater treatment because of treatment-for both VOCs and metals in comparison to Alternative BA1-3A. Alternative BA1-3C has a slightly greater, but not significant, potential for risk during groundwater treatment because of the inclusion of treatment for both overburden and bedrock groundwater. Modified Alternative BA1-4B would pose the lowest risk because it involves in situ treatment of source area LNAPL.

Long-Term Monitoring of Zone 2 Surface Water Bodies

As for criteria A, B, C, and D, long-term surface water, sediment, and fish tissue monitoring in Zone 2 would provide useful information regarding the effectiveness of the selected remedial alternative in achieving some of the RAOs for the zone.

While implementation of the sampling required for Zone 2 surface water body monitoring would not enhance the ability of any of the BA1 alternatives to achieve RAOs, it would provide a means of determining the short- and long-term effectiveness of the selected BA-1 alternative.

F. Implementability

Implementability refers to the technical and administrative feasibility of an alternative, including the availability of materials and services needed to implement the alternative.

All the alternatives in the detailed analysis are implementable and have been used successfully at other sites. The differences in this category are in the length of time required to implement the alternative; the degree of difficulty in both administration and implementation; and the availability of treatment equipment, specialty equipment, and construction specialists.

BA-1 Alternatives

Alternative BA1-1 is the most readily implementable alternative from a construction standpoint because no remedial activities are involved.

Imposing deed restrictions on groundwater use is a component of all the alternatives, with the exception of Alternative BA1-1. There are no expected technical or administrative difficulties associated with this alternative. No major administrative difficulties are expected for any of the BA-1 alternatives, with the exception of the no-action alternative.

While construction of LNAPL recovery wells and capping under Alternative BA1-2 would involve significant material-handling requirements, the materials are available locally. It would be easy to undertake additional remedial action, if required. Periodic maintenance would ensure the rehability of the cap. The groundwater monitoring program would determine the effectiveness of the cap in lowering the water table and enhancing aerobic degradation.

The construction requirements for Alternatives BA1-3A, BA1-3B, and BA1-3C are similar and fairly simple. These alternatives have more operational requirements than Alternative BA1-2 because of groundwater extraction and treatment. The construction requirements for Modified Alternative BA1-4B are slightly more complex than for Alternative BA1-3C because of the SVE and air sparing components. Both SVE and air sparging are fairly reliable technologies because of their mechanical simplicity.

The groundwater treatment component of Alternatives BA1-3A, BA1-3B, and BA1-3C requires readily available engineering services and materials. All components of the GWTP (i.e., activated carbon units, air stripper, chemical precipitation system, and multimedia filtration system) are proven, reliable technologies, and could be readily obtained and constructed. Placement and construction of the groundwater extraction wells pose no technical or administrative difficulties.

Alternative BA1-3A would be slightly difficult to implement technically compared to Alternatives BA1-3B, BA1-3C, and Modified BA1-4B because it relies on in sire treatment of organic contaminants in groundwater. The infiltration of nutrient-laden groundwater and subsequent extraction of groundwater could be technically difficult to implement. These activities would have to be evaluated more carefully to maintain and enhance aerobic degradation.

Long-Term Monitoring of Zone 2 Surface Water Bodies

This portion of all the BA-1 alternatives, as described in Subsections IX.A through IX.E, would involve the formulation and implementation of a long-term monitoring plan for Zone 2 surface water, sediment, and fish tissue.

Currently, the technologies exist for both collection and analysis of surface water, sediment, and fish tissue samples. These technologies are established, well-proven, and able to meet current regulatory requirements with minimal difficulty.

G. Cost

Cost includes the capital (up-from) cost of implementing an alternative, the cost of operating and maintaining the alternative over the long term, and net present worth of both capital and O&M costs. The capital, O&M, and total costs of each alternative are as follows:

	Remedial Alternative	O & M Cost Capital Cost	Present-Worth Total Present Year 30	Worth Cost
BA1-1	No action.	Not Costed	Not Costed	Not Costed
BA1-2	LNAPL recovery and off-zone disposal from BA-1/capping of LFTS and BA-1/institutional controls (groundwater use restrictions; groundwater, surface water, and sediment monitoring; and GMZ establishment).	$1,168,500	$1,730,500	$2,899,100
BA1-3A	Overburden groundwater extraction, metals treatment, nutrient/oxygen addition, and recharge at LFTS and BA-1; LNAPL recovery and off-zone treatment/disposal from BA-1; and institutional controls.	$1,283,900	$5,265,300	$6,549,200
BA1-3B	Overburden groundwater extraction, treatment, and recharge at LFTS and BA-1; LNAPL recovery and off-zone treatment/disposal from BA-1; and institutional controls.	$1,291,500	$6,589,500	$7,881,000
BA1-3C	Overburden and bedrock groundwater extraction, treatment, and recharge at LFTS and BA-1; LNAPL recovery and off-zone treatment/disposal from BA-1; and institutional controls.	$1,704,700	$7,625,200	$9,329,900
Modified BA1-4B	in situ SVE with air sparging at BA-1, off-site treatment and disposal of recovered LNAPL, and institutional controls.	$926,222	$470,758	$1,397,000

H. State Acceptance

State acceptance addresses whether, based on its review of the RI/FS Reports and Proposed Plan, the state concurs with the alternative that the Air Force is proposing as the remedy for the site.

I. Community Acceptance

Community acceptance addresses whether the public concurs with the Air Force's Proposed Plan. Community acceptance of this Proposed Plan was evaluated based on comments received at the 11 April 1995 public meeting. As previously stated, no written comments were received during the public comment period.

X. THE SELECTED REMEDY

The selected remedy, as presented in the Zone 2 Proposed Plan (G-722), is a modified version of Alternative BA1-4B presented in the Draft Final Zone 2 FS Report (G-625). Modified Alternative BA1-4B is similar to Alternative BA1-4B as presented in the Draft Final Zone 2 FS Report in all aspects, except that the groundwater extraction and treatment component has been substituted by SVE with air sparging. An overview of the remedial actions included in Modified Alternative BA1-4B is shown in the process flow diagram in Figure 26.

Specifically, the preferred alternative includes the following:

- In situ SVE/air sparging treatment of BA-1 source area LNAPLs and residual LNAPL and treatment of extracted soil vapor for removal of VOCs.

- Establishment of institutional controls restricting the future use of Zone 2 groundwater, including a GMZ, and performance of long-term GMZ monitoring.

- Natural attenuation (which may include natural biodegradation) of bedrock groundwater contamination. During and following the completion of SVE treatment of source area LNAPLs enhanced by injection of air below the water table, bedrock groundwater quality will be remediated by natural attenuation (which may include natural biodegradation).

- Monitoring of the surface water, sediment, and fish tissue.

No further action is proposed under CERCLA for LF-1. In a separate action, which is not part of this ROD, the Air Force will perform final closure of LF-1 in accordance with NHDES landfill closure requirements. NHDES will have jurisdiction over closure activities, and plans will be coordinated with the respective NHDES divisions, independent of CERCLA and the FFA.

<IMG SRC 0195110AA>

A. Methodology for Cleanup Level Determination

Cleanup levels were evaluated for each medium of concern in Zone 2. Cleanup goals have been established for chemicals of concern identified in the risk assessment section of the Draft Final Zone 2 RI Report (G-626) and for contaminants detected at levels exceeding ARARs or risk-based concentrations.

The approach used to determine risk-based concentrations is consistent with the approach used to evaluate human health risk in the risk assessment section of the Draft Final Zone 2 RI Report (G-626). This approach was originally presented in a protocols document submitted to EPA Region I and NHDES. This document was subsequently amended and a revised version was submitted. In summary, risk-based concentrations were derived from the chemicals of concern in each medium based on the most reasonable maximally exposed human receptor (current or future) for the medium.

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

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

In general, where ARARs were available and deemed appropriate, ARAR were selected as cleanup goals. Where ARARs were not available, or if the basis on which the ARAR was established was not consistent with Zone 2 exposure scenarios, a risk-based concentration was selected as the cleanup goal. If chemical concentrations exceeded both established background levels and ARARs or risk-based concentrations, and if the ARAR/risk-based concentration was below background, the background level was selected as the cleanup goal. When ARARs were selected as the cleanup goals, a human health risk was calculated for the ARAR concentration. Cleanup goals were not established for chemicals detected at maximum concentrations that were lower than appropriate ARARs or risk-based concentrations. The cleanup goals for media in Zone 2 are presented in Tables 25 through 29 in Appendix A, and are summarized in the subsections that follow.

B. Groundwater Cleanup Goals

LF-1: The human health risk assessment indicated that contaminants were detected in groundwater from overburden and bedrock wells in LF-1 at concentrations that may pose a health risk to potential future users (i.e., are in excess of EPA threshold criteria) or above regulatory-based ARARs. However, there are currently no human exposure pathways for groundwater and because the LF-1 area is currently part of a National Wildlife Refuge, it is highly unlikely that there would be any groundwater use in the future. No further action is recommended under CERCLA. However, since at least one LF-1 well (530) may be included in a zonal GMZ (see Figure 27), cleanup levels have been established for five inorganic compounds and one organic compound that exceeded regulatory-based ARARs and/or human-health risk-based concentrations in LF-1 groundwater (see Table 26 in Appendix A).

FDTA-1: In FDTA-1 groundwater, manganese was detected above the human health risk-based concentration in a May 1992 sample from one well. However, in a more recent (September 1993) sample from this well, manganese was detected below the human health risk-based concentration. No other compounds in FDTA-1 groundwater posed unacceptable risks. Because of the limited degree of contamination, no cleanup goals were established for FDTA-1 groundwater, and no further action is recommended under CERCLA.

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LFTS/BA-1/MRDDA: The human health risk assessment indicated that contaminants in overburden and bedrock groundwater at LFTS may pose a health risk to potential future users in excess of EPA threshold criteria. To meet these objectives, the Air Force has established site-specific cleanup levels for contaminants in LFTS groundwater. Cleanup goals were established for three organic contaminants and for four metals that exceeded regulatory-based ARARs and/or human-health risk-based concentrations in LFTS groundwater [see Table 2.7-1 of the Draft Final Zone 2 FS Report (G-625)].

The human health risk assessment indicated that contaminants in overburden and bedrock groundwater wells at BA-1 may pose a health risk to potential future users in excess of EPA threshold criteria. The Air Force has established site-specific cleanup goals for contaminants in BA-1 groundwater. Cleanup goals were established for 12 organic contaminants and two metals that exceeded regulatory-based ARARs and/or human health risk-based concentrations in BA-1 groundwater [see Table 2.7-1 of the Draft Final Zone 2 FS Report (G-625)].

Benzene was detected in bedrock groundwater samples from MRDDA wells at concentrations exceeding the regulatory-based ARARs and human health-based cleanup levels. No contaminant sources were identified in MRDDA soils, and the benzene detected in the bedrock groundwater samples is attributable to contaminant migration from LFTS and BA-1. Consequently, the benzene detected in MRDDA bedrock groundwater is addressed as part of the groundwater contamination at LFTS and BA-1. Therefore, no cleanup goals have been established specifically for MRDDA groundwater. Instead, cleanup goals for BA-1 and LFTS are used to evaluate the groundwater in this area. In all, cleanup goals were established for 12 organic and four inorganic compounds for LFTS/BA-1/MRDDA groundwater (see Table 25 in Appendix A).

BA-2: The human health risk assessment indicated that contaminants in overburden groundwater in the immediate vicinity of the former burn areas at BA-2 may pose a health risk to potential future users in excess of EPA threshold criteria or above regulatory-based ARARs. However, the extent of contamination is very localized and site conditions appear to prevent the contamination from migrating. As such, BA-2 wells may be included in a zonal GMZ under the selected remedy (see Figure 27). Therefore, chemical-specific cleanup levels have been established for three organic compounds for use in GMZ and site area monitoring (see Table 27 in Appendix A).

C. Soil Cleanup Goals

LF-1: Based on the results of the RI, a significant source of metals contamination is not believed to exist within LF-1. Although a limited mount of old solid waste was found above the water table, the majority of the test pits and borings encountered only organic fill/construction debris.

No significant potential human health risk or risk due to leaching was attributed to LF-1 soil. Based on the ecological risk assessment (summarized in Section VI), arsenic was the only contaminant detected in LF-1 soil at concentrations that resulted in an unacceptable ecological risk. A significant source of arsenic (or other metals) contamination has not been found within LF-1 (arsenic was detected above background in only 3 of 15 sampling locations). However, it is possible that naturally occurring arsenic is mobilized from surrounding soil in the landfill by changes in geochemical processes occurring in the landfill. Regardless of the source of arsenic (natural or site activity-related), further action at this site will be conducted in a non-CERCLA action coordinated with the state under New Hampshire landfill closure requirements. Therefore, no further action is recommended under CERCLA for this site.

FDTA-1: the baseline risk assessment conducted during the RI at Zone 2 (see Section VI) indicates that FDTA-1 soils pose no current or potential future threat to human health or ecological receptors. Therefore, no cleanup goals are required for FDTA-1 soil, and no further source control action is recommended under CERCLA for this site.

LFTS: The baseline risk assessment indicates that LFTS soils pose no current or potential future threat to human health or the environment. Therefore, no remedial actions are required under CERCLA for the soil at LFTS.

BA-1: The ecological risk assessment (summarized in Section VI) indicated that arsenic was the only contaminant detected in BA-1 soil that may pose an unacceptable ecological risk. Arsenic was detected

above the background concentration at only 2 of 13 sampling locations. At only 1 of 13 locations, arsenic was detected at concentrations above leaching-based cleanup goals (i.e., concentration that could potentially leach from soil into groundwater and cause groundwater contamination that may present an unacceptable human health risk). Because of the limited extent of soil contamination, no chemical-specific cleanup goals have been established for BA-1 soil. While the groundwater cleanup goals may serve as overall LNAPL cleanup goals, the derivation of specific LNAPL cleanup goals and specific residual product cleanup goals .are discussed in Subsection X.E under Environmental Monitoring Program.

BA-2: The baseline risk assessment indicated that lead in BA-2 surface soils poses an unacceptable potential ecological risk at only 3 of 17 sampling locations. TCE was detected at only 1 of 12 sample locations at a concentration that could potentially cause a leaching concern. Because of the limited extent of soil contamination, no cleanup goals have been established for BA-2 soil, and no source control action is recommended under CERCLA for this site.

MRDDA: The baseline risk assessment conducted during the RI at Zone 2 (see Section VI) indicates that MRDDA soils pose no current or potential future threat to human health or the environment. Therefore, no further remedial actions are required under CERLA for the soil at MRDDA.

Based on the preceding information, no cleanup goals for soil in Zone 2 are necessary and none have been established. As for BA-1, LNAPL is addressed in the discussion of groundwater cleanup goals.

D. Surface Water and Sediment

Section VI summarizes the results of the human health and ecological risk assessments for surface water and sediment in Zone 2. The results indicate that the human health risks posed by chemicals of concern in sediments or surface water are within the EPA range of generally acceptable risks, although a limited ecological risk may be posed by the sediments. In view of the limited extent and magnitude of contamination, and because any remedial actions would likely result in a greater adverse impact on the ecological community than the existing conditions, no remedial actions other than environmental monitoring of surface water, sediment, and fish tissue are proposed.

Table 28 in Appendix A presents cleanup goals for Zone 2 surface water. Because groundwater from both the overburden and bedrock flow units discharges into the ponds, maximum background concentrations for groundwater also are presented in Table 28 for comparison. However, maximum background concentrations for surface water were used in the development of cleanup goals. No organic compounds were detected above maximum background concentrations or ROs Zone 2 surface water. Surface water cleanup goals were established for six metals in Upper Peverly Pond and for arsenic and zinc in Lower Peverly Pond. No surface water cleanup goals were established for Bass Pond. Surface water cleanup goals were established for arsenic, cadmium, and iron at Zone 2 seeps.

Pesticide concentrations detected in Zone 2 sediments are similar to basewide ambient concentrations. These concentrations were the result of basewide pesticide applications, and, as such, are not the result of a CERCLA-regulated release. Therefore, no cleanup goals were established for pesticides in Zone 2 sediments. No other organic compounds were detected above maximum background concentrations or ROs in Zone 2 sediment samples. Sediment cleanup goals were established for arsenic and zinc in Upper and Lower Peverly Ponds and Bass Pond (see Table 29 in Appendix A). In addition, cleanup goals for lead and nickel were selected for Upper Peverly Pond sediments. Sediment cleanup goals were established for five metals for Zone 2 seeps.

E. Description of Remedial Components

An overview of the remedial actions included in Modified Alternative BA1-4B is shown in the process flow diagram in Figure 26. This alternative consists of the following remedial actions:

- In situ SVE treatment of BA-1 source area LNAPLs enhanced by injection of air below the water table into the MCS, and treatment of extracted soil vapor for removal of VOCs.
- Establishment of institutional controls restricting the future use of Zone 2 groundwater, including a GMZ, and performance of long-term GMZ monitoring. The GMZ wi11 remain in effect until cleanup goals have been attained, in accordance with NHDES regulation Env-Ws 410.
- Natural attenuation of residual contamination remaining in groundwater after excavation, air sparging, and SVE treatment.
- Surface water, sediment, and fish tissue monitoring within the Peverly and Bass Ponds drainage system.

Detailed descriptions of the various components follow.

Institutional Controls

Institutional controls will include access restrictions during active remediation and deed restrictions. 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 Program

A detailed plan for monitoring the performance and effectiveness of the source control action and the effectiveness of natural attenuation processes will be submitted to EPA and NHDES for review and approval during the remedial design phase of the remedial response. The groundwater monitoring component of the environmental monitoring plan will be developed to provide the data necessary to monitor: (1) the effectiveness of source control remedial measures; (2) potential LNAPL movement at BA-1; (3) the natural attenuation of dissolved-phase contamination associated with the BA-1, BA-2, and LFTS; and (4) groundwater quality at the Zone 2 GMZ boundary.

The environmental monitoring plan will include the methods to be used to monitor the performance of the SVE/air sparging system. NHDES Virgin Petroleum Contaminated Soils Generic Cleanup Guidelines from the 3 October 1994 Addendum VI to the Department's "Interim Policy for the Management of Soils Contaminated from Spills/Releases of Virgin Petroleum Products" will be considered when evaluating performance.

The environmental monitoring plan also will incorporate a surface water, sediment, and fish tissue monitoring plan that will include the information necessary to monitor and evaluate potential threats to human health and the environment posed by contaminants in surface water, sediment, and fish tissue.

In Situ SVE/AS

Based on the results of the SVE pilot treatability study (performed from 24 June to 19 August 1994), the proposed design for full-scale remediation at BA-1 consists of SVE from the US, with injection of air below the water table to the MCS. In addition, injection air recovery vents would be installed in the LS. Any groundwater extracted with the soil vapor would be separated and stored on-site, prior to being transported off-site for treatment and disposal. The proposed full-scale remediation system is described in greater detail in Subsections 2.1.4 through 2.1.7 of the Zone 2 FS Addendum 1 (G-741).

SVE has been demonstrated to be an effective, established remedial technology for removal of volatile contaminants from unsaturated zone soil (G-226). Depaoli et al. (G-103) and Dupont and Doucette (G-119) have demonstrated the effectiveness of SVE for remediating jet fuel- contaminated soil. In addition, several studies (G-226, G-291; G-103; G-372) have shown that the increased mount of oxygen introduced into the soil pores as a result of SVE stimulates biological activity. These studies suggest that SVE may indirectly enhance in situ biodegradation of organic contaminants not removed by vapor extraction.

SVE removes VOCs from the subsurface by mechanically drawing air through vadose zone soil pore spaces. The increased flow of air through soil pores enhances volatilization of organic compounds and results in movement of organic vapors through the soil to extraction vents. The air stream is typically treated for removal of contaminants prior to its discharge to the atmosphere.

SVE has several advantages over other available technologies for remediation of VOC-contaminated soil:

- SVE is an in situ method that has the potential for treating large volumes of soil at reasonable costs in comparison to other available technologies.
- SVE systems are relatively easy to install and use standard, readily available equipment. This allows for rapid mobilization and implementation of remedial actions.
- The design of SVE systems is relatively simple.

The final design of a full-scale SVE system for BA-1 would be based on pilot testing conduced at the site.

Air sparging is typically performed in the saturated zone below the maximum depth of known soil contamination. In situ sparging is a technology where air is injected into the water-saturated zones for the purpose of removing contaminants by volatilization and biodegradation. It is generally used in conjunction with SVE to eliminate off-site migration of vapors. Like SVE, air sparging is relatively

simple to implement and capital costs are moderate. Injection of air into subsurface water-saturated areas coupled with SVE is expected to increase removal rates in comparison to SVE alone for BA-1, where a significant portion of the contaminants is distributed within the saturated zone.

Information on spacing, distribution, and number of vapor extraction vents and sparge points is presented in the Zone 2 FS Addendum 1 Report. Any variations to the remedial action (variation of SVE) will be addressed during remedial design.

XI. STATUTORY DETERMINATIONS

The remedial action selected for implementation at Zone 2 is consistent with CERCLA and 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. Protection of Human Health and the Environment

The remedy at Zone 2 will permanently reduce the risks posed to human health and the environment by eliminating, reducing, or controlling exposures to human and ecological receptors through treatment, engineering controls, and institutional controls. Specifically, this will be accomplished through:

- In situ SVE and air sparging treatment of BA-1 source area soil LNAPL and residual to reduce the leaching of contaminants from soil to groundwater in order to reduce ecological and human receptor exposure.

- Establishment of a GMZ and deed restrictions on groundwater use in Zone 2 to limit human receptor exposure.

- Surface water, sediment, and fish tissue monitoring for continuous evaluation of ecological receptor exposure.

B. Compliance with ARARs

The selected remedy will comply with all applicable or relevant federal and state ARARs that apply to Zone 2. ARARs for the selected remedy (Modified Alternative BA1-4B) are presented in Appendix B, which contains a complete list of ARARs, including the regulatory citation, a summary of the requirement, and the action to be taken to attain the requirement. In addition, policies, criteria, and guidelines that are to be considered (TBC) will be considered during the implementation of the remedial action. The ARARs are presented as follows:

- Chemical-Specific ARARs.

  - Federal) SDWA Maximum Contaminant Levels.

  - State) New Hampshire Administrative Code Env-Ws 410, Groundwater Protection Standards.

  - State) New Hampshire Administrative Code Env-A 1300 and 303, Toxic Air Pollutants and Ambient Air Standards.

- Location-Specific ARARs.

  - Floodplains Executive Order (EO 11888).
  - Wetlands Executive Order (EO 11990).
  - Fish and Wildlife Coordination Act (16 USC 661 et seq.).
  - Clean Water Act (CWA), Section 404 (40 CFR Part 230).
  - State of New Hampshire Regulations.

- Action-Specific ARARs.

  - Resource Conservation and Recovery Act (RCRA).
  - Hazardous and Solid Waste Amendments (HSWA) to RCRA.
  - Clean Air Act (CAA).
  - State of New Hampshire Regulations.

Appendix B provides details on the ARARs for the preferred remedy.

C. Cost Effectiveness

The selected remedy is cost effective because it will provide overall effectiveness proportional to its costs, the net-present worth value being $5,091,000. The estimated cost of the selected remedy is an order of magnitude lower than all alternatives other than Alternative BA1-2. The preferred alternative (Modified Alternative BA1-4B) is cost-effective, when the overall relationship between cost and effectiveness is compared to the cost/effectiveness relationship of Alternative BA1-2.

A summary of costs associated with each remedial alternative is presented in Section VII. A breakdown of the estimated capital cost, O&M costs, and total cost for each alternative is also presented in Section VII. A summary of the costs for key elements associated with Modified Alternative BA1-4B (in net present-worth costs) is presented as follows:

Component of Remedy	Present-Worth Cost ($)
Capital	926,242
O&M	470,758
Total (rounded)	1,397,000

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, engineering, procurement, administrative and legal, and contingency costs.

D. Utilization of Permanent Solutions and Alternative Treatment

Once those alternatives that attain or, as appropriate, waive ARARs and that are protective of human health and the environment were identified, the Air Force identified the alternative that uses permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. This determination was made by deciding which one of the identified alternatives provides the most favorable balance in consideration of the following factors: (1) long-term effectiveness and permanence; (2) reduction of TMV through treatment; (3) short-term effectiveness; (4) implementability; and (5) cost. The balancing test emphasized long-term effectiveness and the reduction of TMV through treatment, and considered the preference for treatment as principal clement and community and state acceptance. Of the alternatives evaluated, the selected remedy provides the most favorable balance of the factors considered.

The selected remedy does offer as relatively high a degree of long-term effectiveness and permanence as do the other groundwater extraction and treatment alternatives, and it will significantly reduce the inherent hazards posed by the LNAPL through SVE of the VOCs, and will enhance volatilization of contaminants present in the groundwater by injecting air into the saturated zone.

The selected remedy treats the principal threat posed by the LNAPL, achieving significant VOC reductions. The implementability of the selected remedy is comparable to the nontreatment alternatives and significantly better than the other groundwater extraction and treatment alternative options. The selected remedy also is the least costly in situ option and is less expensive than groundwater extraction and treatment.

The selection of this remedy is consistent with program expectations that indicate that highly toxic and mobile wastes are a priority for treatment and that treatment is often necessary to ensure the long-term effectiveness of a remedy. Since the in situ and groundwater extraction and treatment options are reasonably comparable with respect to long-term effectiveness and the toxicity and mobility reductions achieved, the major tradeoffs that provide the basis for this selection decision are short-term effectiveness, implementability, and cost. The selected remedy can be implemented more quickly, with less difficulty, and at less cost than the groundwater extraction and treatment alternatives and, therefore, is the most appropriate solution for Zone 2.

E. Preference for Treatment as a Principal Element

By treating the VOC-contamination in Zone 2 by in sire SVE and air sparging, the selected remedy addresses the principal threats posed by the site through the use of treatment technologies. VOCs extracted from the surface will be treated prior to discharge. By implementation of these actions, the selected remedy will significantly reduce the TMV of contaminants in Zone 2 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. Therefore, the statutory preference for remedies that use treatment as a principal element is satisfied.

XII. DOCUMENTATION OF SIGNIFICANT CHANGES

The proposed plan for Zone 2 was released for public comment from 22 March to 21 April 1995. The Proposed Plan identified Modified Alternative BA1-4B as the preferred alternative. EPA and NHDES reviewed all verbal comments submitted at the public meeting held on 11 April 1995. No written comments were received during the public comment period. Upon review of the verbal comments, it was determined that no significant changes to the remedy, as it was originally identified in the Proposed Plan, were necessary.

XIII. STATE ROLE

NHDES reviewed the various alternatives and indicated its support for the selected remedy. NHDES also reviewed the Zone 2 RI Report (G-626), including the risk assessment, and the Draft Final Zone 2 FS Report and Addendum 1 (G-625; G-741) to determine whether the selected remedy is in compliance with state ARARs. NHDES concurs with the selected remedy for Zone 2.

REFERENCES

G-84 CH2M Hill. 1984. Installation Restoration Program Records Search for Pease AFB, NH.

G-103 Depaoli, D.W., S.E. Herbes, and M.G. Elliott. 1991. "Performance of In Situ Soil Venting System at a Jet Fuel Spill Site." In: EPA (U.S. Environmental Protection Agency). 1991. Soil Vapor Extraction Reference Handbook. Risk Reduction Engineering Laboratory. EPA/540/2-91/003.

G-119 Dupont, R.R. and W.J. Doucetae. 1991. "Assessment of In Situ Bioremediation Potential and the Application of Bioventing at a Fuel-Contaminated Site." In: In Situ Bioreclamation. R.E. Hinchee and R.F. Olfenbuttel (editors). Butterworth-Heinemann, Stoneham, MA.

G-226 EPA (U.S. Environmental Protection Agency). 1991. Soil Vapor Extraction Reference Handbook. Risk Reduction Engineering Laboratory. EPA/540/2-91/003.

G-291 Hinchee, R.E., D.C. Downey, and R.N. Miller. 1991. "In-Situ Biodegradation of Petroleum Distillates." In: EPA (U.S. Environmental Protection Agency). 1991. Soil Vapor Extraction Reference Handbook. Risk Reduction Engineering Laboratory. EPA/540/2-91/003.

G-372 Miller, R.N., C.C. Vogel, and R.E. Hinchee. 1991. "A Field-Scale Investigation of Petroleum Hydrocarbon Biodegradation in the Vadose Zone Enhanced by Soil Venting at Tyndall AFB, Florida." In: In Situ Bioreclamation. R.E. Hinchee and R.F. Olfenbuttel (eds.). Butterworth-Heinemann, Stoneham, MA.

G-415 NOAA (National Oceanic and Atmospheric Administration). 1990. "The Potential for Biological Effects of Sediment-Sorbed Contaminants Tested in the National Status and Trends Program." NOAA Technical Memorandum. NOS OMA 52. Seattle, WA.

G-525 WESTON (Roy F. Weston, Inc.). 1986. Installation Restoration Program, Phase II) Confirmation/Quantification, Stage 1 Final Report, Pease AFB, NH. June 1986.

G-527 WESTON (Roy F. Weston, Inc.). 1987. Installation Restoration Program, Phase II) Confirmation/Quantification, Stage I Final Report, Pease AFB, NH.

G-530 WESTON (Roy F. Weston, Inc.). 1988. Interim Technical Report No. 1 for the Installation Restoration Program Stage 2, Pease AFB, NH. February 1988.

G-538 WESTON (Roy F. Weston, Inc.). 1990. Installation Restoration Program, Proposed Plan for Landfill 3, Field Maintenance Squadron Equipment Cleaning Site, Fire Department Training Area 1. Pease AFB, NH. Draft Report, July 1990.

G-540 WESTON (Roy F. Weston, Inc.). 1990. Installation Restoration Program, Stage 2 Final Report, Pease AFB, NH. July 1990.

G-553 WESTON (Roy F. Weston, Inc.). 1991. Installation Restoration Program Stage 3B, Preliminary Assessment/Site Inspection. Pease AFB, NH. Draft Report. February 1991.

G-591 WESTON (Roy F. Weston, Inc.). 1992. Installation Restoration Program, Stage 4, Site Characterization Summary, Zone 2, Pease AFB, NH. October 1992.

G-597 WESTON (Roy F. Weston, Inc.). 1992. Letter Report for the Intensive Test Pit Operation at the McIntyre Road Drum Disposal Area, Pease AFB, NH.

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-611 WESTON (Roy F. Weston, Inc.). 1993. Installation Restoration Program, Stage 3C, IRP Site 8 Draft Final Feasibility Study, Pease AFB, NH. January 1993.

G-625 WESTON (Roy F. Weston, Inc.). 1993. Installation Restoration Program, Stage 4, Zone 2 Draft Final Feasibility Study Report, Pease AFB, NH. December 1993.

G-626 WESTON (Roy F. Weston, Inc.). 1993. Installation Restoration Program, Stage 4, Zone 2 Draft Final Remedial Investigation, Pease AFB, NH. November 1993.

G-735 WESTON (Roy F. Weston, Inc.). 1994. Installation Restoration Program, Stage 4, Draft, Leaded Fuel Tank Sludge Area X-Ray Fluorescence (XRF) Letter Report, Pease AFB, NH. November 1994.

G-722 WESTON (Roy F. Weston, Inc.). 1994. Installation Restoration Program, Draft Final Proposed Plan for Zone 2, 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.

LIST OF ACRONYMS

1,1,1-TCA	1,1,1-trichloroethane
AALs	Ambient Air Limits
AFB	Air Force Base
AFBCA	Air Force Base Conversion Agency
AFCEE/ESB	Air Force Center for Environmental Excellence/Base Closure Division
AGQSs	Ambient Groundwater Quality Standards
AHCs	aromatic hydrocarbons
ARARs	Applicable or Relevant and Appropriate Requirements
AVGAS	aviation gasoline
BFSA	Bulk Fuel Storage Area
BRA	baseline risk assessment
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CWA	Clean Water Act
DEQPPM	Defense Environmental Quality Program Policy Memorandum
DOD	Department of Defense
DOI	Department of the Interior
EDB	ethylene dibromide
EPA	U.S. Environmental Protection Agency
EqP	Equilibrium Partitioning Approach
ER-L	biological effects range) low
ER-M	biological effects range) median
FFA	Federal Facilities Agreement
FS	Feasibility Study
ft MSL	feet above mean sea level
ft BGS	feet below ground surface
GMZ	Groundwater Management Zone
gpm	gallons per minute
GPR	ground-penetrating radar
GT	Glacial Till
GWTP	groundwater treatment plant
HAs	Health Advisories
HHCs	halogenareal hydrocarbons
HSWA	Hazardous and Solid Waste Amendments
IRP	Installation Restoration Program
ITPO	Intensive Test Pit Operation
LF-1	Landfill 1
LFTS	Leaded Fuel Tank Sludge Disposal Area
LNAPLs	light, nonaqueous-phase liquids
LS	Lower Sand
MAG	Military Airlift Group
MCLGs	Maximum Contaminant Level Goals
MCLs	Maximum Contaminant Levels
MCS	Marine Clay and Silt
MEK	methyl ethyl ketone
MMS	Munitions Maintenance Squadron
MOE	Ontario Ministry of the Environment
MOU	Memorandum of Understanding
MRDDA	McIntyre Road Drum Disposal Area
MRSPA	McIntyre Road Sand Pit Area
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
NOAA	National Oceanographic and Atmospheric Administration
NPL	National Priorities List
O&G	oil and grease
OEHL	Occupational and Environmental Health Laboratory
PA	Preliminary Assessment
PA/SI	Preliminary Assessment/Site Investigation
PCE	tetrachloroethene
PDA	Pease Development Authority

PHTs	phthalates
POI	Point of Interest
ppmw	parts per million by weight
QAPP	Quality Assurance Project Plan
RAB-TRC	Restoration Advisory Board-Technical Review Committee
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
RfDs	reference doses
RI	Remedial Investigation
RI/FSs	Remedial Investigations and Feasibility Studies
RME	most reasonable maximally exposed individual
RO	Remedial Objective
ROD	Record of Decision
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act
SCS	Site Characterization Summary
SI	Site Investigation
SVE	soil vapor extraction
SVOCs	semivolatile organic compounds
TBC	to be considered
TCE	trichloroethene
TCFM	trichlorofiuoromethane
TDS	total dissolved solids
TMV	toxicity, mobility, or volume
TOC	total organic carbon
TOX	organic halogens
TPHs	total petroleum hydrocarbons
TSDFs	waste treatment, storage, and disposal facilities
TSS	total suspended solids
US	Upper Sand
USAFOEHL	U.S. Air Force Occupational and Environmental Health Laboratory
USGS	U.S. Geological Survey
VOCs	volatile organic compounds
VORTAC	VHS Omni-Range Tactical Air Navigation unit
WQC	Water Quality Criteria
XRF	x-ray fluorescence

APPENDIX A-TABLES

Table 1

Summary of Highest Concentrations of Contaminants) LF-1 Surface Soil

WESTON's Fixed Laboratory

Zone 2, Pease AFB, NH

Compound	Background	Maximum Concentration Detected	Sample ID	Sampling Interval (ft BGS)
VOCs (mg/kg)				
Acetone		0.031 J	01-3025-S001	0.0-2.0
Diethyl ether		0.005 J	01-3025-S001	0.0-2.0
Methyl ethyl ketone (2-Butanone)		0.003 J	01-3006-S001	0.0-2.0
Trichlorofiuoromethane (TCFM)		0.003 J	01-3025-S001	0.0-2.0
SVOCs (mg/kg)				
Benz(a)anthracene		0.18 J	01-3007-S002	0.0-2.0
Benzo(a)pyrene		0.19 J	01-3007-S002	0.0-2.0
Benzo(b)fluoranthene		0.16 J	01)3007-S002	0.0-2.0
Benzo(g,h,i)perylene		0.15 J	01-3007-S002	0.0-2.0
Benzo-(k)fluoranthene		0.17 J	01-3007-S002	0.0-2.0
Benzoic acid		3.6	01-3025-S001	0.0-2.0
Bis(2-ethylhexyl) phthalate		0.15 J	01-3007-S002	0.0-2.0
Chrysene		0.19 J	01-3007-S002	0.0-2.0
Di-n-butyl phthalate		0.15 J	01-3025-S001	0.0-2.0
Dibenzo(a,h)anthracene		0.041 J	01-3007-S002	0.0-2.0
Fluoranthene		0.34 J	01-3007-S002	0.0-2.0
Ideno(1,2,3-cd)pyrene		0.11 J	01-3007-S002	0.0-2.0
Phenanthrene		0.16 J	01-3007-S002	0.0-2.0
Phenol (acid fraction)		0.062 J	01-3025-S001	0.0-2.0
Pyrene		0.51 J	01-3006-S001	0.0)2.0
Pest./PCBs (mg/kg)				
DDT (1,1-bis-Chlorophenyl-2,2,2-trichloroethane)		0.023 J	01-3007-S002	0.0-2.0
Metals (mg/kg)	Background			
Aluminum	24,900	7,780	01-3008-S002	0.0-2.0
Arsenic	15.25	29.7	01-3025-S001	0.0-2.0
Barium	105	32.9	01-3008-S002	0.0-2.0
Beryllium	1.8	0.58	01-3025-S001	0.0-2.0
Calcium	3,180	5,800	01-3025-S001	0.0-2.0
Chromium	37.5	12.7	01-3025-S001	0.0-2.0
Cobalt	19.6	7.3	01-3008-S002 01-3006-S001	0.0-2.0
Copper	42	13.4	01-3007-S002	0.0-2.0
Iron	35,300	13,400	01-3008-S002	0.0-2.0
Lead	65.3	32.6	01-3007-S002	0.0-2.0
Magnesium	8,240	3,490	01-3008-S002	0.0-2.0
Manganese	623	357	01-3025-S001	0.0-2.0
Nickel	43.4	16.6	01-3006-S001	0.0-2.0
Potassium	6,650	1,760	01-3008-S002	0.0-2.0
Silicon	1,900	1,180 J+	01-3025-S001	0.0-2.0
Sodium	356	199	01-3025-S001	0.0-2.0
Vanadium	49.3	21.3	01-3025-S001	0.0-2.0
Zinc	92.3	59.7	01-3007-S002	0.0-2.0

J = The associated numerical value is an estimated quantity.

J + = Estimated value is biased high.

Table 2
Summary of Highest Concentrations of Contaminants)LF-1 Subsurface Soil
WESTON's Fixed Laboratory
Zone 2, Pease AFB, NH

Compound		Maximum Concentration Detected	Sample ID	Sampling Interval (ft BGS)
VOCs (mg/kg)				
Methyl ethyl ketone		0.077 J	01-7942-B124	22-25
Tetrachloroethene		0.007 J	01-7943-B023	21-23
Toluene		0.007	01-7936-B023	21-23
Ethylbenzene		0.008 J	01-7942-B124	22-25
Xylenes		0.017 J	01-7942-B124	22-25
1,1,1-Trichloroethane		0.003 J	01-7943-B023	21-23
TPHs (Method 8100)		43 J-	01-7942-B124	22-25
SVOCs (mg/kg)				
2-Methylnapthalene		0.14 J	01-9090-S005	3-7
4-Methylphenol		0.34 J	01-7943-B023	21-23
Acenaphthene		0.45	01-7940-B004	3-4
Acenapthylene		0.26 J	01-9090-S005	3-7
Anthracene		0.6	01-7940-B004	3-4
Benzo(a)anthracene		1.6	01-7940-B004	3-7
Benzo(a)pyrene		1.3	01-7940-B004	3-7
Benzo(b)fluoranthene		1	01-7940-B004	3-7
Benzo(g,h,i)perylene		0.37	01-9090-S005	3-7
Benzo(k)fluoranthene		0.5	01-9090-S005	3-7
Beazoic acid		0,34 J	01-9093-S103	0-8
Bis(2-ethythexyl) phthalate		0.066 J	01-9086-S004	3-5
Chyrsene		0.79	01-9090-S005	3-7
Di-n-butyl phthalate		0.88	01-9093-S103	0-8
Dibenzo(a,h)anthracene		0.11 J	01-9090-S005	3-7
Dibenzofuran		0.13 J	01-9090-S005	3-7
Fluoranthene		1.4	01-9090-S005	3-7
Fluorene		0.4	01-7940-B004	3-4
Ideno(1,2,3-cd)pyrene		0.8	01-7940-B004	3-4
Naphthalene		0.26 J	01-9090-S005	3-7
Phenanthrene		2.7	01-7940-B004	3-4
Pyrene		2.7	01-7940-B004	3-4
Pest./PCBs (mg/kg)				
alpha-Endosulfan		0.0083 J	01-9093-S103	0-8
Heptachlor epoxide		0.019 J	01-9090-S005	3-7
p,p'-DDD		0.0055 J	01-7940-B004	3-4
Metals (mg/kg)	Background			
Aluminum	24,900	16,500	01)9095)S004	3-6
Arsenic	15.25	33.5	01-9095-S004	3-6
Barium	105	65.5	01-9093-S003	0-8
Beryllium	1.8	1.3	01-9095-S004	3-6
Boron	43.6	49.1	01-9093-S103	0-8
Calcium	3,180	6,040	01-9093-S003	0-8
Chromium	37.5	31.8	01-9095-S004	3-6
Cobalt	19.6	11.6	01-9095-S004	3-6

Table 2
Summary of Highest Concentrations of Contaminants)LF-1 Subsurface Soil
WESTON's Fixed Laboratory
Zone 2, Pease AFB, NH

Compound	Background	Maximum Concentration Detected	Sample ID	Sampling Interval (ft BGS)
Metals (mg/kg) (continued)				
Copper	42	97.1	01-9093-S103	0-8
Iron	35,300	37,400	01-9093-S103	0-8
Lead	653	89.9	01-9093-S003	0-8
Magnesium	8,240	5,200	01-9095-S004	3-6
Manganese	623	866 J+	01-9093-S003	0-8
Nickel	43.4	22.9	01-9095-S004	3-6
Potassium	6,650	2,950	01-9095-S004	3-6
Selenium	ND	1.9 J	01-7943-BO23	21-23
Silicon	1,900	1,830	01-9093-S003	0-8
Sodium	356	532	01-9093-S003	0-8
Vanadium	493	39.1	01-9095-S004	3-6
Zinc	923	3,360	01-9093-S103	0-8

J = The associated numerical value is an estimated quantity.
J + = Estimated value is biased high.

Table 3
Summary of Highest Concentrations of Contaminants) MRDDA Surface Soil
WESTON's Fixed Laboratory
Zone 2, Pease AFB, NH

Compound	Maximum Concentration Detected	Sample ID	Sampling Interval (ft BGS)
VOCs (mg/kg)			
1,1,1-Trichloroethane (1,1,1-TCA)	0.002 J	43-9160-S001	0-2
Tetrachloroethene (PCE)	0.011 J	43-310-S001	0-2
Toluene	0.004 J	43-308-S001	0-2
Trichlorofluoromethane (TCFM)	0.002 J	43-307-S001	0-2
Petroleum hydrocarbons (Method E418.1) (mg/kg)	390	43-307-S001	0-2
SVOCs (mg/kg)			
Acenapthylene	0.037 J	43-309-S001	0-2
Benz(a)anthracene	0.067 J	43-309-S001	0-2
Benzo(a)pyrene	0.072 J	43-309-S001	0-2
Benzo(b)fluoranthene	0.010 J	43-309-S001	0-2
Benzo(g,h,i)perylene	0.085 J	43-309-S001	0-2
Benzo(k)fluoranthene	0.010 J	43-309-S001	0-2
Benzoic acid	0.20 J	43-307-S001	0-2
Bis (2-ethylhexyl) phthalate	0.088 J	43-9160-S001	0-2
Chrysene	0.13 J	43-309-S001	0-2
Di-n-butyl phthalate	0.19 J	43-307-S001	0-2
Diethyl phthalate	0.047 J	43-307-S001	0-2
Fluoranthene	0.22 J	43-309-S001	0-2
Ideno(1,2,3-cd)pyrene	0.068 J	43-309-S001	0-2
Pentachlorophenol	0.069 J	43-309-S001	0-2
Phenanthrene	0.11 J	43-309-S001	0-2
Pyrene	0.19 J	43-309-S001	0-2
Pest./PCBs (mg/kg)			
DDT(1,1-Bis-chlorophenyl-2,2,2-trichloroethane)	0.036	43-309-S001	0-2
Delta-BHC (delta Hexachlorocyclohexane)	0.0021 J	43-310-S001	0-2
p,p'-DDE	0.010 J	43-309-S001	0-2

Metals (mg/kg)	Background				
Aluminum	24,900	8,060		43-310-S001	0-2
Arsenic	15.25	4.9		43-308-S001	0-2
Barium	10.5	17.6		43-307-S001	0-2
Beryllium	1.8	0.37		43-310-S001	0-2
Calcium	3,180	286	J+	43-307-S001	0-2
Chromium	37.5	10.3	J	43-310-S001	0-2
Cobalt	19.6	3.9	J	43-310-S001	0-2
Copper	42	5.7	J	43-307-S001	0-2
Iron	35,300	11,200	J	43-310-S001	0-2
Lead	65.3	32.8	J	43-309-S001	0-2
Magnesium	8,240	1,340	J+	43-310-S001	0-2
Manganese	623	229		43-307-S001	0-2
Mercury	ND	1.2	J	43-307-S001	0-2
Nickel	43.4	8.5	J	43-310-S001	0-2
Silicon	1,900	502		43-308-S101	0-2
Titanium	NA	287		43-308-S001	0-2
Vanadium	49.3	15.6		43-309-S001	0-2
Zinc	92.3	37.1	J	43-308-S001	0-2

NA = Not analyzed.
ND = Not detected.
J = The associated numerical value is an estimated quantity. J + = Estimated value is biased high.

Table 4
Summary of Highest Concentrations of Contaminants) MRDDA Subsurface Soil
WESTON's Fixed Laboratory
Zone 2, Pease AFB, NH

Compound	Background	Maximum Concentration Detected	Sample ID	Sampling Interval (ft BGS)
VOCs (mg/kg)				
Acetone		0.081	43-7339-B020	20.5-22.5
Diethyl ether		0.005 J	43-7338-B004	2-4
Tetrachloroethene (PCE)		0.007	43-9128-S001	0-4
Toluene		0.001 J	43-9128-S001	0-4
Petroleum hydrocarbons (Method EA18,1) (mg/kg)		310	43-9024-S001	4-4.5
SVOCs (mg/kg)				
Benzo(a)pyrene		0.039 J	43-9024-S001	4-4.5
Benzo(b)fluoranthene		0.045 J	43-9024-S001	4-4.5
Benzo(g,h,i)perylene		0.049 J	43-902A-S001	4-4.5
Benzo(k)fluoranthene		0.035 J	43-9024-S001	4-4.5
Benzoic acid		0.15 J	43-7338-B004	2-4
Bis(2-ethylhexyl) phthalate		0.076 J	43-9024-S001	4-4.5
Chrysene		0.039 J	43-9024-S001	4-4.5
Fluoranthene		0.044 J	43-9024-S001	4-4.5
Ideno(1,2,3-cd)pyrene		0.037 J	43-9024-S001	4-4.5
Pyrene		0.035 J	43-9024-S001	4-4.5
Pest./PCBs (mg/kg)				
DDT (1,1-Bis-chlorophenyl-2,2,2-trichloroethane)		0.022	43-9024-S001	4-4.5
P,P'-DDE		0.0071 J	43-9024-S001	4-4.5
Metals (mg/kg)	Background			
Aluminum	24,900	3,320	43-9024-S001	4-4.5
Arsenic	15.25	5.8	43-7339-B020	20.5-22.5
Barium	105	24.3	43-9024-S001	4-4.5
Beryllium	1.8	0.39	43-9024-S001	4-4.5
Calcium	3,180	814	43-7340-B028	26.5-28.5
Chromium	37.5	8.1	43-7339-B020	20.5-22.5
Cobalt	19.6	4.9	43-7338-B004	2-4
Copper	42	12	43-9024-S001	4-4.5
Iron	35,300	6,130	43-7339-B020	20.5-22.5
Lead	65.3	9.4 J-	43-9024-S001	4-4.5
Magnesium	8,240	1,290	43-7339-B020	20.5-22.5
Manganese	62.3	109	43-7339-B020	20.5-22.5
Nickel	43.4	7.1	43-7339-B011	11.5-12.5
Silicon	1,900	693 J	43-7338-B004	2-4
Vanadium	49.3	7.8	43-7340-B028	26.5-28.5
Zinc	92.3	31.2	43-9024-S001	4-4.5

J = The associated numerical value is an estimated quantity.
J - = Estimated value is biased low.

Table 5
Summary of Highest Concentrations of Contaminants*) FDTA) 1 Surface Soil
WESTON's Fixed Laboratory
Zone 2, Pease AFB, NH

Compound	Background	Maximum Concentration Detected	Sample ID	Sampling Interval (ft BGS)
VOCs (mg/kg)				
Carbon disulfide		0.005 J	07-7389-B002	0-2
Diethyl ether		0.001 J	07-7309-B002	0-2
Methyl ethyl ketone (2-Butanone)		0.006 J	07-7309-B002	0-2
Trichlorofluoromethane (TCFM)		0.002 J	07-7309-B002	0-7
Petroleum hydrocarbons (Method E418.1) (mg/kg)		15,000	07-7392-B002	0-2
SVOCs (mg/kg)				
Benzoic acid		0.18 J	07-7387-B002	0-2
Di-n-butylphthalate		0.039 J	07-7387-B002	0-2
Dioxins (ng/g)				
HXCDD		0.100 J	07-7390-B002	0-2
OCDD		0.200 J	07-7387-B002	0-2
TCDF		0.100 J	07-7389-B002	0-2
Metals (mg/kg)	Background			
Aluminum, total	24,900	4,520 J	07-7389-B002	0-2
Arsenic, total	15.25	10.3 J	07-7390-B002	0-2
Barium, total	105	82.3	07-7390-B002	0-2
Beryllium, total	1.8	0.21	07-7389-B002	0-2
Calcium, total	3,180	937 J	07-7389-B002	0-2
Chromium, total	37.5	23.2	07-7391-B002	0-2
Cobalt, total	19.6	6.3	07-7387-B002	0-2
Copper, total	42	23.6	07-7389-B002	0-2
Iron, total	35,300	10,500	07-7389-B002	0-2
Lead, total	65.3	150 J+	07-7391-B002	0-2
Magnesium, total	8,240	2,970 J	07-7389-B002	0-2
Manganese, total	62.3	210	07-7389-B002	0-2
Nickel, total	43.4	16.3	07-7387-B002	0-2
Potassium, total	6,650	1,330	07-7389-B002	0-2
Silicon, total	1,900	831 J+	07-7390-B002	0-2
Vanadium, total	49.3	12.2	07-7387-B002	0-2
Zinc, total	92.3	34	07-7391-B002	0-2

*Mobile laboratory results not included because these results were not used in the risk assessment
J = The associated numerical value is an estimated quantity.
J+ = Estimated value is biased high.

Table 6

Summary of Highest Concentrations of Contaminants*) FDTA-1 Subsurface Soil
WESTON's Fixed Laboratory
Zone 2, Pease AFB, NH

Compound		Maximum Concentration Detected	Sample ID	Sampling Interval (ft BGS)
VOCs (mg/kg)				
Carbon disulfide		0.005	07-7388-B013	12.5-13
			07-7389-B013	12.5-13
Petroleum hydrocarbons (Method E418.1)		6,500	07-7392-B013	2.5-14.5
SVOCs (mg/kg)				
Benzoic acid		0.067 J	07-7392-B013	2.5-14.5
Bis(2-ethylhexyl) phthalate		0.49	07-7392-B013	2.5-14.5
Di-n-butyl phthalate		0.049 J	07-701-B009	27-29
Dioxins (ng/g)				
TCDF		0.200 J	07-7392-B013	2.5-14.5
Metals (mg/kg)	Background			
Aluminum, total	24:900	5,170	07-701-B108	25-27
Arsenic, total	15.25	6.4	07-701-B108	25-27
Barium, total	105	39.4	07-7392-B013	2.5-14.5
Beryllium, total	1.8	0.38	07-701-B108	25-27
Calcium, total	3,180	1,400	07-701-B108	25-27
Chromium, total	37.5	23.2	07-701-B108	25-27
Cobalt, total	19.6	5.9	07-7390-B003	2-13
Copper, total	42	28.2	07-7392-B013	2.5-14.5
Iron, total	35,2,00	14,900	07-701-B108	25-27
Lead, total	653	42.3J+	07-7392-B013	2.5-14.5
Magnesium, total	8,240	3,080	07-701-B108	25-27
Manganese: total	623	258	07-797-B003	5.5-7
Nickel, total	43.4	21.5	07-701-B108	25-27
Potassium, total	6,650	1,610	07-7391-B013	4.5-12.5
Silicon total	1,900	1,130	07-702-B007	20.5-22
Sodium, total	356	128	07-701-B108	25-27
Vanadium: total	493	11.1	07-7397-B014	3.5-14.5
Zinc, total	92.3	36.3	07-703-B007	20.5-22

*Mobile laboratory results not included because these results were not used in the risk assessment.
J = The associated numerical value is an estimated quantity.
J + = Estimated value is biased high.

Table 7

Summary of Highest Concentrations of Contaminants) BA-1 Surface Soil
WESTON's Fixed Laboratory
Zone 2, Pease AFB, NH

Compound	Background	Maximum Concentration Detected	Sample ID	Sampling Interval (ft BGS)
VOCs (mg/kg)				
Dietlayl ether		0.002 J	22-7413-B002	0-2
Ethylbenzene		0.001 J	22-735-B001	0-2
Toluene		0.015	22-735-B001	0-2
Xylenes (total)		0.006	22-735-B001	0-2
Petroleum hydrocarbons (Method EA18.1)		1,220	22-735-B001	0-2
SVOCs (mg/kg)				
Benzoic acid		0.42 J	22-7414-B002	0-2
Di-n-butyl phthalate		0.110 J	22-735-B001	0-2
Dioxins (ng/g)				
OCDD		1.10 J	22-7414-B002	0-2
OCDF		0.100 J	22-7415-B102	0-2
Pest,/PCBs (mg/kg)				
Heptachlor		0.0087 J	22-7414-B002	0-2
p,p'-DDE		0.0052 J	22-7413-B002	0-2
Metals (mg/kg)	Background			
Aluminum, total	24,900	8,540	22-734-B001	0-2
Arsenic, total	15.25	4.6	22-734-B001	0-2
Barium, total	105	36	22-7414-B002	0-2
Beryllium, total	1.8	0.47	22-7413-B002	0-2
Calcium, total	3,180	271 J	22-7413-B002	0-2
Chromium, total	37.5	15.5	22-735-B001	0-2
Cobalt, total	19.6	5.2	22-7413-B002	0-2
Copper, total	42	8.8	22-7413-B002	0-2
Iron, total	35,300	8,880	22-735-B001	0-2
Lead, total	65.3	40.3	22-735-B001	0-2
Magnesium, total	8,240	2,100 J	22-7413-B002	0-2
Manganese, total	623	128 J	22-7413-B002	0-2
Nickel, total	43.4	12.1	22-7413-B002	0-2
Silicon, total	1,900	967	22-735-B001	0-2
Vanadium, total	49.3	10.9	22-7413-B002	0-2
Zinc, total	92.3	28.3	22-7415-B102	0-2

J = The associated numerical value is an estimated quantity.

Table 8
Summary of Highest Concentrations of Contaminants a) BA - 1 Subsurface Soil
WESTON's Fixed Laboratory
Zone 2, Pease AFB, NH

Compound		Maximum Concentration Detected	Sample ID	Sampling Interval (ft BGS)
VOCs (mg/kg)				
Benzene		0.18	22-7866-B039	38.5-39
Chloroform		0.13 J	22-734-B009	31.5-32
Ethylbenzene		17	22-740-B010	35-37
Methyl ethyl ketone (2-Butanone)		1.8 J	22-740-B010	35-37
Toluene		1.5 J	22-7866-B032	32-32.5
Trichloroethene (TCE)		0.002 J	22-739-B009	30-32
Xylenes (total)		190	22-740-B010	35-37
Petroleum hydrocarbons (Method E418.1)		3,630	22-739-B006	13-14.5
SVOCs (mg/kg)				
Acenaphthene		0.04 J	22-7870-B026	24-24.5
Dibenzofuran		0.13 J	22-7870-B026	24-24.5
2-Methylnaphthalene		3.3 J	22-7870-B026	24-24.5
Bis(2-ethyhexyl) phthalate		0.91	22-7864-B044	44-44.5
Di-n-butyl phthalate		0.220 J	22-739-B004	8-9.4
Fluorene		0.210 J	22-739-B004	8-9.4
Isophorone		0.58	22-739-B004	8-9.4
Naphthalene		2.8	22-739-B004	8-9.4
Phenanthrene		0.44	22-739-B004	8-9.4
Dioxins (ng/g)				
OCDD		0.100 J	22-7414-B103	4-14.5
TCDF		0.100 J	22-7414-B103	4-14.5
Metals (mg/kg)	Background			
Aluminum, total	24,900	21,300	22-737-B009	30-32
Antimony	NA	27.6	22-777-B010	30-32
Arsenic, total	15.25	52-5 b	22-738-B009	30.5-32
Barium, total	105	84.2	22-737-B009	30-32
Beryllium, total	1.8	1.4	22-737-B009	30-32
Calcium, total	3,180	23,700	22-738-B009	30.5-32
Chromium, total	37.5	30.7	22-737-B009	30-32
Cobalt, total	19.6	11.5	22-737-B009	30-32
Copper, total	42	63.4	22-736-B009	30-32
Iron, total	35,300	19,500	22-777-B010	30-32
Lead, total	653	44	22-737-B009	30-32
Magnesium, total	8,240	6,790	22-737-B009	30-32
Manganese, total	623	546	22-738-B008	25-27
Nickel, total	43.4	43.7	22-738-B009	30.5-32
Potassium, total	6,650	5,280	22-737-B009	30-32
Silicon, total	1,900	1,320	22-7414-B103	4-14.5
Sodium, total	356	155	22-777-B010	30-32
Thallium, total	NA	30.6 J) b	22-777-B010	30-32
Vanadium, total	49.3	35.7	22-777-B010	30-32
Zinc, total	92.3	76.4	22-737-B009	30-32

a Mobile laboratory results not included because these results were not used in the risk assessment.
b Invalid result because of iron interference.
NA = Not analyzed.
J = The associated numerical value is an estimated quantity.
J) = Estimated value is biased low.

Table 9
Summary of Highest Concentrations of Contaminants) LFTS Surface Soil
WESTON's Fixed Laboratory
Zone 2, Pease AFB, NH

Compound	Background	Maximum Concentration Detected	Sample ID	Sampling Interval (ft BGS)
VOCs (mg/kg)				
Diethyl ether		0.002 J	10-7399-B002	0-2
Toluene		0.019 J	10-774-B001	0-2
Trichlorofluoromethane (TCFM)		0.009 J	10-3023-S002	0-2
Total petroleum hydrocarbons (Method EA48.1)		34,000	10-3023-S002	0-2
SVOCs (mg/kg)				
Benzoic acid		0.27 J	10-7806-B002	0-2
Di-n-butyl phthalate		0.061 J	10-7806-B002	0-2
Pentachlorophenol		0.23 J	10-7397-B002	0-2
Pyrene		0.043 J	10-7806-B002	0-2
Pest./PCBs (mg/kg)				
DDT (1,1-Bis-chlorophenyl-2,2,2-trichloroethane)		0.038	10-7806-B002	0-2
p,p'-DDE		0.021	10-7806-B002	0-2
Total organic carbon		26,500	10-3023-S002	0-2
Metals (mg/kg)	Background			
Aluminum, total	24,900	8,780	10-7806-B002	0-2
Arsenic, total	15.25	6.6 J-	10-775-B001	0-2
Barium, total	105	15.5	10-775-B001	0-2
Beryllium, total	1.8	0.47 J	10-775-B001	0-2
Calcium, total	3,180	616	10-7806-B002	0-2
Chromium, total	37.5	15.2	10-7411-B002	0-2
Cobalt, total	19.6	5.4	10-7397-B002	0-2
Copper, total	42	13.3	10-7806-B002	0-2
Iron, total	35,300	10,700	10-7411-B002	0-2
Lead, total	65.3	17.9	10-7806-B002	0-2
Magnesium, total	8,240	1,860	10-7411-B002	0-2
Manganese, total	62.3	177	10-775-B001	0-2
Nickel, total	43.4	11.3	10-775-B001	0-2
Silicon, total	1,900	858	10-7399-B002	0-2
Vanadium, total	49.3	14.6	10-775-B001	0-2
Zinc, total	92.3	30.3	10-775-B001	0-2

J = The associated numerical value is an estimated quantity.
J- = Estimated value is biased low.

Table 10
Summary of Highest Concentrations of Contaminants*) LFTS Subsurface Soil
WESTON's Fixed Laboratory
Zone 2, Pease AFB, NH

Compound	Background	Maximum Concentration Detected	Sample ID	Sampling Interval (ft BGS)
VOCs (mg/kg)				
1,1,1-Trichloroethane (1,1,1-TCA)		0.001 J	10-729-B007	20-22
1,3-Dichlorobenzene (1,3-DCB)		0.003 J	10-724-B007	20-22
Diethylether		0.003 J	10-7259-B114	14-14.8
Ethylbenzene		3.1 J-	10-774-B008	20-22
Methyl ethyl ketone (2-Butanone)		0.003 J	10-724-B003	5-7
Toluene		11 J-	10-774-B008	20-22
Trichloroethene (TCE)		0.003 J	10-724-B007	20-22
Xylenes (Total)		28 J-	10-774-B008	20-22
Petroleum, total (Method E418.1)		922	10-724-B007	20-22
SVOCs (mg/kg)				
Bis(2-ethylhxyl) phthalate		0.2.5	10-7399-B015	4.5-13.5
Pentachlorophenol		0.066	10-7411-B003	2-14
Metals (mg/kg)	Background			
Aluminum total	24,900	8,910	10-726-B007	20-22
Antimony, total	NA	11.9	10-729-B005	10-12
Arsenic, total	15.25	8.1	10-726-B007	20-22
Barium, total	105	27.4	10-726-B007	20-22
Beryllium, total	1.8	0.64	10-726-B007	20-22
Calcium, total	3,180	1,200	10-726-B007	20-22
Chromium, total	37.5	20.9	10-724-B003	25-27
Cobalt, total	19.6	6.7	10-726-B007	20-22
Copper, total	42	43.4	10-7411-B003	2-14
Iron, total	35,300	17,500	10-729-B005	10-12
Lead, total	65.3	21.8	10-726-B007	20-22
Magnesium, total	8,240	3,690	10-726-B007	20-22
Manganese, total	623	270	10-729-B005	10-12
Nickel, total	43.4	16.8	10-729-B006	12.5-14.5
Potassium, total	6,650	1,880	10-726-B007	20-22
Silicon, total	1,900	1,190	10-726-B007	20-22
Vanadium, total	49.3	16.3	10-729-B005	10-12
Zinc, total	92.3	72.2	10-729-B005	10-12

* Mobile laboratory results not included because these results were not used in the risk assessment.
NA = Not analyzed.
J = The associated value is an estimated quantity.
j - = Estimated value is biased low.

Table 11

Summary of Highest Concentrations of Contaminants*) BA - 2 Surface Soil
WESTON's Fixed Laboratory
Zone 2, Pease AFB, NH

Compound	Background	Maximum Concentration Detected	Sample ID	Sampling Interval (ft BGS)
VOCs (mg/kg)				
1,1,1,-Trichloroethane (1,1,1-TCA)		0.006 J	10-776-B001	0-2
Tetrachloroethene (PCE)		0.008 J	10-776-B001	0-2
Toluene		0.018 J	10-776-B001	0-2
Trichloroethene (TCE)		0.017 J	37-7395-B002	0-2
Xylenes (Total)		0.012 J	10-776-B001	0-2
Petroleum hydrocarbons (Method E418.1)		13,000	37-7395-B002	0-2
SVOCs (mg/kg)				
Benzoic acid		0.47 J	37-7394-B002	0-2
Pentachlorophenol		0.95 J	37-7394-B002	0-2
Pyrene		0.074 J	37-7395-B002	0-2
Dioxins (ng/g)				
1,2,3,4,6,7,8-HPCDD		1.7	37-7569-B002	0-2
HPCDD		31	37-7394-B002	0-2
HPCDF		1.7	37-7394-B002	0-2
HXCDD		3	37-7394-B002	0-2
HXCDF		0.500 J	37-7394-B002	0-2
OCDD		70	37-7394-B002	0-2
OCDF		0.500 J	37-7394-B002	0-2
Pest./PCBs (mg/kg)				
Aroclor-1260		0.33 J	37-7394-B002	0-2
p,p'-DDE		0.0060 J	37-7393-B002	0-2
Metals (mg/kg)	Background			
Aluminum, total	24,900	7,990	37-7393-B002	0-2
Arsenic, total	15.25	3.8 J-	37-7396-B002	0-2
Barium, total	105	31.3	37-7395-B002	0-2
Beryllium, total	1.8	1.2	37-7395-B002	0-2
Calcium, total	3,180	208	37-7395-B002	0-2
Chromium, total	37.5	10.1	37-7393-B002	0-2
Iron, total	35,300	8,610	37-7393-B002	0-2
Lead, total	653	462 J+	37-7394-B002	0-2
Magnesium, total	8,240	1,040	37-7393-B002	0-2
Manganese, total	623	64.7	37-7393-B002	0-2
Nickel, total	43.4	5.7	37-7393-B002	0-2
Silicon, total	1,900	1,330	37-7393-B002	0-2
Vanadium, total	49.3	7.2	37-7395-B002	0-2

* Mobile laboratory results not included because these results were not used in the risk assessment.
J = The associated numerical value is an estimated quantity.
J- = Estimated value is biased low.

Table 12
Summary of Highest Concentrations of Contaminants*) BA - 2 Subsurface Soil
WESTON's Fixed Laboratory
Zone 2, Pease AFB, NH

Compound	Background	Maximum Concentration Detected	Sampling ID	Sample Interval (ft BGS)
VOCs (mg/kg)				
1,1,1-Trichloroethane (1,1,1-TCA)		1.2 J	10-730-B107	20-22
1,1,2,2-Tetrachloroethane (1,1,2,2-PCA)		1.5	10-730-B107	20-22
Chlorobenzene		4	10-730-B107	20-22
Ethylbenzene		11	10-730-B107	20-22
Methyl isobutyl ketone (MIK)		21	10-730-B107	20-22
Tetrachloroethene (PCE)		0.001 J	37-7336-B002	23-33
Toluene		0.46 J	10-730-B107	20-22
Trichloroethene (TCE)		2	10-730-B107	20-22
Trichlorofluoromethane (TCFM)		0.005 J	37-7930-B030	28-30
Xylenes (Total)		47	10-730-B107	20-22
1,2,4-Trichlorobenzene		0.049 J	37-7395-B003	2-2.5
Petroleum hydrocarbons (Method E418.1)		3,200	37-7395-B003	2-2.5
Petroleum hydrocarbons (Method 8100)		640	37-79.30-B022	20-22
SVOCs (mg/kg)				
Benzo(a)anthraceue		0.12 J	10-730-B107	20-22
Chrysene		0.095 J	10-730-B107	20-22
Benzoic acid		0.060 J	37-7396-B015	2.5-13.5
Dioxins (ng/g)				
1,2.,3,4,6,7,8-HPCDD		0.18	37-7565-B013	2-13.2
HPCDD		3.70 J	37-7336-B002	2.5-3.3
HPCDF		0.400 J	37-7336-B002	2.5-3.3
OCDD		9.1	37-7336-B002	2.5-3.3
OCDF		0.500 J	37-7336-B002	2.5-3.3
PECDF		0.400 J	37-7335-B012	10-13.8
Pest./PCBs (mg/kg)				
Aloclor-1260		0.061 J	37-7336-B002	2.5-3.3
Metals (mg.kg)	Background			
Aluminum, total	24,900	15,200 J	10-776-B109	25-27
Antimony	NA	36	10-776-B109	25-27
Arsenic, total	15.25	8.1 J	10-776-B109	25-27
Barium	105	60.8	10-776-B109	25-27
Beryllium, total	1.8	1.2 J	10-776-B109	25-27
Calcium, total	3,180	2,630	10-776-B109	25-27
Chromium, total	37.5	26.0 J	10-776-B109	25-27
Cobalt	19.6	12.2	10-776-B109	25-27
Copper	42	233	10-776-B109	25-27
Iron, total	35,300	26,800	10-776-B109	25-27
Lead, total	65.3	34.7	10-776-B109	25-27
Magnesium, total	8,240	6,740 J	10-776-B109	25-27
Manganese, total	623	344	10-776-B109	25-27
Nickel, total	43.4	25.4	10-776-B109	25-27
Potassium	6,650	4,950	10-776-B109	25-27
Silicon, total	1,900	857	37-7394-B015	2.5-14.5
Sodium	356	276	10-776-B109	25-27
Thallium, total	NA	42.8 J	10-776-B109	25-27
Vanadium, total	493	51.3	10-776-B109	25-27
Zinc	92.3	80	10-776-B109	25-27

* Mobile laboratory, results not included because these results were not used in the risk assessment.
NA = Not analyzed
J = The associated numerical value is an estimated quantity.

Table 13

Summary of Maximum Detected Concentrations of
Organic and Inorganic Compounds in Overburden and Bedrock Groundwater
Zone 2, Pease AFB, NH

			Regulatory ARARs				Maximum Detected Concentrations f			
Chemical	MCL a	MCLG b	NHAGOS c	LHA d	RCRA e	Background	OB	OB Location	BR	BR Location
Site 1										
VOCs (µg/L)										
Benzene	5	0	5	5	NVA	NE	0.2 J	01-536-M003	ND	-
cis-1,2-Dichloroethene	70	70	70	70	NVA	NE	0.4 J	01-529-M003	ND	-
Ethylbenzene	700	700	700	700	4,000	NE	0.2 J	01-536-M003	ND	-
Naphthalene	NVA	NVA	20	20	NVA	NE	0.2 J	01-536-M003	ND	-
Toluene	1,000	1,000	1,000	1,000	10,000	NE	0.5 J	01-536-M004	0.1 J	01-6051-M001
Trichlorofluoromethane	NVA	NVA	2,000	2,000	10,000	NE	0.2 J	01-5061-M002	0.2 J	01-6051-M002
1,2,4-Trimethylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	0.2 J	01-536-M004	ND	-
1,3,5-Trimethylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	0.2 J	01-536-M004	ND	-
SVOCs (µg/L)										
Bis(2-ethylhexyl) phthalate dc	6	0	6	NVA	3	NE	150	01-536-M002	11	01-6050-M002
Diethyl phthalate dc	NVA	NVA	NVA	NVA	30,000	NE	ND	-	5 J	01-603-M003
Di-n-butyl phthalate dc	NVA	NVA	NVA	NVA	4,000	NE	1 J	01-536-M002	ND	-
4-Methylphenol	NVA	NVA	350	NVA	NVA	NE	3 J	01-536-M002	ND	-
Inorganics (mg/L)										
						46.4 t	-	-	48.1	01-603-M003
Aluminum u	NVA	NVA	NVA	NVA	NVA	0.398 s	2.07	01-530-M001	-	-
						0.072 t	-	-	0.0245	01-603-M003
Arsenic	0.05	NVA	0.05	NVA	0.05	0.0231 s	0.19	01-5060-M001	-	-
						0.221 t	-	-	0.384	01-603-M003
Barium	2	2	2	2	1	0.0883 s	ND	-	-	-
						0.0031 t	-	-	0.0045	01-603-M003
Beryllium	0.004	0.004	0.004	NVA	0.000008	ND s	ND	-	-	-
						ND t	-	-	ND	-
Boron	NVA	NVA	0.6	0.6	NVA	0.111 s	0.310 J-	01-536-M004	-	-
						ND t	-	-	ND	-
Cadmium	0.005	0.005	0.005	0.005	0.01	ND s	ND	-	-	-
						90.3 t			79.7 J	01-603-M003
Calcium	NVA	NVA	NVA	NVA	NVA	73.2 s	164	01-529-M003	-	-
						0.0943 t	-	-	0.0996	01-603-M003
Chromium	0.1	0.1	0.1	0.1	0.05 (VI)	ND	ND	-	-	-
						0.106 t	-	-	0.0724	01-603-M003
Cobalt	NVA	NVA	NVA	NVA	NVA	ND	ND	-	-	-
						0.0881 t	-	-	0.0792	01-603-M003
Copper	1.3	1.3	1.3	NVA	NVA	ND	ND	-	-	-

Table 13

Summary of Maximum Detected Concentrations of
Organic and Inorganic Compounds in Overburden and Bedrock Groundwater
Zone 2, Pease AFB, NH

	Regulatory ARARs					Maximum Detected Concentrations f				
Chemical	MCL a	MCLG b	NHAGOS c	LHA d	RCRA e	Background	OB	OB Location	BR	BR Location
Site 1 (continued)										
Inorganics (mg/L) (continued)										
						62.8 t	-	-	163 J	01-603-M003
Iron	NVA	NVA	NVA	NVA	NVA	0.584 s	260	01-536-M002	-	-
						0.0976 t	-	-	0.0287	01-603-M003
Lead	0.015	0	0.015	NVA	0.05	ND s	0.0038	01-530-M004	-	-
						38.3 t	-	-	55.8 J	01-603-M003
Magnesium	NVA	NVA	NVA	NVA	NVA	18.9 s	63.3	01-529-M004	-	-
						5.66 t	-	-	4.04	01-603-M003
Manganese	NVA	0.20	NVA	NVA	NVA	0.942 s	5.36	01-536-M003	-	-
						0.126 t	-	-	0.131	01-603-M003
Nickel	0.1	0.1	0.1	0.1	0.7	0.0328 s	0.0725	01-529-M101	-	-
						8.87 t	-	-	16.5	01-603-M003
Potassium	NVA	NVA	35	NVA	NVA	7.06 s	8.57	01-5060-M002	-	-
						42.3 t	-		67.4	01-603-M003
Silicon	NVA	NVA	NVA	NVA	NVA	6.4 s	15.4	01-5060-M001	-	-
						8.97 t	-	-	119 J	01-6050-M001
Sodium	NVA	NVA	NVA	NVA	NVA	10.2 s	59.6	01-530-M001	-	-
						ND t	-	-	ND	-
Thallium	0.002	0.0005	0.002	0.0004	NVA	ND s	0.515	01-536-M002	-	-
						0.584 t	-	-	0.0764	01-603-M003
Vanadium u	NVA	NVA	NVA	0.02	NVA	ND s	ND	-	-	-
						0.220 t	-	-	0.293	01-603-M003
Zinc	NVA	NVA	NVA	2	NVA	0.168 s	0.0686	01-5061-M001	-	-
Site 7										
Inorganics (mg/L)										
						46.4 t	-	-	ND	-
Aluminum u	NVA	NVA	NVA	NVA	NVA	0.398 s	ND	-	-	-
						0.072 t	-	-	0.0134	07-610-M003
Arsenic	0.05	NVA	0.05	NVA	0.05	0.0231 s	0.0157	07-528-M004	-	-
						0.221 t	-	-	ND	-
Barium	2	2	2	2	1	0.0883 s	ND	- -	-	-
						0.0031 t	-	-	ND	-
Beryllium	0.004	0.004	0.004	NVA	0.000008	ND s	ND	- -	-	-
						ND t	-	-	ND	-
Boron	NVA	NVA	0.6	0.6	NVA	0.111 s	ND	- -	-	-

Table 13

Summary of Maximum Detected Concentrations of
Organic and Inorganic Compounds in Overburden and Bedrock Groundwater
Zone 2, Pease AFB, NH

Chemical	Regulatory ARARs					Maximum Detected Concentrations f				
	MCL a	MCLG b	NHAGOS c	LHA d	RCRA e	Background	OB	OB Location	BR	BR Location
Site 7 (continued)										
Inorganics (mg/L) (continued)										
						ND t	-	-	ND	-
Cadmium	0.005	0.005	0.005	0.005	0.01	ND s	ND	-	-	-
						90.3 t	-	-	2.26	07-610-M003
Calcium	NVA	NVA	NVA	NVA	NVA	73.2 s	23.3	07-528-M003	-	-
						0.0943 t	-	-	ND	-
Chromium	0.1	0.1	0.1	0.1	0.05 (VI)	ND	ND	-	-	-
						0.106 t	-	-	ND	-
Cobalt	NVA	NVA	NVA	NVA	NVA	ND	ND	-	-	-
						0.0881 t	-	-	ND	-
Copper	1.3	1.3	1.3	NVA	NVA	ND	ND	-	-	-
						62.8 t	-	-	5.6	07-610-M003
Iron	NVA	NVA	NVA	NVA	NVA	0.584 s	0.143	07-528-M003	-	-
						0.0976 t	-	-	0.008	07-610-M004
Lead	0.015	0	0.015	NVA	0.05	ND s	0.0081	07-528-M004	-	-
						38.3 t	-	-	1.09	07-610-M003
Magnesium	NVA	NVA	NVA	NVA	NVA	18.9 s	11.4	07-528-M002	-	-
						5.66 t	-	-	0.0648	07-610-M003
Manganese	NVA	0.20	NVA	NVA	NVA	0.942 s	1.53	07-528-M003	-	-
						0.126 t	-	-	ND	-
Nickel	0.1	0.1	0.1	0.1	0.7	0.0328 s	ND	-	-	-
						8.87 t	-	-	ND	-
Potassium	NVA	NVA	35	NVA	NVA	7.06 s	ND	-	-	-
						42.3 t	-	-	4.59	07-610-M004
Silicon	NVA	NVA	NVA	NVA	NVA	6.4 s	4.79	07-528-M002	-	-
						8.97 t	-	-	67	07-610-M003
Sodium	NVA	NVA	NVA	NVA	NVA	10.2 s	7.31	07-528-M002	-	-
						0.584 t	-	-	ND	-
Vanadium u	NVA	NVA	NVA	0.02	NVA	ND s	ND	-	-	-
						0.220 t	-	-	ND	-
Zinc	NVA	NVA	NVA	2	NVA	0.168 s	ND	-	-	-
Site 10										
Organics (µg/L)										
2,4-Dimethylphenol	NVA	NVA	NVA	NVA	NVA	NE	23	10-525-M002	ND	-
Dimethyl phthalate	NVA	NVA	NVA	NVA	NVA	NE	ND	-	12	10-6108-M002
2-Methylphenol dc	NVA	NVA	350	NVA	NVA	NE	22	10-534-M002	ND	-

Table 13

Summary of Maximum Detected Concentrations of
Organic and Inorganic Compounds in Overburden and Bedrock Groundwater
Zone 2, Pease AFB, NH

Chemical	Regulatory ARARs MCL a	MCLG b	NHAGOS c	LHA d	RCRA e	Maximum Detected Concentrations f Background	OB	OB Location	BR	BR Location
Site 10 (continued)										
Organics (µg/L) (continued)										
4-Methylphenol	NVA	NVA	350	NVA	NVA	NE	35	10-543-M002	ND	-
Bis(2-ethylhexyl) phthalate dc	6	0	6	NVA	3	NE	18 J-	10-543-M001	ND	-
Naphthalene	NVA	NVA	20	20	NVA	NE	28 J	10-543-M004	ND	-
Phenol	NVA	NVA	4,000	4,000	20,000	NE	9 J	10-543-M002	ND	-
1,2,4-Trimethylbenzenc udm	NVA	NVA	NVA	NVA	NVA	NE	70	10-7263-M003	ND	-
o-Xylene	10,000 g	10,000 g	10,000 g	10,000 g	70,000 g	NE	230	10-7263-M003	0.6 J	10-6108-M001
1,3,5-Trimethylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	28	10-7263-M003	ND	-
4-Isopropyltoluene udm	NVA	NVA	NVA	NVA	NVA	NE	10 J	10-543-M004	ND	-
Acetone	NVA	NVA	700	NVA	4,000	NE	130	10-525-M002	ND	-
Benzene	5	0	5	5	NVA	NE	160	10-5112-M002	320	10-6108-M001
Ethylbenzene	700	700	700	700	4,000	NE	360 J	10-543-M004	0.3 J	10-6048-M006
Isopropylbenzene	NVA	NVA	NVA	NVA	NVA	NE	40 J	10-543-M004	ND	-
m&p-Xylenes	10.000 g	10,000 g	10.000 g	10,000 g	70,000 g	NE	640	10-7263-M003	1	10-6048-M006
Methyl isobutyl ketone (4-Methyl-2-pentanone)	NVA	NVA	350	NVA	2,000	NE	400	10-525-M002	ND	-
Methylene chloride dc, urm	5	0	5	NVA	5	NE	49 J	10-543-M003	ND	-
n-Propylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	40 J	10-543-M004	ND	-
sec-Butylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	6 J	10-543-M004	ND	-
tert-Butylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	0.2 J	10-5055-M001	ND	-
Toluene	1,000	1,000	1,000	1,000	10,000	NE	1396	10-7263-M002AM	3	10-6048-M006
Trichlorofluoromethane	NVA	NVA	2,000	2,000	10,000	NE	0.2 J	10-5109-M003	ND	-
Chlorobenzene	100	100	100	100	700	NE	ND	-	0.2 J	10-6048-M004
Trichloroethene	5	0	5	NVA	5	NE	0.1 J	10-614-M005	ND	-
Xylenes (total)	10,000 g	10,000 g	10,000 g	10,000 g	70,000 g	NE	900 J-	10-525-M001	ND	-
Inorganics (mg/L)										
						46.4 t	-	-	ND	-
Aluminum u	NVA	NVA	NVA	NVA	NVA	0.398 s	0.59	10-5110-M101	-	-
						0.072 t	-	-	0.0082	10-6108-M001
Arsenic	0.05	NVA	0.05	NVA	0.05	0.0231 s	0.0394	10-5055-M002	-	-
						0.221 t	-	-	ND	-
Barium	2	2	2	2	1	0.0883 s	0.225	10-5110-M001	-	-
						0.0031 t	-	-	ND	-
Beryllium	0.004	0.004	0.004	NVA	0.000008	ND s	ND	-	-	-

Table 13

Summary of Maximum Detected Concentrations of
Organic and Inorganic Compounds in Overburden and Bedrock Groundwater
Zone 2, Pease AFB, NH

Chemical	Regulatory ARARs					Maximum Detected Concentrations f				
	MCL a	MCLG b	NHAGOS c	LHA d	RCRA e	Background	OB	OB Location	BR	BR Location
Site 10 (continued)										
Inorganics (mg/L) (continued)										
						ND t	-	-	ND	-
Boron	NVA	NVA	0.6	0.6	NVA	0.111 s	ND	-	-	-
						ND t	-	-	ND	-
Cadmium	0.005	0.005	0.005	0.005	0.01	ND s	0.010 J-	10-525-M002	-	-
						90.3 t	-	-	16.3	10-6108-M001
Calcium	NVA	NVA	NVA	NVA	NVA	73.2 s	32.9	10-526-M002	-	-
						0.0943 t	-	-	ND	-
Chromium	0.1	0.1	0.1	0.1	0.05 (VI)	ND	ND	-	-	-
						0.106 t	-	-	ND	-
Cobalt	NVA	NVA	NVA	NVA	NVA	ND	ND	-	-	-
						0.0881 t	-	-	ND	-
Copper	1.3	1.3	1.3	NVA	NVA	ND	0.0824	10-525-M002	-	-
						62.8 t	-	-	12.9	10-6108-M102
Iron	NVA	NVA	NVA	NVA	NVA	0.584 s	21	10-543-M004	-	-
						0.0976 t	-	-	ND	-
Lead	0.015	0	0.015	NVA	0.05	ND s	0.147 J-	10-543-M004	-	-
						38.3 t	-	-	9.64	10-6048-M006
Magnesium	NVA	NVA	NVA	NVA	NVA	18.9 s	15.3	10-526-M002	-	-
						5.66 t	-	-	0.114	10-6108-M102
Manganese	NVA	0.20	NVA	NVA	NVA	0.942 s	5.69	10-534-M004	-	-
						0.126 t	-	-	ND	-
Nickle	0.1	0.1	0.1	0.1	0.7	0.0328 s	0.0326	10-525-M001	-	-
						8.87 t	-	-	7.35	10-6113-M001
Potassium	NVA	NVA	35	NVA	NVA	7.06 s	43.3	10-5110-M101	-	-
						42.3 t	-	-	6.14	10-6098-M101
Silicon	NVA	NVA	NVA	NVA	NVA	6.4 s	80.9	10-7263-M003	-	-
						8.97 t	-	-	16.4	10-6113-M001
Sodium	NVA	NVA	NVA	NVA	NVA	10.2 s	50.8	10-5110-M101	-	-
						0.584 t	-	-	ND	-
Vanadium u	NVA	NVA	NVA	0.02	NVA	ND s	ND	- -	-	-
						0.220 t	-	-	ND	-
Zinc	NVA	NVA	NVA	2	NVA	0.168 s	ND	- -	-	-

Table 13

Summary of Maximum Detected Concentrations of
Organic and Inorganic Compounds in Overburden and Bedrock Groundwater
Zone 2, Pease AFB, NH

Chemical	MCL a	MCLG b	Regulatory NHAGOS c	ARARs LHA d	RCRA e	Maximum Detected Concentrations f Background	OB	OB Location	BR	BR Location
Site 22										
Organics (µg/L)										
2,4-Dimethylphenol	NVA	NVA	350	NVA	NVA	NE	35	22-5124-M002	ND	-
2-Methylnaphthalene	NVA	NVA	6	NVA	3	NE	140	22-5105-M002	ND	-
Bis(-ethylhexyl)phthalate dc	6	0	20	20	NVA	NE	31 J	22-5124-M001	ND	-
Di-n-butyl phthalate dc	NVA	NVA	4,000	4,000	20,000	NE	96 J	22-5065-M002	ND	-
Dimethyl phthalate	NVA	NVA	NVA	NVA	NVA	NE	7 J	22-5065-M003	ND	-
1,2,4-Trimethylbenzene udm	NVA	NVA	10,000 g	10,000 g	70,000 g	NE	1,400 J	22-5105-M003	0.2 J	22-615-M004
1,2-Dibromoethane (ethylene dibromide)	0.05	NVA	NVA	NVA	NVA	NE	51	22-5107-M103	ND	-
o-Xylene	10,000 g	10,000 g	10,000 g	10,000 g	70,000 g	NE	2,800	22-5105-M002	0.1 J	22-6047-M002
1,3,5-Trimethylbenzene	NVA	NVA	NVA	NVA	NVA	NE	820 J	22-5105-M003	ND	-
cis-1,2-Dichloroethene	70	70	70	70	NVA	NE	24	22-5107-M004	ND	-
Ethylbenzene	700	700	700	700	4,000	NE	2,800 J	22-545-M003	ND	-
Isopropylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	170	22-5107-M002	0.5 J	22-6047-M001
4-Isopropyltoluene	NVA	NVA	NVA	NVA	NVA	NE	130	22-5105-M003	ND	-
Benzene	5	0	5	5	NVA	NE	3,700 J	22-5107-M003	11	22-6047-M001
m&p-Xylenes	10,000 g	10,000 g	10,000 g	10,000 g	70,000 g	NE	7,300	22-5105-M002	0.4 J	22-615-M004
Methylene chloride dc, urm	5	0	5	NVA	5	NE	320 J	22-5065-M001	ND	-
Methyl isobutyl ketone (4-Methyl-2-pentanone)	NVA	NVA	350	NVA	2,000	NE	2,000	22-543-M002	ND	-
n-Propylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	190	22-5105-M003	ND	-
Naphthalene	NVA	NVA	20	20	NVA	NE	340	22-5105-M002	ND	-
sec-Butylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	39	22-5105-M003	ND	-
Tetrachloroethene	5	0	5	-	0.70	NE	0.4 J	22-7433-M002	ND	-
Toluene	1,000	1,000	1,000	1,000	10,000	NE	2,100	22-5105-M002	ND	-
Xylenes (total)	10,000 g	10,000 g	10,000 g	10,000 g	70,000 g	NE	5,500 J-	22-545-M002	ND	-
1,1,1-Trichloroethane	200	200	200	200	3,000	NE	0.30 J	22-6107-M001	ND	-
46.4 t - - ND -										
Acetone	NVA	NVA	70	NVA	4,000	NE	ND	-	ND	-
Trichloroethene	5	0	5	NVA	5	NE	5	22-6107-M002	ND	-
trans-1,2-Dichloroethane	100	100	100	100	NVA	NE	0.3 J	22-6107-M002	ND	-
Inorganics (mg/L)										
						46.4 t	-	-	ND	-
Aluminum u	NVA	NVA	NVA	NVA	NVA	0.398 s	ND	- -	-	-
						0.072 t	-	-	0.0107	22-6047-M001
Arsenic	0.05	NVA	0.05	NVA	0.05	0.0231 s	0.194 J	22-5124-M002	-	-

Table 13

Summary of Maximum Detected Concentrations of
Organic and Inorganic Compounds in Overburden and Bedrock Groundwater
Zone 2, Pease AFB, NH

Chemical	Regulatory ARARs					Maximum Detected Concentrations f				
	MCL a	MCLG b	NHAGOS c	LHA d	RCRA e	Background	OB	OB Location	BR	BR Location
Site 22 (continued)										
Inorganics (mg/L) (continued)										
Barium	2	2	2	2	1	0.221 t 0.0883 s	- ND	- -	ND -	- -
Beryllium	0.004	0.004	0.004	NVA	0.000008	0.0031 t ND s	- ND	- -	ND -	- -
Boron	NVA	NVA	0.6	0.6	NVA	ND t 0.111 s	- 0.154 J	- 22-545-M004	ND -	- -
Cadmium	0.005	0.005	0.005	0.005	0.01	ND t ND s	- ND	- -	ND -	- -
Calcium	NVA	NVA	NVA	NVA	NVA	90.3 t 73.2 s	- 111	- 22-5107-M103	15.9 J+ -	22-615-M004 -
Chromium	0.1	0.1	0.1	0.1	0.05 (VI)	0.0943 t ND	- ND	- -	ND -	- -
Cobalt	NVA	NVA	NVA	NVA	NVA	0.106 t ND	- ND	- -	ND -	- -
Copper	1.3	1.3	1.3	NVA	NVA	0.0881 t ND	- ND	- -	ND -	- -
Iron	NVA	NVA	NVA	NVA	NVA	62.8 t 0.584 s	- 114	- 22-545-M004	13.6 -	22-6047-M002 -
Lead	0.015	0	0.015	NVA	0.05	0.0976 t ND s	- 0.0102	- 22-5065-M002	0.0080 J -	22-6047-M002 -
Magnesium	NVA	NVA	NVA	NVA	NVA	38.3 t 18.9 s	- 26.7	- 22-5107-M003	12.2 -	22-6111-M002 -
Manganese	NVA	NVA	NVA	NVA	NVA	5.66 t 0.942 s	- 15.6	- 22-545-M004	0.205 -	22-6112-M002 -
Nickel	0.1	0.1	0.1	0.1	0.7	0.126 t 0.0328 s	- 0.0248 J	- 22-5107-M003	ND -	- -
Potassium	NVA	35	35	NVA	NVA	8.87 t 7.06 s	- ND	- -	5.96 -	22-6099-M101 -
Silicon	NVA	NVA	NVA	NVA	NVA	42.3 t 6.4 s	- 14.6	- 22-5062-M001	5.44 -	22-6047-M001 -
Sodium	NVA	NVA	NVA	NVA	NVA	8.97 t 10.2 s	- 43.2	- 22-5107-M003	58.8 -	22-6047-M001 -
Vanadium u	NVA	NVA	NVA	0.02	NVA	0.584 t ND s	- ND	- -	ND -	- -

Table 13

Summary of Maximum Detected Concentrations of
Organic and Inorganic Compounds in Overburden and Bedrock Groundwater
Zone 2, Pease AFB, NH

	Regulatory ARARs						Maximum Detected Concentrations f			
Chemical	MCL a	MCLG b	NHAGOS c	LHA d	RCRA e	Background	OB	OB Location	BR	BR Location
Site 22 (continued)										
Inorganics (mg/L) (continued)										
						0.220 t	-	-	0.0517 J	- -
Zinc	NVA	NVA	NVA	2	NVA	0.168 s	0.0403	22-527-M001	-	- -
Site 24										
Inorganics (mg/L)										
						0.072 t	-	-	-	-
Arsenic	0.05	NVA	0.05	NVA	0.05	0.0231 s	0.0094	24-7946-M001	-	-
						90.3 t	-	-	-	-
Calcium	NVA	NVA	NVA	NVA	NVA	73.2 s	97.4 J-	24-7946-M001	-	-
						0.0943 t	-	-	-	-
Chromium	0.1	0.1	0.1	0.1	0.05 (VI)	ND	0.0127 J	24-7949-M001	-	-
						62.8 t	-	-	-	-
Iron	NVA	NVA	NVA	NVA	NVA	0.584 s	6.2	24-7948-M001	-	-
						0.0976 t	-	-	-	-
Lead	0.015	0	0.015	NVA	0.05	ND s	0.003 J	24-7947-M001	-	-
						38.3 t	-	-	-	-
Magnesium	NVA	NVA	NVA	NVA	NVA	18.9 s	22.6 J	24-7946-M001	-	-
						5.66 t	-	-	-	-
Manganese	NVA	0.20	NVA	NVA	NVA	0.942 s	4.21	24-7949-M001	-	-
						0.126 t	-	-	-	-
Nickel	0.1	0.1	0.1	0.1	0.7	0.0328 s	0.00223 J	24-7949-M001	-	-
						42.3 t	-	-	-	-
Silicon	NVA	NVA	NVA	NVA	NVA	6.4 s	6.52 J	24-7946-M001	-	-
						8.97 t	-	-	-	-
Sodium	NVA	NVA	NVA	NVA	NVA	10.2 s	19.8	24-7948-M001	-	-
						0.220 t	-	-	-	-
Zinc	NVA	NVA	NVA	2	NVA	0.168 s	40.8	24-7947-M001	-	-
Site 37										
Organics (µg/L)										
1,2,4-Trimethylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	400	22-5107-M003	ND	-
1,3,5-Trimethylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	150	-	ND	-
4-Isopropyltoluene udm	NVA	NVA	NVA	NVA	NVA	NE	44	22-5062-M001	ND	-
Isopropylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	34	22-5107-M003	ND	-
n-Propylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	35	-	ND	-
sec-Butylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	11 J		ND	-
Di-n-butyl phthalate dc	NVA	NVA	NVA	NVA	4,000	NE	17		ND	-

Table 13

Summary of Maximum Detected Concentrations of
Organic and Inorganic Compounds in Overburden and Bedrock Groundwater
Zone 2, Pease AFB, NH

Chemical	MCL a	MCLG b	Regulatory NHAGOS c	ARARs LHA d	RCRA e	Maximum Detected Concentrations f Background	OB	OB Location	BR	BR Location
Site 37 (continued)										
Organics (µg/L) (continued)										
Phenol	NVA	NVA	4,000	4,000	20,000	NE	ND	-	8 J	37-6049-M001
o-Xylene	10,000	10,000	10,000	10,000	10,000	NE	340	37-5125-M001	ND	-
m&p-Xylenes	10,000	10,000	10,000	10,000	10,000	NE	620	37-5125-M001	ND	-
Ethylbenzene	700	700	700	700	4,000	NE	130	37-5125-M001	ND	-
Toluene	1,000	1,000	1,000	1,000	10,000	NE	10 J	37-5125-M002	ND	-
n-Butylbenzene						NE	94 J	37-5125-M002	ND	-
Naphthalene	NVA	NVA	20	20	NVA	NE	100	10-730-M002	ND	-
2-Methylnaphthalene	NVA	NVA	NVA	NVA	NVA	NE	85	37-5125-M001	ND	-
Phenanthrene	NVA	NVA	NVA	NVA	NVA	NE	5 J	37-5125-M001	ND	-
Pyrene	NVA	NVA	NVA	NVA	NVA	NE	4 J	37-5125-M001	ND	-
Trichloroethene	5	0	5	NVA	5	NE	26	10-730-M002	ND	-
Bis(2-ethylhexyl) phthalate	6	0	6	NVA	3	NE	11	37-5126-M002	ND	-
Inorganics (mg/L)										
						46.4 t	-	-	ND	-
Aluminum u	NVA	NVA	NVA	NVA	NVA	0.398 s	ND	-	-	-
						0.072 t	-	-	0.0083	37-6049-M001
Arsenic	0.05	NVA	0.05	NVA	0.05	0.0231 s	0.0078 J	37-5125-M001	-	-
						0.221 t	-	-	ND	-
Barium	2	2	2	2	1	0.0883 s	0.0635	37-5122-M101	-	-
						0.0031 t	-	-	ND	-
Beryllium	0.004	0.004	0.004	NVA	0.000008	22-5065-M001	ND	-	-	-
						ND t	-	-	ND	-
Boron	NVA	NVA	0.6	0.6	NVA	0.111 t	ND	-	-	-
						ND t	-	-	ND	-
Cadmium	0.005	0.005	0.005	0.005	0.01	ND s	ND	-	-	-
						90.3 t	-	-	8.61	37-6049-M001
Calcium	NVA	NVA	NVA	NVA	NVA	73.2 s	13.2	37-5122-M001	-	-
						0.943 t	-	-	ND	-
Chromium	0.1	0.1	0.1	0.1	0.05 (VI)	ND	ND	-	-	-
						0.106 t	-	-	ND	-
Cobalt	NVA	NVA	NVA	NVA	NVA	ND	ND	- ND	-	-
						0.0881 t	-	-	ND	-
Copper	1.3	1.3	1.3	NVA	NVA	ND	ND	- ND	-	-

Table 13

Summary of Maximum Detected Concentrations of
Organic and Inorganic Compounds in Overburden and Bedrock Groundwater
Zone 2, Pease AFB, NH

Chemical	Regulatory ARARs					Maximum Detected Concentrations f				
	MCL a	MCLG b	NHAGOS c	LHA d	RCRA e	Background	OB	OB Location	BR	BR Location
Site 37 (continued)										
Inorganics (mg/L) (continued)										
						62.8 t	-	-	6.72 J	37-6049-M002
Iron	NVA	NVA	NVA	NVA	NVA	0.584 s	5.04	37-5125-M001	-	-
						0.0976 t	-	-	0.00335 J	37-6049-M002
Lead	0.015	0	0.015	NVA	0.05	ND s	0.0067	37-5125-M001	-	-
						38.3 t	-	-	2.76	37-6049-M001
Magnesium	NVA	NVA	NVA	NVA	NVA	18.9 s	4.1	37-5122-M001	-	-
						5.66 t	-	-	0.0871 J	37-6049-M002
Manganese	NVA	0.20	NVA	NVA	NVA	0.942 s	0.226	37-5125-M001	-	-
						0.126 t	-	-	ND	-
Nickel	0.1	0.1	0.1	0.1	0.7	0.0328 s	ND	-	-	-
						8.87 t	-	-	ND	-
Potassium	NVA	NVA	35	NVA	NVA	7.06 s	ND	-	-	-
						42.3 t	-	-	5.8	37-6049-M002
Silicon	NVA	NVA	NVA	NVA	NVA	6.4 s	3.95 J	37-5122-M001	-	-
						8.97 t		-	80.3	37-6049-M001
Sodium	NVA	NVA	NVA	NVA	NVA	10.2 s	74.8	37-5122-M001	-	-
						0.584 t	-	-	ND	-
Vanadium u	NVA	NVA	NVA	0.02	NVA	ND s	ND	-	-	-
						0.220 t	-	-	0.0118	37-6049-M002
Zinc	NVA	NVA	NVA	2	NVA	0.168 s	0.0571	37-5126-M002	-	-
Site 43										
Organics (µg/L)										
Bis(2-ethylhexyl) phthalate dc	6	0	6	NVA	3	NE	4 J	43-5056-M002	ND	-
Di-n-butyl phthalate dc	NVA	NVA	NVA	NVA	4,000	NE	3 J	43-5051-M002	ND	-
Dimethyl phthalate	NVA	NVA	NVA	NVA	NVA	NE	ND	-	2 J	43-6114-M102
1,2,4-Trimethylbenzene	NVA	NVA	NVA	NVA	NVA	NE	ND	-	0.5 J	43-6103-M002
o-Xylene	10,000 g	10,000 g	10,000 g	10,000 g	70,000 g	NE	ND	-	2	43-6103-M001
1,3,5-Trimethylbenzene udm	5	0	5	5	NVA	NE	0.6 J	43-7338-M002	0.4 J	43-6103-M002
Benzene	5	0	5	5	NVA	NE	3	43-5134-M001	53	43-6114-M001
Site 43 (continued)										
Ethylbenzene	NVA	NVA	NVA	NVA	4,000	NE	ND	-	0.5 J	43-6103-M002
Isopropylbenzene udm	NVA	NVA	NVA	NVA	NVA	NE	0.3 J	43-7338-M002	2	43-6114-M002
m&p-Xylenes	10,000 g	10,000 g	10,000 g	10,000 g	70,000 g	NE	0.3 J	43-7338-M002	1	43-6103-M001
Toluene	1,000	1,000	1,000	1,000	10,000	NE	ND	-	1	43-6103-M001
Trichlorofluoromethane	NVA	NVA	2,000	2,000	10,000	NE	0.1 J	43-5056-M002	ND	-
4-Isopropyltoluene	NVA	NVA	NVA	NVA	NVA	NE	0.1 J	43-7338-M002	ND	-

Table 13

Summary of Maximum Detected Concentrations of
Organic and Inorganic Compounds in Overburden and Bedrock Groundwater
Zone 2, Pease AFB, NH

Chemical	Regulatory ARARs					Maximum Detected Concentrations f				
	MCL a	MCLG b	NHAGOS c	LHA d	RCRA e	Background	OB	OB Location	BR	BR Location
Site 43 (continued)										
Inorganics (mg/L)										
						46.4 t	-	-	ND	-
Aluminum u	NVA	NVA	NVA	NVA	NVA	0.398 s	ND	-	-	-
						0.072 t	-	-	0.0126	41-6103-M002
Arsenic	0.05	NVA	0.05	NVA	0.05	0.0231 s	ND	-	-	-
						0.221 t	-	-	ND	-
Barium	2	2	2	2	1	0.0883 s	ND	-	-	-
						0.0031 t	-	-	ND	-
Beryllium	0.004	0.004	0.004	NVA	0.000008	ND s	ND	-	-	-
						ND t	-	-	ND	-
Boron	NVA	NVA	0.6	0.6	NVA	0.111 s	ND	-	-	-
						ND t	-	43-5134-M001	ND	-
Cadmium	0.005	0.005	0.005	0.005	0.01	ND s	ND	-	-	-
						90.3 t	-	-	17.7	43-6114-M102
Calcium	NVA	NVA	NVA	NVA	NVA	73.2 s	22.9	-	-	-
						0.0943 t	-	-	ND	-
Chromium	0.1	0.1	0.1	0.1	0.05 (VI)	ND	ND	-	-	-
						0.106 t	-	-	ND	-
Cobalt	NVA	NVA	NVA	NVA	NVA	ND	ND	-	-	-
						0.0881 t	-	43-5056-M003	ND	-
Copper	1.3	1.3	1.3	NVA	NVA	ND	ND	-	-	-
						62.8 t	-	-	5.49	43-6103-M002
Iron	NVA	NVA	NVA	NVA	NVA	0.584 s	0.15	43-5051-M001	-	-
						0.0976 t	-	-	0.0035	43-6114-M002
Lead	0.015	0	0.015	NVA	0.05	ND s	ND	-	-	-
Magnesium	NVA	NVA	NVA	NVA	NVA	18.9 s	5.68	43-5051-M001	-	-
						5.66 t	-	-	0.122	43-6103-M002
Manganese	NVA	0.20	NVA	NVA	NVA	0.942 s	0.0181	43-5056-M001	-	-
						0.126 t	-	-	ND	-
Nickel	0.1	0.1	0.1	0.1	0.7	0.0328 s	ND	-	-	-
						8.87 t	-	-	ND	-
Potassium	NVA	NVA	35	NVA	NVA	7.06 s	ND	-	-	-
						42.3 t	-	-	5.23 J+	43-6103-M003
Silicon	NVA	NVA	NVA	NVA	NVA	6.4 s	6.48	43-5054-M001	-	-

Table 13

Summary of Maximum Detected Concentrations of
Organic and Inorganic Compounds in Overburden and Bedrock Groundwater
Zone 2, Pease AFB, NH

Chemical	MCL a	MCLG b	NHAGOS c	Regulatory ARARs LHA d	RCRA e	Background	Maximum Detected Concentrations f OB	OB Location	BR	BR Location
Site 43 (continued)										
Inorganics (µg/L) (continued)										
						8.97 t	-	-	34.3	43-6103-M003
Sodium	NVA	NVA	NVA	NVA	NVA	10.2 s	25.8	43-5056-M003	-	-
						0.584 t	-	-	ND	-
Vanadium u	NVA	NVA	NVA	0.02	NVA	ND s	ND	-	-	-
						0.220 t	-	-	0.0152	43-6114-M002
Zinc	NVA	NVA	NVA	2	NVA	0.168 s	0.0303	43-5056-M001	-	-

BR = Bedrock groundwater.
OB = Overburden groundwater.
a MCL = Maximum Contaminant Level, April 1991.
b MCLG = Maximum Contaminant Level Goal, April 1991.
c NHAGOS = New Hampshire Ambient Groundwater Quality Standards, Env-Ws 410.05.
d LHA = EPA Lifetime Health Advisory, March 1991.
e Resource Conservation and Recovery Act, Proposed Corrective Action Program at Solid Waste Management Units.
f Overburden inorganics concentrations represent filtered data. Bedrock inorganics concentrations represent unfiltered data.
g Value for total xylenes. Values for xylene isomers not available.
NR = Not required. ARAR concentration exceeds maximum detected concentration.
udm Unregulated organic contaminant requiring discretionary monitoring (in New Hampshire).
urm Unregulated organic contaminant requiring monitoring once, with a sample and a confirmational sample (in Hew Hampshire)
u Unregulated inorganic contaminant with an unspecified monitoring period/frequency (in New Hampshire).
ND = Analyte not detected above the detection limit.
NVA = No value available.
- = Not applicable.
J = Estimated concentration is below the method detection limit.
J - = Estimated concentration is biased low based on EPA Region I evaluation.
J + = Estimated concentration is biased high based on EPA Region I evaluation.
(VI) = ARAR refers to chromium VI.
t Total (unfiltered) sample result.
s Soluble (filtered) sample result.
NE = Not established.

Table 14

Summary of Highest Detected Concentrations of Metals
Stage 3 and 4 Surface Water Analytical Results
Upper Peverly Pond
Zone 2, Pease AFB, NH

Analyte	Maximum Background Concentration (mg/L)	Regulatory Guidance Values a: Freshwater Chronic Criteria for the Protection of Aquatic Life (mg/L)	Regulatory Guidance Values a: Fish Consumption Only Criteria (mg/L)	Maximum Detected Concentration (mg/L)	Location ID
Inorganics					
Aluminum	0.896	0.087	NA	4.96 J	8018-W002
Arsenic	ND	0.19	NA	0.069	8018-W002
Calcium	25.8	NA	NA	21	816-W003
Iron	2.89	1.0	NA	46.8	8018-W002
Lead	0.005	0.00041b	NA	0.017	8018-W002
Magnesium	9.14	NA	NA	6.79	8018-W002
Manganese	1.97	NA	0.1	2.97	8018-W002
Nickel	NA	0.108c	0.1	0.029	816-W001
Silicon	5.5	NA	NA	15.1	8018-W002
Sodium	32.1	NA	NA	23.3	8018-W002
Zinc	0.043	0.112d	NA	0.127	8018-W002

Note: Maximum background concentrations for surface water differ from the values presented in the 1993 Zone 2 RI and FS Reports. These changes are based on agreements made among the Air Force, EPA, and NHDES regarding surface water/sediment issues at Pease AFB.
ND = Not detected.
J = Estimated value.
NA = Not available.

a New Hampshire Department of Environmental Services, Water Quality Criteria for Toxic Substances.
b Adjusted for a hardness of 20 mg/L CaCO3.
c Adjusted for a hardness of 6431 mg/L CaCO3.
d Adjusted for a hardness of 107 mg/L CaCO3.

Table 15

Summary of Highest Detected Concentrations of Organic Compounds and Metals
Stage 3 and 4 Sediment Analytical Results
Upper Peverly Pond
Zone 2, Pease AFB, NH

Analyte	Maximum Background Concentration	Regulatory Guidance Values ER-L a	ER-M b	Maximum Detected Concentration	Location ID
VOCs	mg/kg	mg/kg	mg/kg	mg/kg	
Acetone	0.17	NA	NA	0.1.5 J	816-D001
2-Butanone (MEK)	0.0715	NA	NA	0.31 J-	8018-D001
Toluene	0.024	NA	NA	0.012 J	8019-D001
SVOCs	mg/kg	mg/kg	mg/kg	mg/kg	
Benzo(b)fluoranthene	6.4	NA	NA	0.48 J	8014-D001
Benzo(k)fluoraathene	6.7	NA	NA	0.72 J	8014-D001
Fluoranthene	22.0	0.6	3.6	1.2 J	8014-D001
TPHs	mg/kg	mg/kg	mg/kg	mg/kg	
Total petroleum hydrocarbons	ND	NA	NA	450	8017-D001
Pesticides/PCBs	mg/kg	mg/kg	mg/kg	mg/kg	
DDD	ND	0.002	0.02	0.71	8015-D001
DDE	ND	0.002	0.015	0.03 J	8016-D001
Inorganics	mg/kg	mg/kg	mg/kg	mg/kg	
Aluminum	12,350	NA	NA	26,700 J+	8017-D001
Arsenic	12.2	33	85	109 J-	8016-D001
Barium	52.5	NA	NA	464 J +	8018-D001
Beryllium	0.82	NA	NA	1.2	8017-D001
Calcium	15,900	NA	NA	19,200	8018-D002
Chromium	47.5	80	145	48.5	8017-D001
Cobalt	14.2	NA	NA	25.8	8018-D001

Table 15

Summary of Highest Detected Concentrations of Organic Compounds and Metals
Stage 3 and 4 Sediment Analytical Results
Upper Peverly Pond
Zone 2, Pease AFB, NH
(Continued)

Analyte	Maximum Background Concentration	Regulatory Guidance Values ER-L a	ER-M b	Maximum Detected Concentration	Location ID
Inorganics	mg/kg	mg/kg	mg/kg	mg/kg	
Copper	168	70	390	28.6	8017-D001
Iron	21,900	20,000c	40,000d	108,000 J	8018-D001
Lead	42.1	35	110	106 J-	8014)D001
Magnesium	9,060	NA	NA	6,380	8017-D001
Manganese	358	460 c	1,100 d	37,000	8018-D001
Nickel	46.7	30	50	56.8	8018-D001
Potassium	2,640	NA	NA	2,110	8019-D001
Silicon	4,150	NA	NA	3,360	8018-D002
Sodium	1,580	NA	NA	916	8018-D002
Vanadium	33.2	NA	NA	78.3	8014-D001
Zinc	105	120	270	284	8018-D002

J = Estimated value.
NA = No value available.
ND = Not detected.

a NOAA ER-L value.
b NOAA ER-M value.
c Ontario Ministry of the Environment) lowest effect level.
d Ontario Ministry of the Environment) severe effect level.

Table 16

Summary of Highest Detected Concentrations of Organic Compounds and Metals
Stage 3 and 4 Surface Water Analytical Results
Lower Peverly Pond
Zone 2, Pease AFB, NH

Analyte	Maximum Background Concentration (mg/L)	Regulatory Guidance Values a: Freshwater Chronic Criteria for the Protection of Aquatic Life (mg/L)	Regulatory Guidance Values a: Fish Consumption Only Criteria (mg/L)	Maximum Detected Concentration (mg/L)	Location ID
Inorganics					
Arsenic	ND	0.19	NA	0.005	8012-W001
Calcium	25.8	NA	NA	17.8	817-W001
Cyanide	ND	0.0052	NA	0.027	817-W001
Iron	2.89	1.0	NA	0.883 J	817-W001
Magnesium	9.14	NA	NA	4.17	817-W001
Manganese	1.97	NA	0.1	0.157	817-W001
Nickel	ND	0.0983b	0.1	0.024	817-W101
Silicon	5.5	NA	NA	4.59	817-W001
Sodium	32.1	NA	NA	11.1	817-W001
Zinc	0.043	0.066b	NA	0.105 J	817-W101

Note: Maximum background concentrations for surface water differ from the values presented in the 1993 Zone 2 RI and FS Reports. These changes are based on agreements made among the Air Force, EFA, and NHDES regarding surface water/sediment issues at Pease AFB.
J = Estimated value.
NA = Not applicable.
ND) Not detected.

a New Hampshire Department of Environmental Services, Water Quality Criteria for Toxic Substances.
b Adjusted for hardness of 57.19 mg/L CaCO3.

Table 17
Summary of Highest Detected Concentrations of Organic Compounds and Metals
Stage 3 and 4 Sediment Analytical Results
Lower Peverly Pond
Zone 2, Pease AFB, NH

Analyte	Maximum Background Concentration	Regulatory Guidance Values ER-L a	ER-M b	Maximum Detected Concentration	Location ID
VOCs	mg/kg	mg/kg	mg/kg	mg/kg	
Acetone	0.17	NA	NA	0.014 J	8012-D001
2-Butanone (MEK)	0.0715	NA	NA	0.036 J	8013-D001
SVOCs	mg/kg	mg/kg	mg/kg	mg/kg	
Benzo(a) anthracene	73	0.23	1.6	0.57	817-D001
Benzo(a)pyrene	7.9	0.4	2.5	0.57 J	8012-D001
Benzo(b)fluoranthene	6.4	NA	NA	1.1	8012-D001
Beazo(k)fluoranthene	6.7	NA	NA	1.1	8012-D001
Chrysene	8.9	0.4	2.8	0.72	817-D001
Di-n-butyl phthalate	ND	NA	NA	4.0 J	817-D101
Fluoranthene	22.0	0.6	3.6	1.5	8012-D001
Indeno(1,2,3-cd)-pyrene	5.9	NA	NA	0.4 J	8012-D001
Phenanthrene	13.0	0.225	1.38	0.68	817-D001
Pyrene	18.0	0.33	2.2	1.2	817-D001
Total PAHs	108.99	4.0	35.0	6.47	817-D001
Total petroleum hydrocarbons (mg/kg)	ND	NA	NA	410	817-D001
Pesticides/PCBs	mg/kg	mg/kg	mg/kg	mg/kg	
gamma-BHC (Lindane)	ND	NA	NA	0.005 J	8010-DOO1
DDT	ND	0.001	0.007	4.2	817-D001
DDD	ND	0.002	0.02	0.05 J	817-13001

Table 17

Summary of Highest Detected Concentrations of Organic Compounds and Metals
Stage 3 and 4 Sediment Analytical Results
Lower Peverly Pond
Zone 2, Pease AFB, NH
(Continued)

Analyte	Maximum Background Concentration	Regulatory Guidance Values ER-L a	ER-M b	Maximum Detected Concentration	Location ID
Pesticides/PCBs (continued)	mg/kg	mg/kg	mg/kg	mg/kg	
DDE	ND	0.002	0.015	0.027 J	817-D001
Inorganics	mg/kg	mg/kg	mg/kg	mg/kg	
Aluminum	12,350	NA	NA	26,400	8013-D001
Arsenic	12.2	33	85	48.1 J-	8013-D001
Barium	52.5	NA	NA	184	8010-D001
Beryllium	0.82	NA	NA	1.3	8010-D001
Calcium	15,900	NA	NA	4,690	8011-D101
Chromium	47.5	80	145	40.8	8013-D001
Cobalt	14.2	NA	NA	20.2	8013-D001
Copper	168	70	390	28.5	8013-D001
Iron	21,900	20,000 c	40,000 d	51,000	8013-D001
Magnesium	9,060	NA	NA	6,220	8013-D001
Manganese	358	460 c	1,100 d	6,490	8010-D001
Nickel	46.7	30	50	41.7	8013-D001
Silicon	4,150	NA	NA	1,820 J	8011-D101
Vanadium	33.2	NA	NA	78.3	8013-D001
Zinc	105	120	270	195	8013-D001

J = Estimated value.
NA = No value available.
ND = Not detected.

a NOAA ER-L value.
b NOAA ER-M value.
c Ontario Ministry of the Environment) lowest effect level.
d Ontario Ministry of the Environment) severe effect level.

Table 18

Summary of Highest Detected Concentrations of Metals
Stage 3 and 4 Surface Water Analytical Results
Bass Pond
Zone 2, Pease AFB, NH

		Regulatory Guidance Values*			
Analyte	Maximum Background Concentration (mg/L)	Freshwater Chronic Criteria for the Protection of Aquatic Life (mg/L)	Fish Consumption Only Criteria (mg/L)	Maximum Detected Concentration (mg/L)	Location ID
Inorganics					
Calcium	25.8	NA	NA	15.7	8009-W001
Iron	2.89	1.0	NA	1.16	8006-W001
Magnesium	9.14	NA	NA	4.4	8004-W001
Manganese	1.97	NA	0.1	0,257	8009-W001
Sodium	32.1	NA	NA	21.5	8004-W001

* New Hampshire Department of Environmental Services, Water Quality Criteria for Toxic Substances.
NA = No value available.

Table 19

Summary of Highest Detected Concentrations of Organic Compounds and Metals
Stage 3 and 4 Sediment Analytical Results
Bass Pond
Zone 2, Pease AFB, NH

Analyte	Maximum Background Concentration	Regulatory Guidance Values ER-L a	ER-M b	Maximum Detected Concentration	Location ID
Organics	mg/kg	mg/kg	mg/kg	mg/kg	
2-Butanone (MEK)	0.0715	NA	NA	0.041 J	8005-D001
Toluene	0.024	NA	NA	0.011 J	8009-D001
Total petroleum hydrocarbons	ND	NA	NA	280	8003-D001
DDT	ND	0.001	0.007	0.19	8030-D001
DDD	ND	0.002	0.02	1.70	8009-D001
DDE	ND	0.002	15	0.38 J	8009-D001
Inorganics	mg/kg	mg/kg	mg/kg	mg/kg	
Aluminum	12,350	NA	NA	28,000	8006-D001
Arsenic	12.2	33	85	46.6 J-	8008-D001
Barium	52.5	NA	NA	109	8006-D001
Beryllium	0.82	NA	NA	13	8008-D001
Calcium	15,900	NA	NA	6,480	8005-D001
Chromium	47.5	80	145	66.2	8004-D001
Cobalt	14.2	NA	NA	12.3	8009-D001
Copper	168	70	390	31.9	8007-D001
Iron	21,900	20,000 c	40,000 d	38,100	8007-D001
Magnesium	9,060	NA	NA	8,510	8006-D001
Manganese	358	460c	1,100d	2,140	8030-D001
Nickel	46.7	30	50	36.4	8006-D001
Potassium	2,640	NA	NA	5,700	8006-D001
Silicon	4,150	NA	NA	2,010 J+	8004-D001

Table 19

Summary of Highest Detected Concentrations of Organic Compounds and Metals
Stage 3 and 4 Sediment Analytical Results
Bass Pond
Zone 2, Pease AFB, NH
(Continued)

Analyte	Maximum Background Concentration	Regulatory Guidance Values ER-L a	ER-M b	Maximum Detected Concentration	Location ID
Inorganics (continued)	mg/kg	mg/kg	mg/kg	mg/kg	
Sodium	1,580	NA	NA	3,590	8005-D001
Vanadium	33.2	NA	NA	64.8	8006-D001
Zinc	105	120	270	180	8006-D001

J = Estimated value.
NA = No value available.
ND = Not detected.

a NOAA ER-L value.
b NOAA ER-M value.
c Ontario Ministry of the Environment) lowest effect level.
d Ontario Ministry of the Environment) severe effect level.

Table 20
Summary of Highest Detected Concentrations of Metals
Stage 3 and 4 Surface Water Analytical Results
Staff Gages/Seeps
Zone 2, Pease AFB, NH

Analyte	Maximum Background Concentration (mg/L)	Regulatory Guidance Values: Freshwater Chronic Criteria for the Protection of Aquatic Life (mg/L)	Regulatory Guidance Values: AWQC Fish Consumption Only Criteria (mg/L)	Maximum Detected Concentration (mg/L)	Location ID
Inorganics					
Aluminum	0.896	0.087	NA	0.537	8126-W001
Arsenic	ND	0.19	NA	0.032	8191-W001
Cadmium	0.0071	0.0012b	NA	0.006	8098-W001
Calcium	25.80	NA	NA	213	8098-W001
Iron	2.89	1.0	NA	4.82	8191-W001
Magnesium	9.14	NA	NA	5.94	8191-W001
Manganese	1.97	NA	0.1	1.41	800A-W001
Silicon	5.5	NA	NA	7.27	8098-W101
Sodium	32.1	NA	NA	17.4	8100-W001
Zinc	0.043	0.0027 c	NA	0.017 J	800-W001

Note: Maximum background concentrations for surface water differ from the values presented in the 1993 Zone 2 RI and FS Reports. These changes are based on agreements made among the Air Force, EPA, and NHDES regarding surface water/sediment issues at Pease AFB.
J = Estimated value.

a New Hampshire Department of Environmental Services, Water Quality Criteria for Toxic Substances.
b Adjusted for a hardness of 67 mg/L CaCO3 for each individual seep location.
c Adjusted for a hardness of 21 mg/L CaCO3 for each individual seep location.

Table 21

Summary of Highest Detected Concentrations of Organic Compounds and Metals
Stage 3 and 4 Sediment Analytical Results
Staff Gages/Seeps
Zone 2, Pease AFB, NH

Analyte	Maximum Background Concentration	Regulatory Guidance Values ER-L a	ER-M b	Maximum Detected Concentration	Location ID
Organics	mg/kg	mg/kg	mg/kg	mg/kg	
Benzoic acid	0.82	NA	NA	0.74 J	8099-D001
Bis(2-ethylhexyl) phthalate	2.8	NA	NA	0.4 J	8099-D001
Fluoraathene	22.0	NA	NA	0.062 J	8103-D001
Phenanthtene	13.0	0.225	138	0.042 J	8103-D001
Pyrene	18.0	0.35	2.2	0.049 J	8103-D001
Total PAHs	108.99	4.0	35.0	1.14	8099-D001
Inorganics	mg/kg	mg/kg	mg/kg	mg/kg	
Aluminum	12,350	NA	NA	13,800	8191-D001
Arsenic	12.2	33	85	72 J+	8102-D001
Barium	52.5	NA	NA	2,500	8102-D001
Beryllium	0.82	NA	NA	3.8 J	800A-D001
Boron	NA	NA	NA	99.4	8102-D001
Calcium	15,900	NA	NA	13,700	8102-D001
Chromium	47.5	80	145	29.6	8102-D001
Cobalt	14.2	NA	NA	297	8102-D001
Copper	168	70	390	15.3	8102-D001
Cyanide	NA	NA	NA	1.5	8102-D101
Iron	21,900	20,000c	40,000d	19,600	8102-D001
Lead	42.1	35	110	140	8191-D001
Magnesium	9,060	NA	NA	2,800	8102-D001

Table 21

Summary of Highest Detected Concentration of Organic Compounds and Metals
Stage 3 and 4 Sediment Analytical Results
Staff Gages/Seeps
Zone 2, Pease AFB, NH
(Continued)

Analyte	Maximum Background Concentration	Regulatory Guidance Values ER-L a	Regulatory Guidance Values ER-M b	Maximum Detected Concentration	Location ID
Inorganics	mg/kg	mg/kg	mg/kg	mg/kg	
Manganese	358	460c	1,100d	21,700	8102-D001
Mercury	0.200	0.15	1.3	0.28	8102-D001
Nickel	46.7	30	50	369	8102-D001
Potassium	2,640	NA	NA	1,300	8191-D001
Silicon	4,150	NA	NA	2,030 J+	8102-D001
Silver	ND	1	2.2	29.6	8102-D001
Sodium	1,580	NA	NA	135	8126-D001
Vanadium	33.2	NA	NA	84.2	8102-D001
Zinc	105	120	270	88.7	8102-D001

J = Estimated value
NA = No value available.
ND = Not detected.

a NOAA ER-L value.
b NOAA ER-M value.
c Ontario Ministry of the Environment) lowest effect level.
d Ontario Ministry of the Environment) severe effect level.

Table 22
Summary of Chemicals of Concern by Medium a
Zone 2, Pease AFB, NH

	Soil									
	Site 1	Site 7		Site 10		Site 22		Site 37	Site 43	
Chemical	0-2 ft	0-2 ft	0-15 ft	0-2 ft	0-15 ft b	0-2 ft	0-15 ft b	0-2 ft	0-15 ft b	0-15 ft b
Organics										
Acetone	x									
Aroclor-1260								x	x	
Benzene										
Benzoic acid	x	x d	x d	x d	x d	x	x	x	x	x d
gamma-BHC (lindane)										
Bis(2-ethylhexyl) phthalate	x d		x		x					x d
2-Butanone	x	x	x		x		x			
n-Butylbenzene										
sec-Butylbenzene										
tert-Butylbenzene										
Carbon disulfide		x	x							
Chlorobenzene										
4,4'-DDD										
4,4'-DDE				x	x	x d	x d	x d	x d	x d
4,4'-DDT	x d			x d	x d					x d
1,2-Dibromoethane										
cis-1,2-Dichloroethene										
Diethyl ether	x	x	x	x	x	x	x			x
Diethyl phthalate										
2,4-Dimethylphenol										
Dimethyl phthalate										
Di-n-butyl phthalate	x d	x d	x d	x d	x d	x d	x d			
Dioxins/furans						x	x	x	x	
Ethylbenzene						x	x			
Heptachlor						x	x			
2-Hexanone										
Isophorone							x			
Isopropylbenzene										
4-Isopropyltoluene										
Methylene chloride										
2-Methylnaphthalene							x			
4-Methyl-2-pentanone										
2-Methylphenol										
4-Methylphenol										
Naphthalene							x			
PAHs										
Benzo(a)anthracene	x d									
Benzo(a)pyrene	x d									x d
Benzo(b)fluoranthene	x d									x d
Benzo(g,h,i)perylene	x d									x d
Benzo(k)fluoranthene	x d									x d
Chysene	x d									x d
Dibenzo(a,h)anthracene	x d									
Fluoranthene	x d									x d
Fluorene							x			
Indeno(1,2,3-cd)pyrene	x d									x d
Phenanthrene	x d						x d			
Pyrene	x d			x d	x d			x d	x d	x d
Pentachlorophenol				x	x			x	x	
Phenol	x									
n-Propylbenzene										
Tetrachloroethene									x	
Toluene				x	x	x	x			

Table 22

Summary of Chemicals of Concern by Medium a
Zone 2, Pease AFB, NH

	Soil									
	Site 1	Site 7		Site 10		Site 22		Site 37	Site 43	
Chemical	0-2 ft	0-2 ft	0-15 ft	0-2 ft	0-15 ft b	0-2 ft	0-15 ft b	0-2 ft	0-15 ft b	0-15 ft b
Organics (continued)										
1,2,4-Trichlorobenzene									x	
Trichloroethene				x	x			x	x	
Trichlorofluoromethane	x	x	x	x	x				x	
1,2,4-Trimethylbenzene										
1,3,5-Trimethylbenzene										
m.p-Xylenes (total)										
o-Xylene										
Xylenes (total) e						x	x			
Inorganics										
Aluminum										
Antimony					x					
Arsenic	x					x	x			
Barium										
Beryllium										
Boron										
Cadmium										
Calcium	x									
Chromium										
Cobalt										
Copper										
Iron										
Lead		x	x					x	x	
Magnesium										
Manganese										
Mercury										
Nickel										
Potassium										
Silicon										
Sodium										
Thallium							x		x	
Vanadium										
Zinc										

Table 22

Summary of Chemicals of Concern by Medium a
Zone 2, Pease AFB, NH

					Groundwater b							
	Site 1		Site 7		Sites 10/22/43				Sites 10/22		Site 37	
Chemical	OB & SB	DB	OB & SB	DB	Main	Hot Spot I	OB & SB Hot Spot II	Hot Spot III	DB	Main	OB Hot Spot	B
Organics												
Acetone						x			x			
Aroclor-1260												
Benzene	x				x	x	x	x	x			
Benzoic acid												
gamma-BHC (lindane)												
Bis(2 - ethlhexyl) phthalate	x	x	x		x	x	x			x	x	
2-Butanone												
n-Butylbenzene											x	
sec-Butylbenzene					x	x	x	x		x	x	
tert-Butylbenzene					x							
Carbon disulfide												
Chlorobenzene									x			
4,4'-DDD												
4,4'-DDE												
4,4'-DDT												
1,2-Dibromoethane								x				
cis-1,2-Dichloroethene	x						x		x			
Diethyl ether												
Diethyl phthalate		x										
2,4-DimethylphenoI						x	x	x				
Dimethyl phthalate							x		x	x		
Di-n-butyl phthalate	x				x		x			x	x	x
Dioxins/furans												
Ethylbenzene	x				x	x	x	x	x		x	
Heptachlor												
2-Hexanone												
Isophorone												
Isopropylbenzene					x	x	x	x	x	x	x	
4-Isopropyltoluene					x	x	x	x	x	x	x	
Methylene chloride						x	x	x				
2-Methylnaphthalene						x	x	x			x	
4-Methyl-2-pentanone						x	x					
2-Methylphenol						x						
4-Methylphenol	x					x						
Naphthalene	x				x	x	x	x		x	x	
PAHs												
Benzo(a)anthracene												
Benzo(a)pyrene												
Benzo(b)fluoranthene												
Benzo(g,h,i)perylene												
Benzo(k)fluoranthene												
Chrysene												
Dibenzo(a,h)anthracene												
Fluoranthene												
Fluorene												
Indeno(1,2,3-cd)pyrene												
Phenanthrene											x	
Pyrene											x	
Pentachlorophenol												
Phenol						x						x
n-Propylbenzene					x	x	x	x		x	x	
Tetrachloroethene								x				
Toluene	x	x			x	x	x	x	x		x	

Table 22

Summary of Chemicals of Concern by Medium a
Zone 2, Pease AFB, NH

	Site 1		Site 7		Groundwater b Sites 10/22/43 OB & SB				Sites 10/22	Site 37 OB	
Chemical	OB & SB	DB	OB & SB	DB	Main	Hot Spot I	Hot Spot II	Hot Spot III	DB	Main	Hot Spot B
Organics (continued)											
1,2,4-Trichlorobenzene											
Trichloroethene					x			x			x
Trichlorofluoromethane	x	x	x		x						
1,2,4-Trimethylbenzene	x				x	x	x	x	x	x	x
1,3,5-Trimethylbenzene	x				x	x	x	x	x	x	x
m,p-Xylenes (total)					x	x	x	x	x		x
o-Xylene					x	x	x	x	x		x
Xylenes (total)c											
Inorganics											
Aluminum		x			x						
Antimony											
Arsenic	x				x		x	x			
Barium		x			x					x	
Beryllium		x									
Boron	x						x				
Cadmium						x				x	
Calcium	x							x			
Chromium		x									
Cobalt											
Copper						x					
Iron	x	x				x	x	x			x
Lead			x		x	x	x	x			x
Magnesium	x	x						x			
Manganese	x		x		x	x	x	x			
Mercury											
Nickel	x	x									
Potassium	x	x									
Silicon	x	x	x		x	x	x	x			
Sodium	x	x		x	x			x	x	x	
x											
Thallium	x										
Vanadium		x									
Zinc		x									

Table 22
Summary of Chemicals of Concern by Medium a
Zone 2, Pease AFB, NH

Chemical	Surface Water			
	Upper Peverly Pond	Upper Peverly Pond Upper & Lower c	Tributary Lower b	Lower Peverly Pond
Organics				
Acetone				
Aroclor-1260				
Benzene				
Benzoic acid				
gamma-BHC (lindane)				
Bis(2-ethylhexyl) phthalate				
2)Butanone				
n-Butylbenzene				
sec-Butylbenzene				
tert-Butylbenzene				
Carbon disulfide				
Chlorobenzene				
4,4'-DDD				
4,4'-DDE				
4,4'-DDT				
1,2,-Dibromoethane				
cis-1,2-Dichloroethene				
Diethyl ether				
Diethyl phthalate				
2,4-Dimethylphenol				
Dimethyl phthalate				
Di-n-butyl phthalate				
Dioxins/furans				
Ethylbenzene				
Heptachlor				
2-Hexanone				
Isophorone				
Isopropylbenzene				
4-Isopropyltoluene				
Methylene chloride				
2-Methylnaphthalene				
4-Methyl-2-pentanone				
2-Methylphenol				
4-Methylphenol				
Naphthalene				
PAHs				
Benzo(a)anthracene				
Benzo(a)pyrene				
Benzo(b)fluoranthene				
Benzo(g,h,i)perylene				
Benzo(k)fluoranthene				
Chrysene				
Dibenzo(a,h)anthracene				
Fluoranthene				
Fluorene				
Indeno(1,2,3-cd)pyrene				
Phenanthrene				
Pyrene				
Pentachlorophenol				
Phenol				
n-Propylbenzene				
Tetrachloroethene				
Toluene				

Table 22

Summary of Chemicals of Concern by Medium a
Zone 2, Pease AFB, NH

Chemical	Surface Water				
	Upper Peverly Pond	Upper Peverly Pond Upper & Lower c	Tributary Lower b	Lower Peverly Pond	
Organics (continued)					
1,2,4-Trichlorobenzene					
Trichloroethene					
Trichlorofluoromethane					
1,2,4-Trimethylbenzene					
1,3,5-Trimethylbenzene					
m,p-Xylenes (total)					
o-Xylene					
Xylenes (total)c					
Inorganics					
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Mercury					
Nickel	x				x
		x			
Potassium					
Silicon		x	x		
Sodium					
Thallium					
Vanadium					
Zinc	x				x

Table 22
Summary of Chemicals of Concern by Medium a
Zone 2, Pease AFB, NH

Chemical	Sediment					
	Bass Pond	Upper Peverly Pond	Upper Peverly Pond Upper & Lower c	Tributary Upper b	Lower b	Lower Peverly Pond
Organics						
Acetone		x d				x d
Aroclor-1260						
Benzene						
Benzoic acid			x d		x d	
gamma-BHC(lindane)						x
Bis(2-ethylhexyl)phthalate			x d		x d	
2-Butanone	x d	x				x d
n-Butylbenzene						
sec-Butylbenzene						
tert-Butylbenzene						
Carbon disulfide						
Chlorobenzene						
4,4'-DDD	x	x				x
4,4'-DDE	x	x				x
4,4'-DDT	x					x
1,2-Dibromoethane						
cis-1,2-Dichloroethene						
Diethyl ether						
Diethyl phthalate						
2,4-Dimethylphenol						
Dimethyl phthalate						
Di-n-butyl phthalate					x	
Dioxins/furans						
Ethylbenzene						
Heptachlor						
2-Hexanone						
Isophorone						
Isopropylbenzene						
4-Isopropyltoluene						
Methylene chloride						
2-Methylnaphthalene						
4-Methyl-2-pentanone						
2-Methylphenol						
4-Methylphenol						
Naphthalene						

PAHs			
Benzo(a)anthracene			x d
Benzo(a)pyrene			x d
Benzo(b)fluoranthene		x d	x d
Benzo(g,h,i)perylene			
Benzo(k)fluoranthene		x d	x d
Chrysene			x d
Dibenzo(a,h)anthracene			
Fluoranthene		x d	x d
Fluorene			
Indeno(1,2,3-cd)pyrene			x d
Phenanthrene			x d
Pyrene			x d
Pentachlorophenol			
Phenol			
n-Propylbenzene			
Tetrachloroethene			
Toluene	x d	x d	

Table 22

Summary of Chemicals of Concern by Medium a
Zone 2, Pease AFB, NH

Chemical	Sediment					
	Bass Pond	Upper Peverly Pond	Upper Peverly Pond Tributary			Lower Peverly Pond
			Upper & Lower c	Upper b	Lower b	
Organics (continued)						
1,2,4-Trichlorobenzene						
Trichloroethene						
Trichlorofluoromethane						
1,2,4-Trimethylbenzene						
1,3,5-Trimethylbenzene						
m,p-Xylenes (total)						
o-Xylene						
Xylenes (total) e						
Inorganics						
Aluminum	x	x				x
Antimony						
Arsenic	x	x	x	x		x
Barium	x	x	x	x		x
Beryllium	x	x				x
Boron						
Cadmium						
Calcium						
Chromium	x					
Cobalt		x				x
Copper						
Iron	x	x				x
Lead		x				
Magnesium						
Manganese	x	x	x	x	x	x
Mercury						
Nickel		x				
Potassium	x					
Silicon						
Sodium	x					
Thallium						
Vanadium	x	x				x
Zinc						

Table 22
Summary of Chemicals of Concern by Medium a
Zone 2, Pease AFB, NH

	Fish Tissue		
	Bass Pond		
Chemical	Bluegill c	Catfish	Bass
Organics			
Acetone	x	x	x
Aroclor-1260			
Benzene			
Benzoic acid			
gamma-BHC(lindane)			
Bis(2-ethylhexyl)phthalate			
2-Butanone	x		x c
n-Butylbenzene			
sec-Butylbenzene			
tert-Butylbenzene			
Carbon disulfide	x	x	x
Chlorobenzene			
4,4'-DDD	x	x	x c
4,4'-DDE	x	x	x
4,4'-DDT			
1,2-Dibromoethane			
cis-1,2-Dichloroethene			
Diethyl ether			
Diethyl phthalate			
2,4-Dimethylphenol			
Dimethyl phthalate			
Di-n-butyl phthalate			
Dioxins/furans			
Ethylbenzene	x	x	x
Heptachlor			
2-Hexanone		x	
Isophorone			
Isopropylbenzene			
4-Isopropyltoluene			
Methylene chloride			
2-Methylnaphthalene			
4-Methyl-2-pentanone			
2-Methylphenol			
4-Methylphenol			
Naphthalene			
PAHs			
Benzo(a)anthracene			
Benzo(a)pyrene			
Benzo(b)fluoranthene			
Benzo(g,h,i)perylene			
Benzo(k)fluoranthene			
Chrysene			
Dibenzo(a,h)anthracene			
Fluoranthene			

Fluorene			
Indeno(1,2,3-cd)pyrene			
Phenanthrene			
Pyrene			
Pentachlorophenol			
Phenol			
n-Propylbenzene			
Tetrachloroethene			
Toluene	x	x	x

Table 22

Summary of Chemicals of Concern by Medium a
Zone 2, Pease AFB, NH

Chemical	Fish Tissue Bass Pond Bluegill c	Catfish	Bass
Organics (continued)			
1,2,4-Trichlorobenzene			
Trichloroethene	x		
Trichlorofluoromethane			
1,2,4-Trimethylbenzene			
1,3,5-Trimethylbenzene			
m,p-Xylenes (total)			
o-Xylene			
Xylenes (total) e	x	x	x
Inorganics			
Aluminum			
Antimony			
Arsenic	x	x	x
Barium			
Beryllium			
Boron			
Cadmium			
Calcium	x	x	x
Chromium			
Cobalt			
Copper			x
Iron			
Lead			
Magnesium	x	x	x
Manganese	x	x c	x c
Mercury			x
Nickel			
Potassium	x	x	x
Silicon			
Sodium	x	x	x
Thallium			
Vanadium			
Zinc	x		x c

B = bedrock; DB = deep bedrock; OB = overburden; SB = shallow bedrock.

a An "x" indicates that the chemical was selected as a chemical of concern for both the human health and ecological risk assessment, unless otherwise indicated.
b Selected as chemicals of concern for the human health risk assessment only.
c Selected as chemicals of concern for the ecological at risk assessment only,
d Chemical was not detected above background.
e Chemical concentrations were reported only as the total of all isomers in the media in which they are of concern.

Table 23

Summary of Total Lifetime Cancer Risks and Hazard Indices
Zone 2, 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 1 (0 to 2 feet deep)	Current maintenance worker	3E-07 (ALL) 2E-07 (BG)	5E-07 (ALL) 4E-07 (BG)	5E-07 (ALL) 4E-07 (BG)	IE-03 (ALL) 1E-03 (BG)	2E-03 (ALL) 2E-03 (BG) 2E-03 (BG)	2E-03 (ALL)
	Future maintenance worker	4E-06 (ALL) 3E-06 (BG)	7E-06 (ALL) 5E-06 (8G)	8E-06 (ALL) 6E-06 (BG)	2E-02 (ALL) ZE-02 (BG)	3E-02 (ALL) 3E-02 (BG) 3E-02 (BG)	3E-02 (ALL)
Site 7 (0 to 2 feet deep)	Current and future maintenance worker	NC	NC	NC	2E-03 (ALL) 2E-03 (BG)	3E-03 (ALL) 3E-03 (BC,)	4E-03 (ALL) 4E-03 (BG)
Site 7 (0 to 15 feet deep)	Future maintenance worker	1E-10 (ALL) 1E-10 (BG)	2E-10 (ALL) 2E-10 (BG)	2E-10 (ALL) 2E-10 (BG)	7E-04 (ALL) 7E-04 (BG)	1E-03 (ALL) 1E-03 (BG) 2E-03 (BG)	2E-03 (ALL)
Site 10 (0 to 2 feet deep)	Current and future maintenance worker	3E-09 (ALL) 3E-09 (BG)	3E-09 (ALL) 3E-09 (BG)	3E-09 (ALL) 3E-09 (BG)	5E-06 (ALL) 3E-06 (BG)	6E-06 (ALL) 3E-06 (BG) 3E-06 (BG)	7E-06 (ALL)
Site 10 (0 to 15 feet deep)	Future maintenance worker	3E-09 (ALL) 3E-09 (BG)	3E-09 (ALL) 3E-09 (BG)	3E-09 (ALL) 3E-09 (BG)	1E-03 (ALL) 1E-03 (BG)	1E-03 (ALL) 1E-03 (BG) 1E-03 (BG)	1E-03 (ALL)

Table 23

Summary of Total Lifetime Cancer Risks and Hazard Indices
Zone 2, Pease AFB, NH
(Continued)

Medium	RME	Total Lifetime Cancer Risk a,b			Total Hazard Index a,c		
		Mean	Upper 95% Confidence Limit	Maximum	Mean	Upper 95% Confidence Limit	Maximum
Soil d (continued)							
Site 22 (0 to 2 feet deep)	Current and future maintenance worker	1E-07 (ALL) 1E-07 (BG)	2E-07 (ALL) 2E-07 (BG)	3E-07 (ALL) 3E-07 (BG)	5E-04 (ALL) 5E-04 (BG)	1E-03 (ALL) 1E-03 (BG) 2E-03 (BG)	2E-03 (ALL)
Site 22 (0 to 15 feet deep)	Future maintenance worker	8E-08 (ALL) 8E-08 (BG)	1E-07 (ALL) 1E-07 (BG)	2E-07 (ALL) 2E-07 (BG)	4E-04 (ALL) 4E-04 (BG)	6E-04 (ALL) 6E-04 (BG) 9E-04 (BG)	9E-04 (ALL)
Site 37 (0 to 2 feet deep)	Current and future maintenance workers	4E-08 (ALL) 4E-08 (BG)	7E-08 (ALL) 7E-08 (BG)	7E-08 (ALL) 7E-08 (BG)	7E-03 (ALL) 7E-03 (BG)	1E-02 (ALL) 1E-02 (BG) 1E-02 (BG)	1E-02 (ALL)
Site 37 (0 to 15 feet deep)	Future maintenance worker	2E-08 (ALL) 2E-08 (BG)	3E-08 (ALL) 3E-08 (BG)	3E-08 (ALL) 3E-08 (BG)	2E-03 (ALL) 2E-03 (BG)	6E-03 (ALL) 6E-03 (BG) 6E-03 (BG)	6E-03 (ALL)
Site 43 (0 to 15 feet deep)	Future maintenance worker	1E-07 (ALL) NAP (BG)	1E-07 (ALL) NAP (BG)	1E-07 (ALL) NAP (BG)	9E-06 (ALL) 2E-08 (BG)	1E-05 (ALL) 2E-08 (BG) 2E-08 (BG)	1E-05 (ALL)
Groundwater e							
Site 1 Overburden and Shallow Bedrock	Future off-zone resident	2E-03 (filtered)	4E-03 (filtered)	4E-03 (filtered)	2E+01 (filtered)	4E+01 (filtered)	4E+01 (filtered)

Table 23

Summary of Total Lifetime Cancer Risks and Hazard Indices
Zone 2, Pease AFB, NH
(Continued)

Medium	RME	Total Lifetime Cancer Risk a,b			Total Hazard Index a,c		
		Mean	Upper 95% Confidence Limit	Maximum	Mean	Upper 95% Confidence Limit	Maximum
Groundwater e (continued)							
Site 1 Deep Bedrock	Future off-zone resident	1E-06 (filtered) 8E-05 (total)	1E-06 (filtered) 1E-04 (total)	1E-06 (filtered) 1E-04 to (total)	4E-02 (filtered) 3E-01 to 4E-01 (total) f	6E-02 (filtered) 4E-01 to 7E-01 (total) f	6E-02 (filtered) 4E-01 to 7E-01 (total) f
Site 7 Overburden and Shallow Bedrock	Future off-zone resident	2E-07 (filtered)	2E-07 (filtered)	2E-07 (filtered)	2E + 00 (filtered)	3E + 00 (filtered)	3E + 00 (filtered)
Site 7 Deep Bedrock	Future off-zone resident	NA	NA	NA	NC	NC	NC
Sites 10/22/43 Overburden and Shallow Bedrock) Main	Future off-zone resident	2E-04 (filtered)	2E-04 (filtered)	6E-04 (filtered)	2E + 00 (filtered)	2E + 00 (filtered)	8E + 00 (filtered)
Sites 10/22/43 Overburden and Shallow Bedrock) Hot Spot I	Future off-zone resident	5E-06 (filtered)	6E-06 (filtered)	6E-06 (filtered)	3E + 01 (filtered)	4E + 01 (filtered)	4E + 01 (filtered)

Table 23

Summary of Total Lifetime Cancer Risks and Hazard Indices
Zone 2, Pease AFB, NH
(Continued)

Medium	RME	Total Lifetime Cancer Risk a,b			Total Hazard Index a,c		
		Mean	Upper 95% Confidence Limit	Maximum	Mean	Upper 95% Confidence Limit	Maximum
Groundwater e (continued)							
Sites 10/22/43 Overburden and Shallow Bedrock) Hot Spot II	Future off-zone resident	2E-03 (filtered)	4E-03 (filtered)	4E-03 (filtered)	1E + 02 (filtered)	1E + 02 (filtered)	1E + 02 (filtered)
Sites 10/22/43 Overburden and Shallow Bedrock - Hot Spot III	Future off-zone resident	9E-02 (filtered) 1E-01 (total)	3E-01 (filtered) 3E-01 (total)	4E-01 (filtered) 4E-01 (total)	1E + 03 (filtered) 1E + 03 (total)	4E + 03 (filtered) 4E + 03 (total)	4E + 03 (filtered) 4E + 03 (total)
Sites 10/22 Deep Bedrock	Future off-zone resident	1E-05 (filtered) 1E-05 (total)	2E-05 (filtered) 2E-05 (total)	7E-05 (filtered) 7E-05 (total)	4E-02 (filtered) 4E-02 (total)	4E-02 (filtered) 4E-02 (total)	6E-02 (filtered) 6E-02 (total)
Site 37 Overburden-Main	Future off-zone resident	1E-06 (filtered)	1E-06 (filtered)	1E-06 (filtered)	6E-01 (filtered)	1E + 00 (filtered)	3E + 00 (filtered)
Site 37 Overburden-Hot Spot	Future off-zone resident	7E-07 (filtered)	NAC	NAC	2E + 01 (filtered)	NAC	NAC
Site 37 Bedrock	Future off-zone resident	NA	NAC	NAC	1E-03 (filtered) 1E-03 (total)	NAC	NAC

Table 23

Summary of Total Lifetime Cancer Risks and Hazard Indices
Zone 2, Pease AFB, NH
(Continued)

Medium	RME	Total Lifetime Cancer Risk a,b			Total Hazard Index a,c		
		Mean	Upper 95% Confidence Limit	Maximum	Mean	Upper 95% Confidence Limit	Maximum
Surface Water d							
Upper Peverly Pond	Current maintenance worker	NA	NA	NA	6E-07 (ALL) 6E07 (BG)	1E-06 (ALL) 1E-06 (BG)	2E-06 (ALL) 2E-06 (BG)
	Future recreational user	NA	NA	NA	4E-06 (ALL) 4E-06 (BG)	8E-06 (ALL) 8E-06 (BG)	1E-05 (ALL) 1E-05 (BG)
Upper Peverly Pond Tributary (Lower)	Current maintenance worker	NA	NAC	NAC	NC	NAC	NAC
	Future recreational user	NA	NAC	NAC	NC	NAC	NAC
Lower Peverly Pond	Current maintenance worker	NA	NA	NA	5E-07 (ALL) 5E-07 (BG)	7E-07 (ALL) 7E-07 (BG)	9E-07 (ALL) 9E-07 (BG)
	Future recreational user	NA	NA	NA	3E-06 (ALL)	5E-06 (ALL) 5E-06 (BG)	6E-06 (ALL)

Table 23

Summary of Total Lifetime Cancer Risks and Hazard Indices
Zone 2, Pease AFB, NH
(Continued)

Medium	RME	Total Lifetime Cancer Risk a,b			Total Hazard Index a,c		
		Mean	Upper 95% Confidence Limit	Maximum	Mean	Upper 95% Confidence Limit	Maximum
Sediment d							
Bass Pond	Current maintenance worker	4E-08 (ALL) 4E-08 (BG)	6E-08 (ALL) 6E-08 (BG)	9E-08 (ALL) 9E-08 (BG)	2E-04 to 3E-04 (ALL) 2E-04 to 3E-04 (BG)f	3E-04 to 4E-04 (ALL) 3E-04 to 4E-04 (BG)f	6E-04 (ALL) 6E-04 (no)
	Future recreational user	1E-07(ALL) 1E-07(BG)	1E-07(ALL) 1E-07 (BG)	2E-07(ALL) 2E-07(BG)	5E-04(ALL) 5E-04(BG)	7E-04 to 8E-04(ALL)f 7E-04 to 8E-04B (BG)f	1E-03(ALL) 1E-03 (BG)
Upper Peverly Pond	Current maintenance worker	1E-07 (ALL) 1E-07 (BG)	2E-07 (ALL) 1E-07 (BG)	3E-07 (ALL) 2E-07 (BG)	8E-04 (ALL) 8E-04 (BG)	1E-03 (ALL) 1E-03 (BG)	2E-03 (ALL) 2E-03 (BG)
	Future recreational user	3E-07 (ALL) 2E-07 (BG)	5E-07 (ALL) 4E-07 (BG)	6E-07 (ALL) 5E-07 (BG)	2E-03 (ALL) 2E-03 (BG)	3E-03 (ALL) 3E-03 (BG)	5E-03 (ALL) 5E-03 (BG)
Upper Peverly Pond Tributary (Upper)	Current and future maintenance workers	1E-08 (ALL) 1E-08 (BG)	1E-08 (ALL) 1E-08 (BG)	1E-08 (ALL) 1E-08 (BG)	1E-04 (ALL) 1E-04 (BG)	1E-04 (ALL) 1E-04 (BG)	1E-04 (ALL) 1E-04 (BG)

Table 23

Summary of Total Lifetime Cancer Risks and Hazard Indices
Zone 2, Pease AFB, NH
(Continued)

Medium	RME	Total Lifetime Cancer Risk a,b			Total Hazard Index a,c		
		Mean	Upper 95% Confidence Limit	Maximum	Mean	Upper 95% Confidence Limit	Maximum
Sediment d (continued)							
Upper Peverly Pond Tributary (Lower)	Current maintenance worker	1E-10 (ALL) 1E-10 (BG)	NAC	NAC	1E-05 (ALL) 1E-05 (BG)	NAC	NAC
	Future recreational user	3E-10 (ALL) 3E-10 (BG)	NAC	NAC	2E-05 (ALL) 2E-05 (BG)	NAC	NAC
Lower Peverly Pond	Current maintenance worker	2E-07 (ALL) 6E-08 (BG)	2E-07 (ALL) 9E-08 (BG)	3E-07 (ALL) 1E-07 (BG)	4E-04 (ALL) 4E-04 (BG)	6E-04 (ALL) 6E-04 (BG)	7E-04 (ALL) 7E-04 (BG)
	Future recreational user	5E-07 (ALL) 1E-07 (BG)	6E-07 (ALL) 2E-07 (BG)	7E-07 (ALL) 2E-07 (BG)	8E-04 (ALL) 8E-04 (BG)	1E-03 (ALL) 1E-03 (BG)	1E-03 (ALL) 1E-03 (BG)
Fish Tissue							
Bass Pond - Brown Bullhead Catfish	Current trespasser	2E-05	3E-05	3E-05	9E-02	1E-01	1E-01
	Future recreational user	5E-05	7E-05	7E-05	2E-01	3E-01	3E-01

Table 23

Summary of Total Lifetime Cancer Risks and Hazard Indices
Zone 2, Pease AFB, NH
(Continued)

Medium	RME	Total Lifetime Cancer Risk a,b			Total Hazard Index a,c		
		Mean	Upper 95% Confidence Limit	Maximum	Mean	Upper 95% Confidence Limit	Maximum
Sediment d (continued)							
Bass Pond) Largemouth Bass	Current trespasser	2E-05	2E-05	2E-05	1E-01	2E-01	2E-01
	Future recreational user	4E-05	6E-05	6E-05	3E-01	4E-01	4E-01

RME = Route of maximum exposure.
NA = Not applicable. There were no carcinogenic chemicals of concern through the evaluated exposure route(s).
NAC = Not applicable. Risk was evaluated only on one exposure concentration.
NAP = Not applicable. None of the chemicals of concern were detected above background.
NC = Not calculated. A toxicity value was not available for the chemical(s) of concern.

a Values are rounded to one significant figure.
b Maximum cancer risk at hazardous waste sites is regulated in the range of 1E-06 to 1E-04 (10-6 to 10-4). Risks of less than 1E-06 (10-6) are generally not of concern.
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 Filtered and total values are based on organics data plus inorganics data for filtered and unfiltered (total) samples, respectively.
f The first and second values are based on the assumption that chromium is present entirely as chromium III and chromium IV, respectively. A range is present only if the two values differed after rounding to one significant figure.

Table 24

Summary of Detailed Alternatives Evaluation a
Zone 2, Pease AFB, NH

Analysis b		Short)Term Effectiveness Ranking	Long-Term Effectiveness Ranking	Reduction in TMV Ranking	Implementability Ranking	Protection of Human Health and the Environment Ranking	Compliance with ARARs (sensitivity analysis)c Ranking	Cost Remedial Alternative (in $1,000)
BA1-1	No action.	A	B	C	C	A	C	C
BA1-2	LNAPL recovery and off-base disposal from Site 22, capping of Sites 10 and 22, and institutional controls (groundwater use restrictions; groundwater, surface water, and sediment monitoring; and GMZ establishment).	B	B	2,899		B	B	2,637 to 3,217)
BA1-3A	Overburden groundwater extraction, metals treatment, nutrient/oxygen addition, and recharge at Sites 10 and 22; LNAPL recovery and off-base treatment/disposal from Site 22; and institutional controls.	AB	A	6,549		AB	B	3,911 to 7,030)
BA1-3B	Overburden groundwater extraction, treatment, and recharge at Sites 10 and 22; LNAPL recovery and off-base treatment/disposal from Site 22; and institutional controls.	AB	B	1,397		A	B	1,241 to 1,566)
BA1-3C	Overburden and bedrock groundwater extraction, treatment, and recharge at Sites 10 and 22; LNAPL recovery and off-base treatment/disposal from Site 22; and institutional controls.	AB	A	9,330		AB	B	8,399 to 10,025)
BA1-4B	Modified In situ SVE of source area LNAPL with enhancement of SVH by injection of air below the water table and institutional controls.	AB	A	1,397		A	AB	1,241 to 1,566)

a A ranking of "A" indicates that the alternative meets the intent of the criterion A ranking of "B" indicates that the alternative partially meets the intent of the criterion, while a ranking of "C" means that the alternative does not meet the intent of the criterion. Designations of "AB" and "BC" were used to denote rankings that fell between "A", "B", and "C".

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

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

Table 25

Cleanup Goal Selection) Overburden and Bedrock Groundwater
(Sites 10/LFTS, 22/BA-1, and 43/MRDDA)a
Zone 2, Pease AFB, NH

Chemical	Maximum Detected Concentration b		Cleanup Goal		Basis of Selection	
	OB	BR	OB	BR	OB	BR
Organics (µg/L)						
Benzene	3,700 J	320	5	5	MCL	MCL
Bis(2-ethythexyi) phthalate	31 J	ND	6	NR	MCL	-
1,2-Dibromoethane (ethylene dibromide)	51	ND	0.05	NR	MCL	-
Ethylbenzene	2,800 J	ND	700	NR	MCL	-
Isopropylbenzene	170	0.5 J	88.1	NR	HI	-
Methyl isobutyl ketone (4-methyl-2-pentanone)	2,000	ND	350	NR	NHAGOS	-
2-Methylnaphthalene	140	ND	13.4	NR	RSK	-
Naphthalene	340	ND	20	NR	NHAGOS	-
Sec-butylbenzene	39	ND	7.3	NR	HI	-
Toluene	2,100	ND	1,000	NR	MCL	
Trichloroethene	5	ND	5	NR	MCL	
1,2,4-Trimethylbenzene	1,400 J	0.2 J	19.8	NR	HI	
Inorganis (mg/L)						
Arsenic	0.194	0.0107	0.05	NR	MCL	-
Cadmium	0.010 J-	ND	0.005	NR	MCL	-
Lead	0.147 J	ND	0.015	NR	MCL	-
Manganese	5.69	0.114	0.942	NR	BG	-

a All chemical entries are groundwater chemicals of concern for the LFTS/BA-1/MRDDA groundwater OU.
b Overburden inorganic concentrations represent filtered data. Bedrock inorganic compound concentrations represent unfiltered data.
OB = Overburden.
BR = Bedrock.
NR = Not required
BG = Background.
ND = Not detected.
- = Not applicable.
J = Estimated concentration below method detection limit.
J- = Estimated concentration biased low, based on EPA Region I evaluation.
MCL = Federal Safe Drinking Water Act Maximum Contaminant Level, May 1993.
RSK = Human health risk-based concentration.
NHAGOS = New Hampshire Ambient Groundwater Quality Standards, Env-Ws 410.05.
HI = Cleanup goal based on noncancer hazard index.

Table 26

Cleanup Level Selection) Overburden and Bedrock Groundwater
(Long-Term Zonal GMZ Monitoring at Site 1/LF-1 Wells)a
Zone 2, Pease AFB, NH

Chemical	Maximum Detected Concentration b		Cleanup Goal		Basis of Selection	
	OB	BR	OB	BR	OB	BR
Organics (µg/L)						
Bis(2-ethylhexyl) phthalate	150	11	6	6	MCL	-
Inorganics (mg/L)						
Arsenic	0.19	0.0245	0.05	NR	MCL	
Beryllium	ND	0.0045	NR	0.004	-	NHAGQS
Chromium	ND	0.0096	NR	0.094	BG	
Manganese	5.36	4.04 J	0.942	NR	BG	
Vanadium	ND	0.0764	NR	0.0584	-	BG

a All chemical entries are chemicals of concern for LF-1 groundwater.
b Overburden inorganic concentrations represent filtered data. Bedrock inorganic compound concentrations represent unfiltered data.
OB = Overburden.
BR = Bedrock.
NR = Not required.
BG = Background
- = Not applicable.
J = Estimated concentration below method detection limit.
MCL = Federal Safe Drinking Water Act Maximum Contaminant Level, May 1993.
NHAGOS = New Hampshire Ambient Groundwater Quality Standards, Env-Ws 410.05, February 1993.

Table 27

Cleanup Level Selection) Overburden and Bedrock Groundwater
(Long-Term Zonal GMZ Monitoring at Site 37/BA.2 Wells)a
Zone 2, Pease AFB, NH

Chemical	Maximum Detected Concentration b		Cleanup Goal		Basis of Selection	
	OB	BR	OB	BR	OB	BR
Organics (µg/L)						
Trichloroethene	26	ND	5	NR	MCL	-
2-Methylnaphthalene	85	ND	13.4	NR	HI	-
Bis(2-ethylhexyl) phthalate	11	ND	6	NR	MCL	

a All chemical entries are chemicals of concern for BA-2 groundwater.
b Overburden inorganic concentrations represent filtered data. Bedrock inorganic compound concentrations represent unfiltered data.
OB = Overburden.
BR = Bedrock.
NR = Not required.
ND = Not detected.
- = Not applicable.
MCL = Federal Safe Drinking Water Act Maximum Contaminant Level, May 1993.
HI = Cleanup goal based on noncancer hazard index.

Table 28

Potential Cleanup Goal Selection for Surface Water
Zone 2, Pease AFB, NH

Analyte	Regulatory-Based RO (mg/L)	Maximum Background Concentration* (surface water) (mg/L)	Maximum Background Concentration* (groundwater) (mg/L)	Maximum Detected Concentration* (mg/L)	Potential Cleanup Goal (mg/L)	Basis of Selection	Number of Locations Exceeding Potential Cleanup Goal
			Upper Peverly Pond				
Arsenic	0.0000175	ND	0.072	0.0686	PQL	(1)	2/7
Aluminum	0.087	0.896	46.4	4.96 J	0.896	BG	1/7
Iron	1.00	2.89	62.8	46.8	2.89	BG	2/7
Lead	0.00347 a	0.005	0.0976	0.0168	0.005	BG	2/7
Manganese	0.10	1.97	5.66	2.97	1.97	BG	1/7
Zinc	0.0729 b	0.0430	0.220	0.127	0.0729	Chronic	2/7
			Lower Peverly Pond				
Arsenic	0.0000175	ND	0.072	0.0053	PQL	(1)	1/5
Cyanide	0.0052	ND	ND	0.027	(2)	)	)
Manganese	0.10	1.97	5.66	0.157	NR	)	)
Zinc	0.066 c	0.0430	0.220	0.105 J	0.066	Chronic	1/5
			Bass Pond				
Iron	1.00	2.89	62.8	1.16	NR	)	)
Manganese	0.10	1.97	5.66	0.257	NR	)	)
			Seeps				
Aluminum	0.087	0.896	46.4	0.537	NR	)	)
Arsenic	0.0000175	ND	0.072	0.0322	PQL	(1)	1/5
Cadmium	0.000828 d	ND	ND	0.006	PQL	(1)	1/5
Iron	1.00	2.89	62.8	4.82	2.89	BG	2/5

Table 28

Potential Cleanup Goal Selection for Surface Water
Zone 2, Pease AFB, NH
(Continued)

Analyte	Regulatory-Based RO (mg/L)	Maximum Background Concentration* (surface water) (mg/L)	Maximum Background Concentration* (groundwater) (mg/L)	Maximum Detected Concentration* (mg/L)	Potential Cleanup Goal (mg/L)	Basis of Selection	Number of Locations Exceeding Potential Cleanup Goal
			Seeps (Continued)				
Manganese	0.1	1.97	5.66	1.41	NR	)	)
Zinc	0.0027 c	0.0430	0.220	0.0165	NR	)	)

* Maximum background and maximum detected concentrations represent unfiltered data.
BG = Background.
Chronic = NHDES chronic criteria for the protection of aquatic life.
NR = Not required.
) = Not applicable.
J = Estimated concentration below method detection unit.
ND = Not detected.
(1) = Because the detection limit for arsenic and cadmium using the most sensitive, standard, EPA-approved analytical method exceeds the NHDES AWQC, the practical quantitation limit (PQL) was selected as the cleanup goal for these metals.
(2) = Because cyanide has not been consistently detected in Zone 2 surface water samples, no cleanup goal was established for this compound.
a Adjusted for a hardness value of 107 mg/L CaCO3
b Adjusted for a hardness value of 64.3 mg/L CaCO3
c Adjusted for a hardness value of 57.2 mg/L CaCO3
d Adjusted for a hardness value of 67 mg/L CaCO3
e Adjusted for a hardness value of 21 mg/L CaCO3

Note: Shaded entries represent chemicals of concern.
Note: Maximum background concentrations for surface water differ from the values presented in the 1993 Zone 2 RI and FS Reports. These changes are based on agreements made among the Air Force, EPA, and NHDES regarding surface water/sediment issues at Pease AFB.

Table 29
Potential Cleanup Goal Selection for Sediment
Zone 2, Pease AFB, NH

Analyte	Regulatory-Based RO (mg/kg)	Maximum Background Concentration (mg/kg)	Maximum Detected Concentration (mg/kg)	Potential Cleanup Goal (mg/kg)	Basis of Selection	Number of Locations Exceeding Potential Cleanup Goal
Upper Peverly Pond						
Arsenic	33	12.2	109 J-	33	ER-L	5/7
Lead	35	42.1	106 J-	42.1	BG	1/7
Nickel	30	46.7	56.8	46.7	BG	1/7
Zinc	120	105	284	120	ER-L	4/7
PAHs (total)	4	8.94	2.4	NR	)	)
Fluotanthene	0.6	1.5	1.2 J	NR	)	)
Lower Peverly Pond						
Arsenic	33	12.2	48.1 J	33	ER-L	2/5
Nickel	30	46.7	41.7	NR	)	)
Zinc	120	105	195	120	ER-L	2/5
PAHs (total)	4	8.94	6.47	NR	)	)
Benzo(a) anthracene	0.23	0.61	0.57	NR	)	-
Benzo(a)pyrene	0.4	0.84	0.57 J	NR	-	)
Chrysene	0.4	0.82	0.72	NR	)	)
Fluoranthene	0.6	1.5	1.5	NR	)	)
Phenanthrene	0.225	1.1	0.68	NR	)	)
Pyrene	0.15	1.6	1.2	NR	)	)

Table 29
Potential Cleanup Goal Selection for Sediment
Zone 2, Pease AFB, NH

Analyte	Regulatory-Based RO (mg/kg)	Maximum Background Concentration (mg/kg)	Maximum Detected Concentration (mg/kg)	Potential Cleanup Goal (mg/kg)	Basis of Selection	Number of Locations Exceeding Potential Cleanup Goal
Bass Pond						
Arsenic	33	12.2	46.6 J-	33	ER-L	1/7
Nickel	30	46.7	36.4	NR	)	-
Zinc	120	105	180	120	ER-L	2/7
Seeps						
Arsenic	33	12.2	72 J +	33	ER-L	1/4
Lead	35	42.1	140	42.1	BG	1/4
Mercury	0.15	0.200	0.28	0.200	BG	1/4
Nickel	30	46.7	369	46.7	BG	1/4
Silver	1	ND	29.6	1	ER-L	1/4

J = Estimated concentration below method detection limit.
J- = Estimated concentration biased low, based on EPA Region I evaluation.
J+ = Estimated concentration biased high, based on EPA Region I evaluation.
NR = Not required.
) = Not applicable.
ER-L = NOAA Biological Effects Range) Low.
BG = Background.

Note: Shaded entries represent chemicals of concern.

APPENDIX B

ARARS FOR THE PREFERRED REMEDY

ARARs for Modified Alternative BA1-4B)
In Situ Soil Vapor Extraction of Source Area LNAPL with Enhancement of SVE
by Injection of Air Below the Water Table and Institutional Controls
Zone 2, Pease AFB, NH

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Basis
	CHEMICAL-SPECIFIC			
Groundwater	FEDERAL-SDWA-Maximum Contaminant Levels (MCLs) (40 CFR 141.11 - 141.16)	MCLs have been promulgated for a number of common organic and inorganic contaminants. These levels regulate the contaminants in public drinking water supplies, but also may be considered relevant and appropriate for groundwater aquifers potentially used for drinking water.	MCLs have been set as the cleanup goals. MCLs will be attained.	Relevant and Appropriate
Groundwater	FEDERAL-SDWA-Maximum Contaminant Level Goals (40 CFR 141.50 and 141.51)	MCLGs are nonenforceable, health-based goals for public water systems. MCLGs are set at levels that would result in no known or anticipated adverse health effects, with an adequate margin of safety.	Non-zero MCLGs were considered when selecting cleanup goals. At the point of compliance, non-zero MCLGs will be met.	Relevant and Appropriate
Groundwater	STATE-NH Admin. Code Env-Ws 410.03 and 410.05, Groundwater Protection Rules	Env-Ws 410.03 establishes criteria for groundwater quality, including that groundwater may not contain contaminants at levels above the numerical concentrations set in Env-Ws 410.05.	The selected remedy will establish a Groundwater Management Zone (GMZ) consistent with the provisions (see below).	Applicable
Groundwater, Soil	STATE-NH Guidance Document, September 1991, as amended) Interim Policy for the Management of Soils Contaminated from Spills/Releases of Virgin Petroleum Products	Policy identifies options for treatment and disposal, current analytical methods, and remediation goals for virgin petroleum-contaminated soils.	Used as guidance when evaluating the performance of the source area remedy.	TBC

ARARs for Modified Alternative BA1-4B)
In Situ Soil Vapor Extraction of Source Area LNAPL with Enhancement of SVE
by Injection of Air Below the Water Table and Institutional Controls
Zone 2, Pease AFB, NH
(Continued)

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Basis
	LOCATION-SPECIFIC			
Groundwater	STATE-NH Admin. Code Env-Ws 410.26, Groundwater Protection Rules	These provisions set forth requirements for a GMZ established under Env-Ws 410.03. The requirements include inter alia, isolation, institutional controls, monitoring, restoration of groundwater quality, methods of establishing GMZ boundaries, and means to restrict groundwater extraction.	Monitoring, institutional controls, and other actions taken to remediate the GMZ will be consistent with this requirement.	Applicable
	ACTION-SPECIFIC			
Groundwater	STATE-NH Admin. Code Env-Ws 410.30 and 410.31, Groundwater Protection Rules	Provisions establish requirements for monitoring activities, including location and design of monitor wells, frequency of sampling, and methods of analysis.	Monitoring will comply with these provisions.	Applicable
Air	STATE-NH Admin. Code Env-A 1300, Toxic Air Pollutants	Ambient Air Limits (AALs) 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 exceedance of the respective AAL, if one exists.	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 will be taken to comply with NESHAPs for regulated pollutants.	Relevant and Appropriate
Hazardous Waste	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

ARARs for Modified Alternative BA1-4B)
In Situ Soil Vapor Extraction of Source Area LNAPL with Enhancement of SVE
by Injection of Air Below the Water Table and Institutional Controls
Zone 2, Pease AFB, NH
(Continued)

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Basis
Hazardous Waste	FEDERAL RCRA Subtitle C, 40 CFR 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 must comply with substantive Subtitle C regulations.	Relevant and Appropriate
Hazardous Waste	STATE-RSA Ch. 147-A New Hampshire Waste Management Act and Hazardous Waste Rules Env-Wm 100-1000. Specific requirements below.	New Hampshire standards for management of hazardous waste and closure of hazardous waste management facilities operate in lieu of federal RCRA requirements, and, as such, the substantive requirements of these rules must be complied with in the management of hazardous waste as part of CERCLA response.	Requirements will be satisfied. See discussion of specific requirements below.	Relevant and Appropriate
Hazardous Waste	STATE-NH Admin. Code Env-Wm 701-705, 707, 708, and 709, Standards for Owners and Operators of Hazardous Waste Facilities	General requirements for owners or operators of hazardous waste treatment facilities. Includes environmental and health requirements (702.08), general design requirements (702.09), other monitoring (708.02), and technical requirements (708.03).	Remedial activities will comply with the substantive provisions of state hazardous waste regulations.	Relevant and Appropriate
Hazardous Waste	STATE-NH Admin. Code Env-Wm 702.10 and 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, and leachate monitoring network.	Environmental monitoring during remedial operations will be developed and installed in accordance with these regulations.	Relevant and Appropriate
Hazardous Waste	STATE-NH Admin. Code Env-Wm 707.03, Waste Pile Requirements Emergency Procedures	Incorporates by reference requirements of 40 CFR Subpart L regarding waste.	The excavated soil stockpiled at the site will comply with these requirements and 40 CFR 264 Subpart L.	Applicable

ARARs for Modified Alternative BA1-4B)
In Situ Soil Vapor Extraction of Source Area LNAPL with Enhancement of SVE
by Injection of Air Below the Water Table and Institutional Controls
Zone 2, Pease AFB, NH
(Continued)

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Basis
Air	FEDERAL-RCRA 40 CFR 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 waste.	Equipment used in remedial activities will meet these requirements and will be monitored for leaks.	Applicable
Air	FEDERAL-RCRA 40 CFR 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
Air	FEDERAL-RCRA 40 CFR 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 VOC concentrations exceed specified concentrations.	Required emissions controls will be installed.	TBC
Air	STATE-NH Admin. Code Rules A 505, Emergency Procedures	Imposes obligations on sources of air pollution in case of emergency.	Comply with directions in case of warning status.	Applicable
Air	STATE-NH Admin. Code Rule A 902, Malfunctions of Air Pollution Control Equipment	Provides 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

ARARs for Modified Alternative BA1-4B)
In Situ Soil Vapor Extraction of Source Area LNAPL with Enhancement of SVE
by Injection of Air Below the Water Table and Institutional Controls
Zone 2, Pease AFB, NH
(Continued)

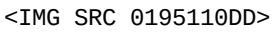
Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Basis
Air	STATE-NH Admin. Code A 1204, Control of VOC Emissions	Specifies VOC emission control methods and establishes limitations on VOC emissions for various industries.	Precautions will be taken during remedial actions to minimize VOC emissions.	TBC
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 from a landfill.	Remedial activities would be conducted in accordance with these requirements.	Applicable
Air	STATE-NH Admin. Code Env-A Part 1002, Fugitive Dust Control	Requires precautions to prevent, abate, and control fugitive dust during specified activities, including excavation, construction, and bulk hauling.	Precautions to control fugitive dust emissions would be required during remedial activities. These precautions would be adhered to.	Applicable
Air	STATE-NH Admin. Code Env-A 1300, Toxic Air Pollutants	Established AALs to protect the public from concentrations of pollutants in ambient air that may cause adverse health effects.	Release of contaminants to the air from any on-site remedial activities would not result in exceedance of the respective AAL, if one exists. Proposed air emissions would be coordinated with the Air Resources Division of NHDES.	Applicable
Air	STATE-NH Admin. Code Env-A 900, Owner or Operator Obligations	Owners or operators of sources that discharge air pollutants in measurable levels must retain records of the operation of the source, feed stock input to the source, and all available emissions data; identify instances of temporary failure; establish compliance schedules; and comply with schedules.	The in situ soil treatment system and groundwater treatment plant would be operated in accordance with these requirements.	Relevant and Appropriate

ARARs for Modified Alternative BA1-4B)
In Situ Soil Vapor Extraction of Source Area LNAPL with Enhancement of SVE
by Injection of Air Below the Water Table and Institutional Controls
Zone 2, Pease AFB, NH
(Continued)

Media	Requirement	Requirement Synopsis	Action To Be Taken To Attain Requirements	Basis
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

APPENDIX C

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 1-800-735-2967

August 10, 1995

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

Re: Record of Decision for Zone 2 Declaration of Concurrence
Pease Air Force Base Superfund Site

Dear Mr. Olsen:

The New Hampshire Department of Environmental Services has reviewed and concurs with the "Record of Decision, Zone 2" (Zone 2 ROD) for the Pease Air Force Base Superfund Site, located in Newington and Portsmouth, New Hampshire. The Zone 2 ROD was drafted by the Air Force in accordance with the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act of 1986 (CERCLA) to document the Zone 2 remedy selection and all facts, analysis and site specific policy determinations related to the selection of the remedy. The preferred remedy for Zone 2 has the following components:

- In situ SVE/Air Sparging treatment of Site 22 (BA-1) source area LNAPLs and residual product, treatment of extracted soil vapor for removal of VOCs and monitoring the performance of the source action.
- Establishment of a Groundwater Management Zone (GMZ), institutional controls, and long-term monitoring of the natural attenuation of groundwater contaminant concentrations until cleanup goals are achieved.
- Additional monitoring of the surface water, sediment, and fish tissue.

Consistency with State Remediation Policy and Solid Waste Rules

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 Zone 2 and has worked with the Air Force to ensure that all actions that are taken comply with State regulations and policies. As part of this effort, when the Department reviews RODs, it verifies that the RODs are generally consistent with the approach the Department would require for similar sites in the State of New Hampshire, regardless of their Superfund status. The following discussion presents the results of this review and examines in detail the equivalency of the Zone 2 remedy with our approach under Env-Ws 410 to groundwater remediation at similar sites.

ZONE 2 ARARs DETERMINATION AND ENV-WS 410 BACKGROUND

EPA-New England's ARARs determination for PAFB RODs concluded that significant portions of New Hampshire's Code of Administrative Rules, Env-Ws 410 are not "substantive" and, therefore, do not qualify as CERCLA ARARs. Env-Ws 410 outlines a comprehensive and integrated approach to groundwater remediation applicable to all sites in New Hampshire. Furthermore, Env-Ws 410 is a critical component of the overall plan to protect the State's groundwater resources.

EPA-New England designated the State's groundwater quality criteria and ambient groundwater quality standards at Env-Ws 410.03 and 410.05 as applicable to the groundwater response action. These provisions establish numeric criteria for groundwater restoration. EPA-New England also designated the exemptions to ambient groundwater quality standards (Env-Ws 410.04) and the groundwater management zone (GMZ)

provisions (Env-Ws 410.26) as applicable ARARs. However, EPA-New England did not designate as ARARs those portions of Env-Ws 410 that provide for the management and enforcement of GMZs.

To address concerns regarding EPA-New England's ARARs determination, the Department met with EPA-New England to discuss the objectives and mechanics of Env-Ws 410 implementation at Superfund sites. In order to ensure that the CERCLA remedial selection process at PAFB continued in a timely and cost effective manner, the Department and EPA-New England reached a productive compromise for the implementation of Env-Ws 410 as an ARAR at PAFB. The Department accepted EPA's Env-Ws 410 ARARs determinations for PAFB RODs and EPA-New England agreed that the PAFB RODs would include language that addresses the portions of Env-Ws 410 not designated as ARARs. In particular, criteria to determine the effectiveness of the remedy were to be addressed in the body of the ROD's to ensure long-term protection of the groundwater. Rapid agreement on this compromise reflects the high priority the Department and EPA-New England place on a timely and comprehensive environmental cleanup of PAFB and recognition of the Air Force's commitment to their environmental excellence initiatives.

Env-Ws 410 APPROACH AND THE ZONE 2 ROD

Env-Ws 410 contains rules that establish statewide groundwater quality standards and provides an exemption from these standards under certain conditions. Env-Ws 410 allows the scope and aggressiveness of remedial actions necessary to achieve these standards to be selected based on the resource value and use of the groundwater. Under Env-Ws 410, a GMZ is established to manage the use of contaminated groundwater until the statewide groundwater quality standards are met. The relevant requirements of Env-Ws 410 applicable to the Zone 2 remedy are as follows:

- GMZ Establishment: Env-Ws 410.26 requires the establishment and containment of contaminated groundwater within a Groundwater Management Zone (GMZ), when violations of Groundwater Quality Standards are present.

- Source Area Treatment, Removal or Containment: Env-Ws 410 requires that sources of continuing groundwater contamination must be either treated or removed and, if treatment or removal are not feasible, the source must be contained.

- Groundwater Restoration: The remedial action must restore groundwater quality to meet the groundwater quality criteria contained in Env-Ws 410.03. A high priority is given to source control, high value groundwaters or groundwater that will or is being used as a water supply.

- Establishment of Performance Standards: Final and interim objectives and criteria, including specific performance standards are established for the remedial actions. If the remedial actions do not meet the performance standards, additional action may be required.

- Long Term Monitoring of the GMZ and Remedy Performance: Env-Ws 410 requires monitoring of the performance of remedial systems and GMZ boundary compliance.

- Groundwater Management Permit: A groundwater management permit is required to establish a GMZ. The groundwater management permit delineates the GMZ and defines the steps that must be taken to implement source area remedial actions and specifies performance standards for the remedial system, etc.

- Institutional Controls: Env-Ws 410.20 requires notification to all landowners within the GMZ within 30 days of groundwater management permit approval. Env-Ws 410.21 requires that the permit holder record notice of the permit in the registry of deeds for each lot within the GMZ. Env-Ws 410.26(e) requires that use of groundwater be controlled by either ownership of the overlying land or deeded use to the exclusive right to use the groundwater within the GMZ, unless an alternate water supply is available.

The Zone 2 ROD implements these requirements in the following fashion:

- GMZ Establishment: The ROD includes Env-Ws 410.26 as an ARAR; this provides for the establishment of a GMZ and containment of groundwater contamination within the GMZ.

- Source Area Treatment, Removal or Containment: Based on a review of the available data, BA-1 is the only source area within Zone 2. The selected remedy will treat the contamination in this source area.

- Groundwater Restoration: The FS/ROD steps of the CERCLA process and the environmental monitoring plan provisions are functionally equivalent to Env-Ws 410's requirement for development and implementation of a remedy that will restore groundwater quality to statewide standards.

- Establishment of Remedy Performance Standards: The ROD requires development of performance standards for the remedial actions within the Environmental Monitoring Plan. State groundwater quality standards are established as cleanup goals for groundwater and the State's Virgin Petroleum Policy is to be considered as a performance standard for the source area remedial action.

- Long Term Monitoring of the GMZ and Remedy Performance: The description of the Environmental Monitoring Program in the ROD provides for monitoring of the performance and effectiveness of the remedial actions as well as the groundwater quality at the GMZ boundary.

- Eventual Achievement of Groundwater Quality Standards: The ROD includes Env-Ws 410's numerical groundwater quality standards as an ARAR and the NCP requires that these standards be met within a reasonable timeframe (March 8, 1990 Federal Register, p. 8732). The requirement that groundwater quality will be restored within the reasonable timeframe of the NCP is functionally equivalent to Env-Ws 410's expectation that groundwater quality will eventually be restored.

- Groundwater-Permit: The Air Force has voluntarily agreed to obtain permits to ensure that the substantive requirements of regulations are met. This ensures that substantive portions of Env-Ws 410 permit protocols are met.

- Institutional Controls: The Description of Remedial Components section in the ROD requires, "Establishment of institutional controls restricting the future use of Zone 2 groundwater."

Based on the successful implementation of the Env-Ws 410 ARAR compromise, the Zone 2 ROD is consistent with the approach that would be required to meet our groundwater remediation approach at similar sites within the State. Landfill 1 will be deferred to the Department's Solid Waste and Groundwater Protection Program and, as a result, actions taken at Landfill 1 will be consistent with approaches taken at landfills of similar age, construction and contents.

After the remedy is implemented, the long term monitoring plan will ensure future consistency with Env-Ws 410's substantive requirements and other key ARARs. A comprehensive, detailed review of all environmental monitoring data will be conducted on a periodic basis by the Air Force, EPA-New England and the Department in order to ensure that 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,

<IMG SRC 0195110EE>
Robert W. Varney
Commissioner

cc: 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 D

RESPONSIVENESS SUMMARY

OVERVIEW

The Air Force issued the Zone 2 Proposed Plan to the public in March 1995. In the Zone 2 Proposed Plan, the Air Force identified its preferred alternative for the six sites and Peverly Ponds drainage system in Zone 2. The selection of this preferred alternative by the Air Force was coordinated with the U.S. Environmental Protection Agency Region I and the New Hampshire Department of Environmental Services (NHDES).

The following subsections describe the background on community involvement with Zone 2 activities, and the Air Force's response to comments received during the Zone 2 Proposed Plan 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 Zone 2 Proposed Plan, 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 in Zone 2 were made to the Pease Air Force Base Restoration Advisory Board - Technical Review Committee (RAB-TRC). Additionally, the content of the Zone 2 Proposed Plan was presented to and discussed with the members of the RAB-TRC. Notifications announcing the beginning of the Zone 2 Proposed Plan 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 Zone 2 ran concurrently with that of the OJETS (Site 45). Proposed remedial actions for Zone 2 and the OJETS were presented concurrently 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: I go along with Zone 2 and the Air Force's preferred alternative plan for this, and I'd like that for the record.

Response: Air Force acknowledges the commenter's concurrence.

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

Response: Air Force acknowledges agreement by commenter.

3. Comment: We talk about groundwater contaminated plume which is of primary concern here, is migrating northward from BA-1 in the general direction of the groundwater flow. My question is, and I looked at some of my old maps, and I looked at the aquifer on this particular map, and it shows that the aquifer extends fight out into that portion of the base. Is this Zone 2 going to be in the aquifer? And to we have any migration problems of the plume within the aquifer itself?.

Response: The aquifer at Pease AFB is what is called a single aquifer, which is primarily located in the central portion of the base. Within this aquifer is a production well (municipal water supply well) called the Haven well. Based upon the work done by the Air Force and evaluation of collected data, the Air Force does not believe that contamination from Zone 2 will flow into the Haven well supply aquifer. The Air Force also has used computer modeling to evaluate potential effects to the Haven well resulting from pumping the Haven well at various yields. The results of the modeling indicate that contamination within Zone 2 will not impact the Haven well.

4. Comment: I get a lot of GAO reports that go into contamination clean up at dosed 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 bases money was expiring, authorized DOD to use BRAC 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.

5. 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.

6. 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 in-place for many years, but once it is determined that these critical monitor wells are no longer needed, they will also be removed, ff possible, or abandoned in-place.

APPENDIX E
ADMINISTRATIVE RECORD FILE INDEX

FOR THE

INSTALLATION RESTORATION PROGRAM

PEASE AIR FORCE BASE
NEW HAMPSHIRE

SEPTEMBER 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

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. 1#)	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

1.5 Previous Operable Unit Information

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

1.6 Correspondence

DOCUMENT NUMBER: PEA (1.6) #1 001-002
LONG TITLE: Comments Regarding the Installation Restoration Program, Phase I Record Search Report. Pease Air Force Base
AUTHOR: The State of New Hampshire, Water Supply and Pollution Control Commission
RECIPIENT: 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 Service 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) #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) #12 001-001
LONG TITLE: Zone 2 Test Pit Investigation Letter Report
AUTHOR: Arthur Ditto, AFBCA
RECIPIENT: Mike Daly, EPA;
Richard Pease, NHDES
DATE: 3 June 1994
TYPE: Letter
SECOND REFERENCE: Zone 2
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

DOCUMENT NUMBER: PEA (2.7) #7 001-E
LONG TITLE: Installation Restoration Program, Stage 4, Letter Report for the Intensive Test Pit Operation at the McIntyre Road Drum Disposal Area for Pease AFB, NH - Draft
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: February 1992
TYPE: Letter Report
SECOND REFERENCE: PEA (2.8)
LOCATION: ARF

2.8 Correspondence

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, Labeled 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) #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) #15 001-001
LONG TITLE:	Analysts Using SW846 Method 8330 for Explosives
AUTHOR:	Edward S. Barnes, P.E., C.I. H. Roy F. Weston, Inc.
RECIPIENT:	Capt. Carl Woerhle U.S. Air Force/Base Closure Division Air Force Base Center for Environmental Excellence
DATE:	23 October 1992
TYPE:	Letter
SECOND REFERENCE:	Samples for SW8330 Analysis
LOCATION:	ARF (Section 3.1 Binder)

DOCUMENT NUMBER:	PEA (3.1) #17 001-005
LONG TITLE:	Ethylene Dibromide (EDB) Analysis Using Modified Method E504.1
AUTHOR:	Edward S. Barns, P.E., C.I.H. Roy F. Weston, Inc.
RECIPIENT:	Capt Carl Woerhle U.S. Air Force/Base Closure Division Air Force Center for Environmental Excellence
DATE:	19 November 1992
TYPE:	Letter with 4 Page Attachment
SECOND REFERENCE:	Analytical Method Recommended for EDB Analysis
LOCATION:	ARF (Section 3.1 Binder)

DOCUMENT NUMBER:	PEA (3.1) #18 001-007
LONG TITLE:	Object of Site 10 Aquifer Test (Well 10-6048)
AUTHOR:	James J. Soukup, Senior Hydrogeologist Roy F. Weston, Inc.
RECIPIENT:	Mark McKenzie U.S. Air Force/Pease AFB
DATE:	30 November 1992
TYPE:	Letter with Tables and Maps
SECOND REFERENCE:	Zone 2
LOCATION:	ARF (Section 3.1 Binder)

DOCUMENT NUMBER:	PEA (3.1) #19 2.24-R.1
LONG TITLE:	Stage 4 Sampling and Analysis Plan, Addendum #3, QAPP Portion
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	2 December 1992
TYPE:	Addendum
SECOND REFERENCE:	None
LOCATION:	ARF

DOCUMENT NUMBER: PEA (3.2) #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, Hydrogologist
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)

DOCUMENT NUMBER: PEA (3.2) #15 001-009
LONG TITLE: Tissue Sample Letter Report for Great Bay, Bass Pond and McIntyre Brook
AUTHOR: Lee R. dePersia, Roy F. Weston, Inc.
Through U.S. Air Force
RECIPIENT: Johanna Hunter, EPA
Richard Pease, NHDES,
DATE: 9 October 1992
TYPE: Routing Letters and Letter Report with Map and Table
SECOND REFERENCE: Great Bay, Bass Pond
McIntyre Brook
LOCATION: ARF (Section 3.2 Binder)

3.3 Work Plan

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, Labeled 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) #17 001-044
LONG TITLE: Pilot Test Work Plan for Site 22 Soil Vapor Extraction and Air Sparging
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 5 May 1994
TYPE: Work Plan
SECOND REFERENCE: Site 22
LOCATION: ARF

DOCUMENT NUMBER: PEA (33) #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

3.4 Preliminary RI Field Work Reports

DOCUMENT NUMBER:	PEA (3.4) #1 001-173
LONG TITLE:	Interim Technical Report No. 1 for the Installation Restoration Program, Stage 2, Volume I, for Pease Air Force Base
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	EPA; NHDES; USAF
DATE:	February 1988
TYPE:	Technical Report
SECOND REFERENCE:	None
LOCATION:	ARF

DOCUMENT NUMBER	PEA (3.4) #2 001-147
LONG TITLE:	Interim Technical Report No. 1 for the Installation Restoration Program, Stage 2, Volume II- Appendices - Draft
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	EPA; NHDES; USAF
DATE:	January 1998
TYPE:	Technical Report - Appendices
SECOND REFERENCE:	None
LOCATION:	ARF

DOCUMENT NUMBER:	PEA (3.4) #3 001-214
LONG TITLE:	Interim Technical Report No. 2 for the Installation Restoration Program, Stage 2, Volume I
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	EPA: NHDES: USAF
DATE:	August 1988
TYPE:	Technical Report
SECOND REFERENCE:	None
LOCATION:	ARF

DOCUMENT NUMBER:	PEA (3.4) #3 001-696
LONG TITLE:	Interim Technical Report No. 2 for the Installation Restoration Program, Stage 2, Volume II - Appendices (Sample Tracking Information, Analytical Results)
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	EPA; NHDES; USAF
DATE:	August 1988
TYPE:	Technical Report - Appendices
SECOND REFERENCE:	None
LOCATION:	ARF

DOCUMENT NUMBER	PEA (3.4) #5 001-838
LONG TITLE:	Interim Technical Report No. 2 for the Installation Restoration Program, Stage 2, Volume II - Appendices (Analytical Results)
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	EPA: NHDES; USAF
DATE:	August 1988
TYPE:	Technical Report - Appendices
SECOND REFERENCE:	None
LOCATION:	ARF

DOCUMENT NUMBER:	PEA (3.4) #6 001-722
LONG TITLE:	Interim Technical Report No. 2 for the Installation Restoration Program, Stage 2, Volume IV - Appendices (Analytical Require)
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	EPA; NHDES; USAF
DATE:	August 1988
TYPE:	Technical Report - Appendices (Analytical Results)
SECOND REFERENCE:	None
LOCATION:	ARF

DOCUMENT NUMBER: PEA (3.4) #7 001-289
LONG TITLE: Interim Technical Report No. 2 for the Installation Restoration Program, Stage 2, Volume V - Appendices (Field Geological, Geotechnical, and Hydrogeological Data)
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: August 1988
TYPE: Technical Report - Appendices
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #8 001-106
LONG TITLE: Interim Technical Report No. 3 for the Installation Restoration Program, Stage 2, Volume I
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: February 1989
TYPE: Technical Report
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #9 001-658
LONG TITLE: Interim Technical Report No. 3 for the Installation Restoration Program, Stage 2, Volume II - Appendices
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: February 1989
TYPE: Technical Report - Appendices
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #10 001-198
LONG TITLE: Interim Technical Report No. 4 for the Installation Restoration Program, Stage 2, Volume I - Draft
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: April 1989
TYPE: Technical Report
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #11 001-770
LONG TITLE: Interim Technical Report No. 4 for the Installation Restoration Program, Stage 2, Volume II - Appendices
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: April 1989
TYPE: Technical Report - Appendices
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #12 001-568
LONG TITLE: Interim Technical Report No. 4 for the Installation Restoration Program, Stage 2, Volume II - Appendices - Draft
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: April 1989
TYPE: Technical Report - Appendices
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #13 001-770
LONG TITLE: Interim Technical Report No. 4 for the Installation Restoration program, Stage 2, Volume IV - Appendices - Draft
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: April 1989
TYPE: Technical Report - Appendices
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #14 001-1,150
LONG TITLE: Interim Technical Report No. 4 for the Installation Restoration Program, Stage 2, Volume V - Appendices -- Draft
AUTHOR; Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: April 1989
TYPE: Technical Report - Appendices
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #15 001-729
LONG TITLE: Interim Technical Report No. 4 for the Installation Restoration Program, Stage 2, Volume VI - Appendices - Draft
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: April 1989
TYPE: Technical Report - Appendices
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #16 001-803
LONG TITLE: Interim Technical Report No. 4 for the Installation Restoration Program, Stage 2, Volume VII Appendices - Draft
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: April 1989
TYPE: Technical Report - Appendices
SECOND REFERENCE: None
LOCATION; ARF

DOCUMENT NUMBER: PEA (3.4) #17 001-251
LONG TITLE: Installation Restoration Program, Stage 2, Draft Final Report, Volume I
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: July 1990
TYPE: Technical Report
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #18 001-452
LONG TITLE: Installation Restoration Program, Stage 2, Draft Final Report, Volume II
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: July 1990
TYPE: Technical Report
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #19 001-621
LONG TITLE: Installation Restoration Program, Stage 2, Draft Final Report, Appendices, Volume I
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: July 1990
TYPE: Technical Report - Appendices
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #20 001-420
LONG TITLE: Installation Restoration Program, Stage 2, Draft Final Report, Appendices, Volume II
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: July 1990
TYPE: Technical Report - Appendices
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #21 001-658
LONG TITLE: Installation Restoration Program, Stage 2, Draft Final Report, Appendices, Volume III
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: July 1990
TYPE: Technical Report - Appendices
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #22 001-688
LONG TITLE: Installation Restoration Program, Stage 2, Draft Final Report, Appendices, Volume IV
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: July 1990
TYPE: Technical Report - Appendices
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #23 001-261
LONG TITLE: Installation Restoration Program, Stage 2, Draft Final Report, Appendices, Volume V
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: July 1990
TYPE: Technical Report - Appendices
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #24 001-340
LONG TITLE: Installation Restoration Program, Stage 2, Summary Analytical Tables
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDES; USAF
DATE: July 1990
TYPE: Technical Report - Appendices
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.4) #38 001-041
LONG TITLE: Pease AFB Monitor Well Inventory and Inspection
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 7 August 1992
TYPE: Report
SECOND REFERENCE: None
LOCATION: ARF (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) #43 001-Appendix A
LONG TITLE: Zone 2 Test Pit Investigations
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: May 1994
TYPE: Report
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.4) #44 001-C.2
LONG TITLE: Pease Air Force Base Monitor Well Inventory and In)on 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) #35 001-ACR.1
LONG TITLE: Installation Restoration Program, Stage 4, Site Characterization Summary, IRP Zone 2, Pease AFB, NH Text
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: October 1992
TYPE: Report
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #36 A-C
LONG TITLE: Installation Restoration Program, Stage 4, Site Characterization Summary, IRP Zone 2, Pease AFB, NH, Appendices A-C
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: October 1992
TYPE: Report
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3-5) #37 D1-D2
LONG TITLE: Installation Restoration Program, Stage 4, Site Characterization Summary, IRP Zone 2, Pease AFB, Appendix D - Volumes 1 & 2
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: October 1992
TYPE: Appendices
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #38 E-F
LONG TITLE: Installation Restoration Program, Stage 4, Site Characterization Summary, IRP Zone 2, Pease AFB, NH, Appendices E-F
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: October 1992
TYPE: Report
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

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) #76 001-Acr.4
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Text- DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: November 1993
TYPE: Report
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #77 001-6.4-3
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Figures. -DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: November 1993
TYPE: Figures
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #78 001-G
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Appendices A, C, D, F and G)DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: November 1993
TYPE: Appendices
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #79 001-500
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Appendix B Part 1 of 2-DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: November 1993
TYPE: Appendix
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #80 001-500
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Remedial Investigation Report Appendix B Part 2 of 2, DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: November 1993
TYPE: Appendices
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #81 001-475
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease AFB, Zone 2 Remedial Investigation Report Appendix H-DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: November 1993
TYPE: Appendix
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #82 001-I.1
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease AFB, Zone 2 Remedial Investigation Report Appendix I, Part 1 of 3-DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: November 1993
TYPE: Appendices
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #83 001-1.2
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease AFB, Zone 2 Remedial Investigation Report Appendix I Part 2 of 3)DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: November 1993
TYPE: Appendices
SECOND REFERENCE: Zone 2
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.5) #84 001-13
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease AFB, Zone 2 Remedial Investigation Report Appendix I Part 3 of 3)DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: November 1993
TYPE: Appendix
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #85 001-J.1
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease AFB, Zone 2 Remedial Investigation Report Appendix J Part 1 of 2-DRAFT
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: November 1993
TYPE: Appendix
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #86 001-J.2
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease AFB, Zone 2 Remedial Investigation Report Appendix J Part 2 of 2-DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: November 1993
TYPE: Appendix
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #86A 001-K.7-4
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease AFB, Zone 2 Remedial Investigation Report Appendix K-DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: November 1993
TYPE: Report
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #86B 001-300
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease AFB, Zone 2 Remedial Investigation Report Appendices L, M, and N-DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: November 1993
TYPE: Report
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #86C 001-I.1
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease AFB, Zone 2 Remedial Investigation Report Appendix I, Part 1 of 2)DRAFT
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: May 1993
TYPE: Appendix
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (3.5) #86D 001-I.2
LONG TITLE: U.S. Air Force Installation Program, Pease AFB, Zone 2 Remedial Investigation Report Appendix I, Part 2 of 2-DRAFT
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: May 1993
TYPE: Appendix
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (35) #115 001-039
LONG TITLE: Cumulative Risk Evaluation for Zone 1 through Zone 5 at Pease AFB, N.H.
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: March 1994
TYPE: Risk Evaluation Report
SECOND REFERENCE: Zone 1, Zone 2, Zone 3, Zone 4, Zone 5
LOCATION: ARF

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) #127 001 - C.1
LONG TITLE: Pease Air Force Base Leaded Fuel Tank Sludge Area X-Ray Fluorescence (XRF) Letter Report - Draft
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 28 November 1994
TITLE: Report
SECOND REFERENCE: None
LOCATION: ARF

DOCUMENT NUMBER: PEA (3.5) #128 i-Appendix E
LONG TITLE; DDT Sediment Evaluation Report for Pease Air Force Base, NI-I
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 1991
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 (33) #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 KI 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) #4 001-001
LONG TITLE: Letter Regarding the Suspect Fire Training Area
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: Air Force
DATE: 16 December 1987
TYPE: Letter Serving 3.4 (preliminary RI Field Work Reports)
SECOND REFERENCE: USDA
LOCATION: ARF (Section 3.6 Binder)

DOCUMENT NUMBER:	PEA (3.6) #6 001-001
LONG TITLE;	Letter concerning Drilling Program
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	20 October 1988
TYPE:	Letter Serving 3.4 (Preliminary RI Field Work Reports)
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)
DOCUMENT NUMBER:	PEA (3.6) #9 001-002
LONG TITLE:	Letter Concerning Disposal of Drill Cuttings From Stage 2 IRP Investigations
AUTHOR:	Roy F. Weston, Inc.
RECIPIENT:	USAF
DATE:	2 October 1989
TYPE:	Letter Serving 3.4 (Preliminary RI Field Work Reports)
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)
DOCUMENT NUMBER:	PEA (3.6) #10 001-003
LONG TITLE:	Review Comments on the Phase II, Stage 2 4IRP, Draft Final Report
AUTHOR:	State of New Hampshire, Department of Environmental Services
RECIPIENT:	USAF
DATE:	28 February 1990
TYPE:	Review Comments on Phase II, Stage 2, IRP Serving 3.4 (Preliminary RI Field Work Reports)
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)
DOCUMENT NUMBER:	PEA (3.6) NH 001-011
LONG TITLE:	Review Comments for the Pease AFB, Phase II, Stage 2 IRP Draft Final Report
AUTHOR:	EPA
RECIPIENT:	USAF
DATE:	7 March 1990
TYPE:	Review Comments Serving 3.4 (Preliminary RI Field Work Reports)
SECOND REFERENCE:	None
LOCATION:	ARF (Section 3.6 Binder)
DOCUMENT NUMBER:	PEA (3.6) #12 001-010
LONG TITLE:	Review Comments Regarding the IRP, Stage 2 Draft Final Report (December 1989)
AUTHOR:	U.S. Department of Commerce, National Oceanic and Atmospheric Administration
RECIPIENT:	EPA; USAF
DATE:	7 March 1990
TYPE:	Review Comments Serving 3.4 (Preliminary RI Field Work Reports)
SECOND REFERENCE:	PEA (10.1)
LOCATION:	ARF (Section 3.6 Binder)
DOCUMENT NUMBER:	PEA (3.6) #13 001-020
LONG TITLE:	Review Comments to the IRP Stage 2 RI/FS Draft Report
AUTHOR:	USAF
RECIPIENT:	Roy F. Weston, Inc.; Pease AFB
DATE:	15 March 1990
TYPE:	Review Comments Serving 3.4 (Preliminary RI Field Work Reports)
SECOND REFERENCE:	PEA (10.1)
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) #20 001-002
LONG TITLE: Work Plan for the IRP Stage 3 and ITR #4
AUTHOR: Department of the Air Force
RECIPIENT: Pease AFB
DATE: 3 April 1989
TYPE: Memorandum - Pertaining to RI
SECOND REFERENCE: None
LOCATION: ARF (Section 3.6 Binder)

DOCUMENT NUMBER: PEA (3.6) #21 001-007
LONG TITLE: Consolidated Comments to the IRP Stage 3 Work Plan for Pease Air Force Base, NH
AUTHOR: USAF
RECIPIENT: Roy F. Weston, Inc.
DATE: 1 June 1989
TYPE: Review Comments - Pertaining to RI
SECOND REFERENCE: PEA (10.1)
LOCATION: ARF (Section 3.6 Binder)

DOCUMENT NUMBER: PEA (3.6) #22 001.001
LONG TITLE: Review Comments Regarding the Work Plan and QAPP-Stage 3
AUTHOR: NHDES
RECIPIENT: USAF
DATE: 16 June 1989
TYPE: Review Comments - Pertaining to RI
SECOND REFERENCE: PEA (10.1)
LOCATION: ARF (Section 3.6 Binder)

DOCUMENT NUMBER: PEA (3.6) #23 001-008
LONG TITLE: Stage 3 Work Plan - Response to Comments
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 29 June 1989
TYPE: Response to Comments - Pertaining to RI
SECOND REFERENCE: PEA (10.1)
LOCATION: ARF (Section 3.6 Binder)

DOCUMENT NUMBER: PEA (3.6) #24 001-008
LONG TITLE: Consolidated Comments to the IRP Stage 3 Quality Assurance Project Plan (QAPP) for Pease Air Force Base, NH
AUTHOR: USAF
RECIPIENT: Roy F. Weston Inc.
DATE: 29 June 1989
TYPE: Review Comments - Pertaining to RI
SECOND REFERENCE: PEA (10.1)
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) #29 001-007
LONG TITLE: Review Comments on the Stage 3 Work Plan for the IRP
AUTHOR: EPA
RECIPIENT: USAF
DATE: 7 June 1990
TYPE: Review Comments
SECOND REFERENCE: PEA (10.1)
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, EFA
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: Revise 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 Lundquest, 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 Assessment
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 INDEX: 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 Result 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) #102 001-001
LONG TITLE: Data You May Be Able to Provide
AUTHOR: Thomas R. Marks, Roy F. Weston, Inc.
RECIPIENT: Mark McKenzie, Pease AFB
DATE: 26 May 1992
TYPE: Letter
SECOND REFERENCE: None
LOCATION: ARF (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
AUTHOR: Michael Daly, EPA
RECIPIENT: Mark McKenzie, Pease NHDES
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 Walkout
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
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) #125 001-002
LONG TITLE:	Policy on Data Transfer During Pumping Tests
AUTHOR:	Arthur Ditto, USAF
RECIPIENT:	Richard Pease, NHDES Johanna Hunter, EPA
DATE:	9 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) #133 001-001
LONG TITLE:	Transmittal Letter for Pease AFB Zone 2 Site Characterization Study
AUTHOR:	Lee dePersia, Roy F. Weston, Inc.
RECIPIENT:	Capt. Carl Woerhle, AFCEE
DATE:	22 October 1992
TYPE:	Letter
SECOND REFERENCE:	Zone 2
LOCATION:	ARF (Section 3.6 Binder)

DOCUMENT NUMBER:	PEA (3.6) #134 001-001
LONG TITLE:	Transmittal Letter for Submittal of Zone 2 Site Characterization Summary Report
AUTHOR:	Lee dePersia, Roy F. Weston, Inc.
RECIPIENT:	Richard Pease, NHDES
DATE:	22 October 1992
TYPE:	Letter
SECOND REFERENCE:	Zone 2
LOCATION:	ARF (Section 3.6 Binder)

DOCUMENT NUMBER: PEA (3.6) #135 001-001
LONG TITLE: Transmittal Letter for Submittal of Zone 2 Site Characterization Summary Report
AUTHOR: Lee dePersia, Roy F. Weston, Inc.
RECIPIENT: Johanna Hall, TRC Member, Lowell, MA
DATE: 22 October 1992
TYPE: Letter
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 3.6 Binder)

DOCUMENT NUMBER: PEA (3.6) #136 001-001
LONG TITLE: Transmittal Letter for Submittal of Zone 2 Site Characterization Summary Report
AUTHOR: Lee dePersia, Roy F. Weston, Inc.
RECIPIENT: Johanna Hunter, EPA
DATE: 22 October 1992
TYPE: Letter
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 3.6 Binder)

DOCUMENT NUMBER: PEA (3.6) #137 001-001
LONG TITLE: Submittal of Draft Secondary Documents, Zones 1, 2, and 5 Site Characterization Summaries
AUTHOR: USAF
RECIPIENT: Richard Pease, NHDES
DATE: 26 October 1992
TYPE: Letter
SECOND REFERENCE: Zone 1, Zone 2, Zone 5
LOCATION: ARF (Section 3.6 Binder)

DOCUMENT NUMBER: PEA (3.6) #138 001-001
LONG TITLE: Submittal of Draft Secondary Documents, Zones 1, 2, and 5 Site Characterization Summaries
AUTHOR: USAF
RECIPIENT: Johanna Hunter, EPA
DATE: 26 October 1992
TYPE: Letter
SECOND REFERENCE: Zone 1, Zone 2, Zone 5
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 1989
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 Reachable 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) #166 001-001
LONG TITLE: Submittal of Draft Primary Document, Zone 2 Remedial Investigation Report
AUTHOR: USAF
RECIPIENT: Johanna Hunter, EPA
DATE: 21 May 1993
TYPE: Letter
SECOND REFERENCE: Zone 2; PEA (3.5)
LOCATION: ARF (Section 3.6 Binder)

DOCUMENT NUMBER: PEA (3.6) #170 001-008
LONG TITLE: Locations of Surface Water 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) #152 001-002
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) #185 001-001
LONG TITLE: Zone 2 Test Pit Investigation Report
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, AFBCA
DATE: 21 July 1994
TYPE: Letter
SECOND REFERENCE: Zone 2
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)

4.1 ARAR Determinations

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) #4 001-023
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 TYPE: 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)

4.2 Feasibility Reports

DOCUMENT NUMBER: PEA (4.2) #27 001-BA1-4B-2
LONG TITLE: U.S. Air Force Installation Restoration Program Pease AFB Zone 2 Initial Screening of Alternatives (Preliminary Draft Feasibility Study) Draft
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: June 1993
TYPE: Feasibility Study
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (4.2) #47 iii-ACR-3
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Zone 2 Feasibility Study Report, Text DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: December 1993
TYPE: Text
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (4.2) #48 A.1-K.13
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease AFB, Zone 2 Feasibility Study Report Appendices- DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: December 1993
TYPE: Appendices
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (4.2) #51 001-Figure 4.2.2
LONG TITLE: Pease Air Force Base Draft Zone 2 Feasability Study Report, copies of pages 4-47, 4-48, 4-49 and Figure 4.2.1 and 4.22
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 22 October 1993
TYPE: Feasibility Study Report
SECOND REFERENCE: Zone 2
LOCATION: ARF, (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (4.2) #58 001-016
LONG TITLE: Geotechnical Sample Results - Landfill 1
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: Arthur Ditto, AFBCA
DATE: 13 October 1994
TYPE: Sample Results
SECOND REFERENCE: Landfill 1
LOCATION: ARF (Section 4.2 Binder)

DOCUMENT NUMBER: PEA (4.2) #59 001-016
LONG TITLE: Geotechnical Sample Results - Landfill 1
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: Arthur Ditto, AFBCA
DATE: 29 November 1994
TYPE: Sample Results
SECOND REFERENCE: Landfill 1
LOCATION: ARF (Section 4.2 Binder)

DOCUMENT NUMBER: PEA (4.2) #60 001-Figure 3
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Zone 2 Feasibility Study Report Addendum 1) Text and Appendices A and B - DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: February 1995
TYPE: Feasibility Study Report
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (4.2) #65 001-Appendix C
LONG TITLE: Pease Air Force Base Site 22 Treatability Study Letter Report
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: 09 December 1994
TYPE: Report
SECOND REFERENCE: Site 22
LOCATION: ARF

DOCUMENT NUMBER: PEA (42) #60 001-Figure 3
LONG TITLE: U.S. Air Force Installation Restoration Program, Pease Air Force Base, Zone 2 Feasibility Study Report Addendum 1 - Text and Appendices A and B - DRAFT FINAL
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: February 1995

DOCUMENT NUMBER: PEA (4.2) #67 001-026
LONG TITLE: Zone 2 Feasibility Study Supplement
AUTHOR: USAF
RECIPIENT: EPA
DATE: 08 February 1995
TYPE: Report
SECOND REFERENCE: Zone 2
LOCATION: ARF (Zone 2 Shelf)

DOCUMENT NUMBER: PEA (4.2) #69 001-009
LONG TITLE: Pease Air Force Base Natural Attenuation Modeling for Zones 2 and 3
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: February 1995
TYPE: Report
SECOND REFERENCE: Zone 2; Zone 3
LOCATION: ARF (Zone 2 Shelf)

4.3 Proposed Plan

DOCUMENT NUMBER: PEA (4.3) #10 001-G.5
LONG TITLE: Installation Restoration Program, Proposed Plan for Zone 2, Pease AFB
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: USAF
DATE: March 1995
TYPE: Proposed Plan
SECOND REFERENCE: Zone 2
LOCATION: ARF Zone 2 Shelf

4.4 Supplements and Revisions to the Proposed Plan

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

DOCUMENT NUMBER: PEA (4.5) #1 001-006
LONG TITLE: IRP Proposed Plan for Landfill 3, Field Maintenance Squadron Equipment Cleaning Site, Fire Department Training Area 1 (October 1990, draft) Review Comments
AUTHOR: NHDES
RECIPIENT: USAF
DATE: 27 November 1990
TYPE: Review Comments
SECOND REFERENCE: PEA (10.1); Landfill 3
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT NUMBER: PEA (4.5) #2 001-016
LONG TITLE: EPA Region I comments on the IRP Proposed Plan for Landfill 3, Field Maintenance Squadron Equipment Cleaning Site, Fire Department Training Area 1 (October 1990, draft)
AUTHOR: EPA
RECIPIENT: USAF
DATE: 28 November 1990
TYPE: Review Comments
SECOND REFERENCE: PEA (10.1); Landfill 3
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT NUMBER: PEA (4.5) #3 001-008
LONG TITLE: EPA Region I additional comments on the IRP Proposed Plan for Landfill 3, Field Maintenance Squadron Equipment Cleaning Site, Free Department Training Area 1 (October 1990, draft); Review Comments"
AUTHOR: EPA
RECIPIENT: USAF
DATE: 3 December 1990
TYPE: Review Comments
SECOND REFERENCE: PEA (10.1); Landfill 3
LOCATION: ARF (Section 4-5 Binder)

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) #31 001-001
LONG TITLE: Determination of Site Boundaries at the Tune of Remedial Action Implementation (Will Migrate to Proposal)
AUTHOR: USAF
RECIPIENT: Johanna Hunter, EPA
Richard Pease, NHDES
DATE: 2 December 1992
TYPE: Letter
SECOND REFERENCE: None
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) #63 001-011
LONG TITLE: Request for Deadline Extension, Zone 2 Proposed Plan
AUTHOR: Arthur Ditto, Pease AFB
RECIPIENT: Michael Daly, EPA Region 1
Richard Pease, NHDES
DATE: 3 February 1994
TYPE: Letter
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT NUMBER: PEA (4.5) #6.5 001-001
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) #66 001-001
LONG TITLE: Soil Vapor Extraction Pilot Test-Site #22
AUTHOR: Dennis R. Lunderville, NHDES
RECIPIENT: Chris Conroy, Roy F. Weston, Inc.
DATE: 11 February 1994
TYPE: Letter
SECOND REFERENCE: Site 22
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT NUMBER: PEA (4.5) #78 001-001
LONG TITLE: Submittal of Zone 2 FS Addendum
AUTHOR: Mark McKenzie, AFBCA
RECIPIENT: Mike Daly, EPA
Richard Pease, NHDES
DATE: 06 December 1994
TYPE: Letter
SECOND REFERENCE: Zone 2; PEA (42)
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT: PEA (4.5) #79 001-033
LONG TITLE: EPA's Outstanding Issues on the Draft Final Remedial Investigation/Feasibility Study Report for Zone 2, Pease Air Force Base, New Hampshire
AUTHOR: Andrew F. Miniuks, EPA
RECIPIENT: Arthur Ditto, AFBCA
DATE: 04 January 1995
TYPE: Letter with attachment
SECOND REFERENCE: Zone 2; PEA (4.2); PEA (10.1)
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT: PEA (4.5) #82 001-018
LONG TITLE: EPA's Comments on the Draft Proposal Plan for Zone 2, 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 2; PEA (5.1); PEA (10.1)
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT: PEA (4.5) #85 001-802
LONG TITLE: EPA's Comments on the Zone 2 Feasibility Study Addendum 1, Pease Air Force Base, Newington, New Hampshire
AUTHOR: Andrew F. Miniuks, EPA
RECIPIENT: Arthur Ditto, AFBCA
DATE: 01 February 1995
TYPE: Letter with attachment
SECOND REFERENCE: Zone 2; PEA (4.2); PEA (10.1)
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT: PEA (4.5) #86 001-001
LONG TITLE: New Hampshire Department of Environmental Services Comments on Burn Area 1 Treatability Study
AUTHOR: Arthur Ditto, AFBCA
RECIPIENT: Richard Pease, NHDES
DATE: 01 February 1995
TYPE: Letter
SECOND REFERENCE: Zone 2; Site 22; PEA (4.2); PEA (10.1)
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT: PEA (4.3) #91 001-001
LONG TITLE: Zone 2 Feasibility Study Supplement
AUTHOR: Mark McKenzie, AFBCA
RECIPIENT: Mike Daly, EPA
DATE: 08 February 1995
TYPE: Letter
SECOND REFERENCE: Zone 24 PEA (4.2)
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT: PEA (4.5) #95 001-003
LONG TITLE: Pease Air Force Base Draft Final Zone 2 Proposed Plan
AUTHOR: Lee dePersia, Roy F. Weston, Inc.
RECIPIENT: Arthur Ditto, AFBCA
DATE: 16 February 1995
TYPE: Letter
SECOND REFERENCE: Zone 2; PEA (5.1)
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT: PEA (4.5) #96 001-005
LONG TITLE: Pease Air Force Base Draft Final Zone 2 Feasibility Study (FS) Report Addendum 1
AUTHOR: Lee dePersia, Roy F. Weston, Inc.
RECIPIENT: Jim Synder, AFCEE
DATE: 16 February 1995
TYPE: Letter
SECOND REFERENCE: Zone 2; PEA (5.1)
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT: PEA (4.5) #97 001-002
LONG TITLE: Natural Attenuation Modeling for Zones 2 and 3 at Pease Air Force Base, New Hampshire
AUTHOR: Lee dePersia, Roy F. Weston, Inc.
RECIPIENT: Arthur Ditto, AFBCA
DATE: 16 February 1995
TYPE: Letter
SECOND REFERENCE: Zone 2; Zone 3
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT: PEA (4.5) #102 001-001
LONG TITLE: Evaluation of the Zone 2 Feasibility Study Supplement, Pease Air Force Base, Newington, New Hampshire
AUTHOR: Mike Daly, EPA
RECIPIENT: Arthur Ditto, AFBCA
DATE: 01 March 1995
TYPE: Letter
SECOND REFERENCE: Zone 2; PEA (4.2)
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT: PEA (4.5) #103 001-001
LONG TITLE: EPA's Comments on the Draft Final Zone 2 Feasibility Study Addendum 1, Pease Air Force Base, New Hampshire
AUTHOR: Andrew Miniuks, EPA
RECIPIENT: Arthur Ditto, AFBCA
DATE: 02 March 1995
TYPE: Letter
SECOND REFERENCE: Zone 2; PEA (4.2); PEA (10.1)
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT: PEA (4.5) #104 001-001
LONG TITLE: Evaluation of the Zone 2 Feasibility Study Supplement, Pease Air Force Base, Newington, New Hampshire
AUTHOR: Mike Daly, EPA
RECIPIENT: Arthur Ditto, AFBCA
DATE: 01 March 1995
TYPE: Letter
SECOND REFERENCE: Zone 2; PEA (42); PEA (10.1)
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT: PEA (4.5) #105 001-002
LONG TITLE: EPA's Comments on the Draft Proposed Plan for the Zone 2, Pease Air Force Base, Newington, New Hampshire
AUTHOR: Mike Daly, EPA
RECIPIENT: Arthur Ditto, AFBCA
DATE: 02 March 1995
TYPE: Letter with attachment
SECOND REFERENCE: Zone 2: PEA (.5.1); PEA (10.1)
LOCATION: ARF (Section 4.5 Binder)

DOCUMENT NUMBER: PEA (4.5) #108 001-004
LONG TITLE: IRP Site 22 Soil Vapor Extraction (SVE) and Air Sparging (AS) Pilot Test
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: Arthur Ditto, AFBCA
DATE: 06 May 1994
TYPE: Letter
SECOND REFERENCE: Site 22
LOCATION: ARF (Section 4.5 Binder)

5.1 ROD

DOCUMENT NUMBER: PEA (5.1) #8 001-D
LONG TITLE: Record of Decision, Zone 2, Pease Air Force Base, New Hampshire - DRAFT
AUTHOR: USAF
RECIPIENT: EPA
NHDES
DATE: March 1995
TYPE: ROD
SECOND REFERENCE: Zone 2
LOCATION: ARF

5.2 Amendments to ROD

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

5.3 Explanations of Significant Differences

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

5.4 Correspondence

DOCUMENT NUMBER: PEA (5.4) #1 001-001
LONG TITLE: Region 1 ROD Model Language
AUTHOR: USAF
RECIPIENT: Johanna Hunter, 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 Pearce, 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) #25 001-002
LONG TITLE: Additional Requests for Additional Documents for EPA Review
AUTHOR: Arthur Ditto, AFBCA/OL-A
RECIPIENT: Mike Daly, BPA
DATE: 12 December 1994
TYPE: Letter
SECOND REFERENCE: Zone 1; Zone 2; Zone 3; Zone 4; Site 32/36; Site 34
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) #42 001-005
LONG TITLE: Zone 2, 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: Zone 2; 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) #2 001-004
LONG TITLE: Memorandum of Understanding (MOU) between the U.S. Air Force Occupational and Environmental Health Laboratory (USAFOEHL) and Pease Air Force Base relating to procedures for conducting the IRP.
AUTHOR: U.S. Department of the Air Force
RECIPIENT: Pease AFB
DATE: 31 July 1987
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; USA.
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 Mangers Meeting Minutes
AUTHOR: Peace 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-IL.4
LONG TITLE: Modification 1 to Pease AFB Federal Facilities Agreement
AUTHOR: USAF
RECIPIENT: Michael Daly, EFA
Richard Pease, NHDES
DATE: 8 September 1993
TYPE: FFA Modification
SECOND REFERENCE: None
LOCATION: ARF (Section 6.2 Binder)

6.3 Coordination - State / Federal

DOCUMENT NUMBER: PEA (6.3) #1 001-003
LONG TITLE: Meeting Minutes From Air Force Meeting With State Officials Concerning Pease Air Force Base IRP
AUTHOR: 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) #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 (63) #15 001-004
LONG TITLE: Notification of Additional Investigative Work in a Wetland
AUTHOR: USAF
RECIPIENT: NHDES
DATE: 14 June 1991
TYPE: Letter
SECOND REFERENCE: None
LOCATION: ARF (Section 6.3 Binder)

DOCUMENT NUMBER: PEA (63) #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 (63) #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 (63) #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 (63) #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
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 TILE: 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) #42 001-04
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
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 1989
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 attachments
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
Attorney General
DATE: January 1993
TYPE: FFA Modification
SECOND REFERENCE: none
LOCATION: ARF (Section 7.3 Binder)

7.4 Consent Decrees

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

7.5 Affidavits

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

7.6 Documentation of Technical Discussions/Response Actions

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

7.7 Notices, Letters, and Reports

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

8.1 ATSDR Health Assessment

*NOTE: NO ENTRIES IN THIS SECTION 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)

10.1 Comments and Responses

DOCUMENT NUMBER: PEA (10.1) #1 001-005
LONG TITLE: Response to Comments - Draft Final Community Relations Plan
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: 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
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) #9 601-002
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) #10 001-002
LONG TITLE Review of Zone 2 Monitoring Well Installation Modifications
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, USAF
DATE: 28 April 1992
TYPE: Letter
SECOND REFERENCE: Zone 2
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 (33)
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
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) #45 001-001
LONG TITLE: Comments on Zone 2 Site Characterization Study
AUTHOR: Michael Daly, EPA
RECIPIENT: Mark McKenzie, USAF
DATE: 24 November 1992
TYPE: Fax of Comments
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #46 001-005
LONG TITLE: Review Comments of Stage 4, Site Characterization Summary, IRP Zone 2
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, USAF
DATE: 30 November 1992
TYPE: Comments
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #49 001-005
LONG TITLE: Review of Zone 2 and Zone 5, Site Characterization Summaries for Pease AFB
AUTHOR: Michael Daly, EPA
RECIPIENT: Arthur Ditto, USAF
DATE: 4 December 1992
TYPE: Comment
SECOND REFERENCE: Zone 2, Zone 5
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #52 001-001
LONG TITLE: Comments on Zone 2 Pumping Test Letter Report
AUTHOR: Michael Daly, EPA
RECIPIENT: Arthur Ditto, USAF
DATE: 10 December 1992
TYPE: Fax of Comments
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #61 001-002
LONG TITLE: Review Comments of Pease AFB Preliminary Findings - Fish and Shellfish Tissue Analysis
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, USAF
DATE: 21 January 1993
TYPE: Comments
SECOND REFERENCE: None
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #65 001-001
LONG TITLE: Submittal of Responses to Comments for the Zone 2 Site Characterization Summary
AUTHOR: USAF
RECIPIENT: Johanna Hunter, EPA
Richard Pease, NHDES
DATE: February 1993
TYPE: Response to Comments
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #66 001-012
LONG TITLE: Response to Comments, Zone 2 SCS - EPA Comments
AUTHOR: USAF
RECIPIENT: EPA
DATE: 2 February 1993
TYPE: Responses to Comments
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #67 001-009
LONG TITLE: Response to Comments, Zone 2 SCS - NHDES Comments
AUTHOR: USAF
RECIPIENT: NHDES
DATE: 2 February 1993
TYPE: Report to Comments
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #88 001-007
LONG TITLE: Review of the Air Force Installation Restoration Program, Draft Remedial Investigation Report, Zone 2, Pease AFB
AUTHOR: Michael Daly, EPA
RECIPIENT: Arthur Ditto, USAF
DATE: 9 July 1993
TYPE: Comments
SECOND REFERENCE: Zone 2; PEA (10.10)
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #89 001-008
LONG TITLE: Response to EPA Comments on the Draft Zone 2 RI Report
AUTHOR: USAF
RECIPIENT: EPA
DATE: 30 November 1993
TYPE: Response to Comments
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #90 001-027
LONG TITLE: Response to NHDHS Comments on the Draft Zone 2 RI Report
AUTHOR: USAF
RECIPIENT: NHDES
DATE: 30 November 1993
TYPE: Report to Comments
SECOND REFERENCE: Zone 2
LOCATION: ARF (See on 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #91 001-004
LONG TITLE: Response to EPA Comments on the Zone 2 ISA Report
AUTHOR: USAF
RECIPIENT: EPA
DATE: 13 September 1993
TYPE: Response to Comments
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #92 001-012
LONG TITLE: Response to NHDES Comments on the Zone 2 ISA Report
AUTHOR: USAF
RECIPIENT: NHDES
DATE: 13 September 1993
TYPE: Response to Comments
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #93 001-006
LONG TITLE: Results to EPA Comments on the Zone 2 Draft FS Report
AUTHOR: USAF
RECIPIENT: EPA
DATE: 2 December 1993
TYPE: Response to Comments
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #94 001-019
LONG TITLE: Response to NHDES Comments on the Zone 2 Draft FS
AUTHOR: USAF
RECIPIENT: NHDES
DATE: 2 December 1993
TYPE: Response to Comments
SECOND REFERENCE: Zone 2
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) #119 001-003
LONG TITLE: Peer Review of Initial Screening of Alternatives, Zone 2, Pease AFB, NH
AUTHOR; Fred Price, Mitre Corporation
RECIPIENT: Major Charles Howell, AFCEE
DATE: 10 August 1993
TYPE: Letter
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #132 001-010
LONG TITLE: Pease AFB Zone 2 Draft Final Remedial Investigation Review Comments
AUTHOR: NHDES
RECIPIENT: USAF
DATE: 30 December 1993
TYPE: Comments
SECOND REFERENCE: Zone 2
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #139 001-006
LONG TITLE: Review Comments, Pease AFB, Zone 2 Draft Final Feasibility Study
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, AFBCA
DATE: December 1993
TYPE: Review Comments
SECOND REFERENCE: Zone 2; Section 42
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #145 001-012
LONG TITLE: Comments, Draft Minutes of February 10, 1994 Meeting to Discuss State Issues
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, AFBCA
DATE: 14 March 1994
TYPE: Comments
SECOND REFERENCE: Landfill 1, CRD-2
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #149 001-014
LONG TITLE: Response to NHDES Comments on the Draft Zone 2 Proposed Plan
AUTHOR: USAF
RECIPIENT: NHDES
DATE: 16 May 1994
TYPE: Report to Comments
SECOND REFERENCE: Zone 2; Section 4.3
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER:	PEA (10.1) #152 001-004
LONG TITLE:	Response to Comments, Zone 2 Treatability Study Work Plan
AUTHOR:	Mark McKenzie, AFBCA
RECIPIENT:	Richard Pease, NHDES
DATE:	14 June 1994
TYPE:	Response to Comments
SECOND REFERENCE:	Zone 2, Section 3.3
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-E34; PEA (3.5) #124 001-007
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) #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 (35) #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) #190 001-002
LONG TITLE: Pease AFB Zone 2 XRF Letter Report, November 1994, Review Comments
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, AFBCA
DATE: 05 January 1995
TYPE: Comments
SECOND REFERENCE: Zone 2
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: Comment
SECOND REFERENCE: Zone 3: PEA (3.5) #120 001-008; PEA (11.1)
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER:	PEA (10.1) #198 001-014
LONG TITLE:	Pease Air Force Base Installation Restoration Program, Zone 2 FS Addendum #1 and BA-1 Treatability Study Comments
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	24 January 1995
TYPE:	Comments
SECOND REFERENCE:	Zone 2; PEA (11.5)
LOCATION:	ARF (Section 10.1 Binder)

DOCUMENT NUMBER:	PEA (10.1) #203 001-007
LONG TITLE:	Response to NHDES Comments on the Draft Zone 2 Feasibility Study Addendum 1
AUTHOR:	USAF
RECIPIENT:	NHDES
DATE:	16 February 1995
TYPE:	Report to Comments
SECOND REFERENCE:	Zone 2; PEA (4.2)
LOCATION:	ARF (Section 10.1 Binder)

DOCUMENT NUMBER:	PEA (10.1) #204 001-007
LONG TITLE:	Response to EPA Comments on the Draft Zone 2 Feasibility Study Addendum 1
AUTHOR:	USAF
RECIPIENT:	EPA
DATE:	15 February 1995
TYPE:	Response to Comments
SECOND REFERENCE:	Zone 2; PEA (4.2)
LOCATION:	ARF (Section 10.1 Binder)

DOCUMENT NUMBER:	PEA (10.1) #203 001-007
LONG TITLE:	Response to NHDES Comments on the Draft Zone 2 Feasibility Study Addendum 1
AUTHOR:	USAF
RECIPIENT:	NHDES
DATE:	16 February 1995
TYPE:	Response to Continents
SECOND REFERENCE:	Zone 2; PEA (4.2)
LOCATION:	ARF (Section 10.1 Binder)

DOCUMENT NUMBER:	PEA (10.1) #204 001-007
LONG TITLE:	Response to EPA Comments on the Draft Zone 2 Feasibility Study Addendum 1
AUTHOR:	USAF
RECIPIENT:	EPA
DATE:	15 February 1995
TYPE:	Response to Comments
SECOND REFERENCE:	Zone 2; PEA (4.2)
LOCATION:	ARF (Section 10.1 Binder)

DOCUMENT NUMBER:	PEA (10.1) #205 001-011
LONG TITLE:	Draft Proposed Plan for Zone 2, March 1994, Review Comments
AUTHOR:	Richard Pease, NHDES
RECIPIENT:	Arthur Ditto, AFBCA
DATE:	21 April 1994
TYPE:	Comments
SECOND REFERENCE:	Zone 2; PEA (4.3)
LOCATION:	ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #209 001-004
LONG TITLE: Pease Air Force Base Installation Restoration Program Site 22 Soil Vapor Extraction and Air Sparging pilot Test Work Plan Comments
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, AFBCA
DATE: 01 June 1994
TYPE: Comments
SECOND REFERENCE: Site 22; PEA (4.2)
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #213 001-002
LONG TITLE: EPA's Comments on the Draft Proposed Plan for the Zone 2, Pease Air Force Base, Newington, New Hampshire
AUTHOR: Michael Daly, EPA
RECIPIENT: Arthur Ditto, AFBCA
DATE: 02 March 1995
TYPE: Comments
SECOND REFERENCE: Zone 2; PEA (4.3)
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #214 001-004
LONG TITLE: Review of Pease AFB Natural Attenuation Modeling for Zones 2 and Zone 3, February 1995
AUTHOR: Michael Daly, EPA
RECIPIENT: Arthur Ditto, AFBCA
DATE: 03 March 1995
TYPE: Comments
SECOND REFERENCE: Zone 2; Zone 3; PEA (4.2)
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #236 001-006
LONG TITLE: Record of Decision Zone 2, DRAFT, March 1995
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, AFBCA
DATE: 3 May 1995
TYPE: Comments
SECOND REFERENCE: Zone 2; PEA (5.1) #8 001-D
LOCATION: ARF (Section 10.1 Binder)

DOCUMENT NUMBER: PEA (10.1) #238 001-006
LONG TITLE: Record of Decision, Zone 2, DRAFT, March 1995
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, AFBCA
DATE: 5 May 1995
TYPE: Comments
SECOND REFERENCE: Zone 2; 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)

DOCUMENT NUMBER: PEA (10.D #246 001-006
LONG TITLE: Review Comments on Draft Final ROD for Zone 2
AUTHOR: Richard Pease, NHDES
RECIPIENT: Arthur Ditto, AFBCA
DATE: 29 June 1995
TYPE: Comments
SECOND REFERENCE: Zone 24 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: Pease 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 Herold; 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 Public Official Transcript of Public Hearing for Proposed Plans for Zone 2 and Site 45
AUTHOR: APEX Reporting
RECIPIENT: USAF
DATE: 11 April 1995
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 105 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 (105) #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: See 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) #47 001-010
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) #2 001-002
LONG TITLE: News Release Regarding Presentation of the Second Interim Technical Report
AUTHOR: USAF
RECIPIENT: Media
DATE: 21 September 1988
TYPE: News Release
SECOND REFERENCE: None
LOCATION: ARF (Section 10.6 Binder)

DOCUMENT NUMBER: PEA (10.6) #3 001-003
LONG TITLE: News Release Regarding the Underground Water Sampling Program
AUTHOR: USAF
RECIPIENT: Media
DATE: 29 November 1988
TYPE: News Release
SECOND REFERENCE: None
LOCATION: ARF (Section 10.6 Binder)

DOCUMENT NUMBER: PEA (10.6) #4 001-002
LONG TITLE: News Release Regarding the Release of the Third Interim Technical Report
AUTHOR: USAF
RECIPIENT: Media
DATE: 22 March 1989
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 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) #32 001-004
LONG TITLE: Pease AFB Installation Restoration Program Update Fact Sheet - Prop Plan for Zone 2
AUTHOR: USAF
RECIPIENT: See Mailing List
DATE: March 1995
TYPE: Fact Sheet
SECOND REFERENCE: Zone 2
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) #7 001-003
LONG TITLE: Zone 2 Responsiveness Summary
AUTHOR: Arthur Ditto, AFBCA
RECIPIENT: Mike Daly, EPA
Richard Pease, NHDES
Zone 2 ROD
DATE: May 1995
TYPE: Responsiveness Summary
SECOND REFERENCE: Zone 2
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.

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 (MR) 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. Hohmam, 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) #30 001-001
LONG TITLE: Zone 2 Draft Proposed Plan
AUTHOR: Arthur Ditto, AFBCA
RECIPIENT: Ronald Gehl, SCOPE Technical Advisor
DATE: 18 March 1994
TYPE: Letter
SECOND REFERENCE: Zone 2; 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 Trichloroethytene (CASRN 79-01-6), Tetrachloroethylane (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 Pruner: 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 Site
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) #23 001-623
LONG TITLE: Bibliography of Federal Reports and publications Describing Alternatives and Innovative Treatment Technologies for Collective 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: USAF, Office of Emergency and Remedial Response, Washington, D.C.
RECIPIENT: USAF
DATE: August 1985
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 Emergency 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) #31 001-0.54
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 Alternate)
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) #2 001-007
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) #4 001-373
LONG TITLE:	New Hampshire Rules for the Control of Radiation
AUTHOR:	NHDES
RECIPIENT:	USAF
DATE:	April 1983
TYPE:	Guidance
SECOND REFERENCE:	None
LOCATION:	Arthur Ditto's Office

DOCUMENT NUMBER:	PEA (11.3) #5 001-C.15
LONG TITLE:	Guidance Document for the Closure of Solid Waste Landfills in New Hampshire
AUTHOR:	NHDES
RECIPIENT:	USAF
DATE:	May 1990
TYPE:	Guidance
SECOND REFERENCE:	None
LOCATION:	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
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: Initiative 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.a) #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 (115) #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

DOCUMENT NUMBER: PEA (11.5) #4 001-222
LONG TITLE: The Ecology of the Great Bay Estuary, New Hampshire and Maine: An Estuary Profile and Bibliography
AUTHOR: Jackson Estuarine Laboratory, Durham, NH
RECIPIENTS: USAF
DATE: October 1992
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
AUTHOR: Roy F. Weston, Inc.
RECIPIENT: EPA; NHDBS; 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 Lever 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 Assessment for the Pease AFB Sites -
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)