

**EPA Superfund  
Record of Decision:**

**FORT DEVENS-SUDBURY TRAINING ANNEX  
EPA ID: MAD980520670  
OU 01, 02  
SUDBURY, MA  
09/29/1995**

Text :

## DECLARATION FOR THE RECORD OF DECISION

### SITE NAME AND LOCATION

AOC A7, the Old Gravel Pit Landfill  
AOC A9, the POL Burn Area  
Fort Devens Sudbury Training Annex  
Middlesex County, Massachusetts

### STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) document presents the selected source control of contamination (AOCs) A7 and A9 at the Fort Devens Sudbury Training Annex, County, Massachusetts. This decision document was developed in accordance with the Environmental Response, Compensation, Liability Act (CERCLA) of 1980 as amended, the Superfund Amendments and Reauthorization Act of 1986 (SARA), and, to the extent applicable, the National Oil and Hazardous Substances Pollution Contingency Plan. Through the Army (Army) plans to remedy, on a permanent basis through excavation, off-site consolidation, and landfill capping, the potential threat to human health, life, and property by contaminated soil and solid waste at AOCs A7 and A9. This decision is included in the Administrative Record which has been developed in accordance with the Administrative Record Act. The Administrative Record is located at the Fort Devens Library, and at the Concord Road, in Sudbury, Massachusetts.

The State of Massachusetts Department of Environmental Protection (MADEP) is providing the remedy. A copy of the state's declaration of concurrence letter is included.

Although additional investigations to fill existing data gaps are required, preliminary management of migration (MOM) remedial alternatives have been evaluated in the Feasibility Study (FS) (OHM, 1995a). A subsequent ROD will be issued for the remedy for AOCs A7 and A9.

### ASSESSMENT OF THE SITE

Actual or threatened release of hazardous substances from AOCs A7 and A9, in implementing the SC remedy selected in this ROD, may present an imminent and substantial danger to public health, welfare, or the environment.

### DESCRIPTION OF THE SELECTED REMEDY

The selected remedy addresses SC at AOCs A7 and A9. After collection of a remedy for the groundwater operable units at AOCs A7 and A9 will be developed. Contaminated groundwater to human health is not immediate because groundwater from AOCs A7 and A9 is not currently used as a drinking water source. The remediation of the source of contamination at AOCs A7 and A9 by eliminating the presence of the landfill at AOC A& and the contaminated soils at AOC

The major components of the selected remedy for AOCs A7 and A9 include:

- Excavation and off-site treatment and disposal of laboratory waste at
- Excavation of contaminated soil from AOC A9 and consolidation at AOC
- Consolidation of contaminated soil and solid waste at AOC A7 to within landfill cap
- Construction of a Resource Conservation and Recovery Act (RCRA) Subtitle
- at AOC A7

Environmental monitoring and operation and maintenance (O&M) at AOC A7  
Institutional controls at AOC A7 to limit future site use and to rest  
Five-year reviews at AOC A7.

Excavated materials from other areas on the Annex may be used at AOC A7 for  
subgrade design specifications for the AOC A7 landfill cap. Before materials  
as subgrade material at AOC A7, the Army will have to comply with CERCLA's  
Contingency Plan (NCP) for any areas which are CERCLA sites, and determine  
consolidated is hazardous and subject to RCRA Land Disposal Restrictions (

This remedy addresses the principal threat posed by AOCs A7 and A9 by preventing  
public health, welfare, or the environment by implementation of this final  
to human health is not immediate because ground water at AOCs A7 and A9 is  
drinking water.

#### STATUTORY DETERMINATIONS

The selected remedy meets the mandates of CERCLA 121. It protects human  
complies with federal and state requirements that are legally applicable to  
remedial action, and is cost-effective. The selected remedy does not satisfy  
remedies that employ treatment that reduces toxicity, mobility, or volume  
treatment of the entire landfill area is impracticable. The selected remedy  
contaminants at AOC A7 through its containment features. Because this remedy  
remaining on site at AOC A7, a review will be conducted by the Army, the U.S.  
Agency (USEPA), and the MA DEP in five-year intervals after completion of the  
to ensure that the remedy continues to provide adequate protection of human

The method of disposal or treatment of the laboratory waste will be determined  
phase. The determination will reflect the requirements of CERCLA 120(b)(1)  
which treatment which permanently and significantly reduces the volume, of  
substances, pollutants or contaminants, as a principal element, are to be  
alternatives not involving such treatment."

The foregoing represents the selection of a final source control remedy approved  
of the Army and the U.S. Environmental Protection Agency, Region I, with the  
Massachusetts Department of Environmental Protection.

U.S. Department of the Army

By: \_\_\_\_\_  
Edward R. Nuttall

Date: \_\_\_\_\_

Title: Colonel, U.S. Army  
Commander  
Fort Devens, Massachusetts

The foregoing represents the selection of a final source control remedy approved  
of the Army and the U.S. Environmental Protection Agency, Region I, with the  
Massachusetts Department of Environmental Protection.

U.S. Environmental Protection Agency

By: \_\_\_\_\_  
Linda M. Murphy

Date: \_\_\_\_\_

Title: Director  
Waste Management Division  
U.S. Environmental Protection Agency  
Region I

DECISION SUMMARY  
SEPTEMBER 1995

I. SITE NAME, LOCATION AND DESCRIPTION

The Annex is a National Priority List (NPL) or Superfund site and is located in Massachusetts. The 4.3-square-mile Annex reservation comprises sections of Maynard, Hudson, and Stow. The reservation is divided into two irregular parcels by Road. There are currently five AOCs within the Annex that are under investigation. SC for AOC A7 (the Old Gravel Pit Landfill) and AOC A9 [the Petroleum, Burn Area], which are located on the northern boundary of the Annex overlooking the Assabet River. Annex location and the location of AOCs A7 and A9 are shown on Figure 1.

AOC A7 (Figure 2) is located along the northern boundary of the installation overlooking the Assabet River. Access is obtained by traveling north on a dirt track originating slightly overgrown and is approximately 200 feet in length. Demolition debris, shells, clay targets, and other solid waste is scattered across much of the site. The area is cleared of vegetation, while the peripheral areas are heavily vegetated. A steep dipping slope on the northern boundary of the area overlooking the Assabet River is visible on, and protruding from, the slope. A small section of property lies within the 100-year floodplain, but the landfill extent is a small area. Prior to enclosing the area with a security fence in October 1991, unauthorized recreational activities such as shooting, hunting, and dirt biking, and as a stream east of the area flows north towards the Assabet River.

A surface dump with discarded furniture and debris is located at the east end of the site, approximately 100 feet north of Patrol Road. Previously referred to as Stump Dump, this dump was reported as a possible transformer disposal site. SA P8 is considered included in the AOC A7 investigation.

AOC A9 is level, nearly square, and covers approximately 7 acres. The area is enclosed by a fence and a berm. Tall grasses, shrubs, and small pine trees cover the majority of the area. The removal area within AOC A9 shows signs of vegetation stress. The area is bordered by Road, and on the east, north, and west by forest. The north side of AOC A9 is bordered by Road and the Assabet River.

Building T401 is one of two structures remaining on the site and is located in the southeast corner. Building T402 is also located in the southeast corner and was reportedly used to store mannequins used for fireproof clothing burn tests. A fireproof clothing facility is located near the center of the cleared portion of the area. The building has walls, has an asphalt base, and is bounded on the north by a large, freestanding structure with doors.

A fenced-in area with a metal shed (SA P12) previously stood to the east of the site. It was placed on a concrete slab, and was surrounded on four sides and top by a pump apparatus for an underground storage tank (UST). The shed and fence are located on the east side of the site.

OHM Remediation Services Corp. (OHM), a wholly owned subsidiary of OHM Co., Inc., performed the UST removal performed by Atec Assoc., Inc., an Army contractor. SA P1 is located on the east side of AOC A9.

A more complete discussion of the past site histories of AOCs A7 and A9 ca 4.1, respectively, of the Draft Final Addendum to the Final Site/Remedial the Annex (OHM, 1995b).

## II. SITE HISTORY AND ENFORCEMENT ACTIVITIES

### A. LAND USE AND RESPONSE HISTORY

The Annex, which was originally known as the Maynard Ordnance Depot, was a Government in the early 1940s. During World War II, the Annex was used for after the war it became known as the Maynard Ordnance Test Station. In 19 transferred to the Natick Research and Development Command. At that time, reservation was troop training, but testing and experiments were also conducted (1958-1982), the Annex was utilized by other agencies or operators for a variety of training, and waste disposal. In 1982, custody of the entire Annex was transferred 17 miles northwest of Sudbury in the Town of Ayer. Fort Devens used the area for training active duty, Army Reserve, and Army and Air National Guard personnel. remains a part of Fort Devens but portions of the site are used for military Geophysical Radar Station, and the Region I Office of Federal Emergency Management

AOC A7, the Old Gravel Pit Landfill, was used as a dumping and burial ground for demolition debris, drums, and laboratory waste from 1941 to the mid-1980s. laboratory waste was reportedly carried out between the late 1950s and 197 site was used by the general public for unauthorized surface dumping during restricted. Barriers were removed during the Dames & Moore remedial investigation was re-initiated until the physical barriers were reconstructed.

AOC A9, the POL Burn Area, was used for product testing, and was made available and the Massachusetts Fire Fighting Academy (MFFA) for fire prevention training used the area for flame-retardant clothing tests, and the Massachusetts State destruction of confiscated fireworks. The area is not currently used, but photographs show that prior to that time the area was used for agricultural

Fire fighting training conducted by the MFFA in AOC A9 involved the use of approximately 20 feet by 20 feet by no more than 2 feet deep, with a 1-to of soil and cinder blocks. The bottom of the pit was unlined, and the sides blocks. During fire fighting training, the pits were filled with approximately with fuel oil, and ignited. When fuel oil costs began to rise, JP-4 jet fuel with MADEP permission and was used in place of the fuel oil. The second phase of two trenches, 18 to 24 inches wide, approximately 24 inches deep, and 1 of a "T." The trenches were unlined and used for fire suppression/flashback backfilled and replaced with a "Z" configuration in the same area.

POL-contaminated soils were excavated and removed from the area of the for September 1987 and January 1988 by Zecco, Inc. Approximately 1,123 cubic transported to a hazardous waste disposal facility. The depth of excavation to be 26 feet, approximately the top of ground water. The excavations were unknown location on the Annex. The material was staged in the POL area until and was not certified as clean.

A more complete discussion of the past site histories of AOCs A7 and A9 ca 4.1, respectively, of the SI/RI Report.

### B. ENFORCEMENT HISTORY

In 1978, the Department of Defense established the Installation Restoration investigate, and clean up contamination resulting from the use, handling,

substances at federal facilities. Environmental investigations were started in order to address the environmental impact from past land uses.

Under the program, the Army conducted a site assessment which consisted of a search. The site assessment report indicated that certain portions of the site were contaminated. Following the site assessment, the Army conducted an RI/FS Report by Dames & Moore (Dames & Moore, 1986). Prior to the final public USEPA Region I, Waste Management Division, contracted NUS Corporation of Boston to conduct a Site Investigation (SI) of the Annex. On May 26, 1987, NUS Corporation reported on the Annex for USEPA Region I. In June of 1985, a Preliminary Assessment was also conducted for USEPA Region I by an NUS Corporation Field investigation which included a review of Dames & Moore's final draft RI/FS report. As a result, the Annex was placed on the NPL on February 21, 1990.

Investigation and cleanup activities at the Annex are governed by an Interim Federal Facility Agreement (FFA). The FFA for the Annex is a two-party agreement between the Army and the USEPA and was signed on November 15, 1991. Under the FFA, the Army is responsible for carrying out all work required in accordance with the requirements of the FFA and the USEPA oversight.

### III. COMMUNITY PARTICIPATION

Under the LAG, the Army established a Technical Review Committee (TRC) to manage and promote public participation through quarterly public information meetings. The membership consists of representatives from the U.S. Army Environmental Center, the Environmental Management Office, USEPA Region I, MADEP, and the U.S. Fish and Wildlife Service as well as local officials and interest groups, specifically Four Town Family of Sites. This organization is also known as FOCUS.

Throughout the investigations, the community has been involved in all activities. The community and other interested parties are apprised of these activities through newsletters, press releases, public meetings, and site tours.

From 1990 through 1991, the Army held several informational meetings to develop the cleanup process. During December 1991, the Army released a community relations plan to address community concerns and keep citizens informed about and involved in cleanup activities. The community has been continuously kept informed regarding the RI/FS through quarterly TRC meetings.

On June 1, 1995, the Army submitted the Final Proposed Plan (OHM, 1995c) to the Environmental Protection Agency. The Army published a notice announcing a public meeting to discuss the Proposed Plan in several local newspapers on June 7 and June 8, 1995. The public was invited to the Goodnow Library in Sudbury, Randall Library in Stow, the Maynard Library, and the Davis Library at Fort Devens.

On June 14, 1995, the Army and USEPA held an informational meeting to discuss AOCs A7 and A9, the cleanup alternatives presented in the FS, and to present the Proposed Plan. Immediately following this meeting, the Army held a public hearing to accept comments on the Proposed Plan. From June 5 to July 5, 1995, the Army held a 30-day public comment period. Written comments on the alternatives presented in the FS Report, the Proposed Plan, and documents previously released to the public. A transcript of the public meeting is included in the Responsiveness Summary in Appendix B.

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

The selected remedy for AOCs A7 and A9 is a source control (SC) alternative to address the potential risks to human health and the environment posed by existing site conditions. The SC measure is intended to be the permanent SC measure for AOCs A7 and A9. The SC action

implementation of a future MOM remedy to address ground water contamination. The MOM remedy will be addressed in the future in a separate ROD after add

In summary, the selected remedy involves capping the landfill area at AOC to landfill materials, and to minimize infiltration of precipitation, thereby and minimizing possible resultant impacts to ground water quality and the alternative includes removal of hazardous laboratory waste at AOC A7 following disposal, and removal of contaminated soil within AOCs A7 and A9, and capping. Exposures to landfill materials and hotspots would be limited by installing a RCRA Subtitle C multi-layer cap, and by using institutional controls to site access. The cap would also direct precipitation runoff away from landfill barrier to infiltration. Following construction of the landfill cap at AOC, water monitoring, O&M, and five-year reviews as part of the selected remedy.

## V. SUMMARY OF SITE CHARACTERISTICS

Chapter 1.0 of the FS Report contains an overview of the RI. The significant findings are summarized below.

### Results of RI of AOCs A7 and A9

RI's were performed to assess the nature and extent of contamination at AOC. The following summarizes field activities for the RI that included the collection and analysis of

water, sediment, and solid waste samples. Most of the samples collected and analyzed for Target Compound List volatile organic compounds (VOCs), base/nitroaromatics (BNAs), polychlorinated biphenyls (PCBs), and pesticides; Target Analyte List explosives. For a detailed assessment of AOCs A7 and A9, refer to the Addendum which is included in the Administrative Record and Information Repository.

**Nature and Extent of Contamination:** This section summarizes the nature and extent of contamination at AOCs A7 and A9. The contaminants identified in this section have been detected in excess of either maximum background values, State and Federal standards, or

In AOC A7, 14 surface soil samples were analyzed for VOCs, BNAs, PCBs, pesticides, herbicides, explosives, and metals. BNAs were detected at two locations, AOC A7. The pesticides, dieldrin, dichlorodiphenylethane (DDE), and dichlorodiphenyldichloroethane (DDT) were detected at several sample locations. The PCB, Aroclor 1260, was detected at one location. Two herbicides, silvex and dacthal, were also found. Lead was detected at a concentration greater than a standard.

Subsurface soil samples were collected from 19 test pits, 27 borings, and 10 of the pesticides and BNAs found in surface soil samples were also detected. Pesticides detected included dichlorodiphenyldichloroethane (DDD), DDE, DDT, heptachlor epoxide, and chlordane.

Test pitting, soil boring, and visual observation were used to estimate the size of the landfill, SA P8, and the laboratory waste disposal area. The landfill area is 11,000 cubic yards. SA P8 (along with visually-contaminated surrounding area) is 2,235 cubic yards. The buried laboratory debris area is estimated to be 2,235 cubic yards. A plan view of these areas is presented on Figure 2.

Thirty ground water samples were collected from ten monitoring wells in AOC. Tetrachloroethylene or perchloroethylene, 1,1,2,2-tetrachloroethane or perchloroethane, and chloroform, along with the pesticide lindane, were detected at concentrations above water standards. These exceedances were limited to three wells, OHM-A7-8, OHM-A7-46. Lead was also detected at a concentration above its drinking water standard in samples collected from monitoring well OHM-A7-12.

Surface water and sediment samples were collected from the unnamed stream landfill to assess whether contaminants from the site had entered the stream that the site is not contaminating the stream. Arsenic concentrations in freshwater chronic Ambient Water Quality Criteria (AWQC), but exceeded the Arsenic, barium, nickel, and selenium were detected in sediment samples at levels.

The behavior of the contaminants in AOC A7 depends on both the chemical environment. Contaminants have been in place at AOC A7 for over 20 years influenced by the environmental weathering that has occurred over that time that VOCs will be present in surface soils because these compounds will either be in the atmosphere or leach downward with infiltrating water. Pesticides and metals may be more tightly bound than freshly applied chemicals. Overburden in the

fairly low permeability tills. Water and chemicals will move fairly readily through the characteristics of the till will serve to limit the flow of water, and contaminants. However, some migration of chemicals with ground water is occurring.

In AOC A9, 11 surface soil samples were analyzed for VOCs, BNAs, PCBs, pesticides, and metals. VOCs, BNAs, and pesticides were all detected at concentrations above their standards, and lead, and thallium concentrations exceeded their standards at several locations.

Forty-six subsurface soil samples were collected from AOC A9 during the RI investigation. An inorganic contaminant present at concentrations above its standard. Elevated concentrations were limited to an area outside of the southwest corner of AOC A9 and were confined to a small area. However, results from preliminary field screening of SA P9 (which is located in the fenced area of AOC A9) indicate that arsenic is present in the soil starting at the fence line of AOC A9 (outside the fence) and continuing downgradient to SA P9. This large area of contamination is probably not related to AOC A9, and has been attributed to arsenic-based herbicides along the security perimeter and former railroad.

Twenty-five ground water samples were collected from 15 monitoring wells. The data indicate that VOCs, BNAs, and lead are present at concentrations above their standards. Explosive residues were found at one sampling location. There are no drinking water quality concerns detected.

The transformation of the chemicals present in AOC A9 depends on both the chemical and physical environment. Chemicals have been in place at AOC A9 for many years and their behavior is influenced by the environmental weathering that is likely to have occurred over time. Chlorinated VOCs have been detected in the ground water, some of these compounds are degradation products of other chlorinated VOCs. The soils in the area are generally sandy (and some fill) at the surface, grading to much finer materials with depth. Contaminants move fairly readily through the surface material, but the characteristics of the flow at deeper levels and consequently the migration of associated contaminants are more complex.

A complete discussion of site characteristics can be found in Chapters 3.0 through 5.0 of the SI/RI Report.

## VI. SUMMARY OF SITE RISKS

A Baseline Risk Assessment was performed to estimate the probability and magnitude of human health and environmental effects from exposure to contaminants associated with the site. The public health risk assessment followed a four step process: 1) to identify those hazardous substances which, given the specific conditions of the site, could pose a risk; 2) to conduct an exposure assessment, which identified actual or potential exposure pathways, exposed populations, and determined the extent of possible exposure; 3) to conduct a toxicity assessment, which considered the types and magnitude of adverse health effects associated with the exposure to the identified substances; and 4) to integrate the results of the exposure and toxicity assessments to estimate the overall risk to human health and the environment.



substances, and 4) risk characterization, which integrated the three earlier and actual risks posed by hazardous substances at the site, including carcinogenic risks. Except for chemicals that are obviously not site-related (e.g., lead and asbestos), all chemicals were considered in the risk assessment. The results of the public health risk assessment are discussed below followed by the conclusions of the environmental health risk assessment.

## Human Health Risk Assessment

A Human Health Risk Assessment (HHRA) was prepared in January 1994 for the sampling and analysis was conducted in AOCs A7 and A9 following completion of the addendum to the HHRA was also prepared. The purpose of the HHRA addendum was to determine if they affected the findings of the original HHRA. Based on the addendum, the results of the HHRA were not materially affected. The HHRA is included as Appendix C to the SI/RI Report. The primary objectives of the HHRA include:

- Examine exposure pathways and contaminant concentrations in soil and groundwater;
- Estimate the potential for adverse effects associated with the contaminants under current and future land use conditions;
- Identify site or land use conditions that present unacceptable risks; and
- Provide a risk assessment basis on which decisions can be made and from which recommendations for future activities which are protective of human health can be developed.

The HHRA estimated present and future potential risks to human health posed by soil, based on conditions as described in the SI/RI Report. The HHRA addressed AOCs A7 and A9 as they currently exist, and under a scenario that assumes future. Under current conditions, the greatest potential exposure is associated with school age children who were assumed to be exposed for a 10-year period. (b) Exposure under current use conditions is most likely to occur via direct contact ingestion or dermal absorption of, chemicals in site soils.

If sections of the Annex are exceeded (sold by the military), future use could be affected. Because this scenario posed the highest future use exposure potential, results were evaluated to estimate maximum risks. Under this scenario, exposure could be (reasonable maximum estimate of the time and individual remains in the same area with soils and sediment (ingestion or dermal absorption), use of on-site groundwater by consumption of fish.

Risks were assessed using USEPA Region I guidance (USEPA, 1991a), which considers the maximum concentrations of chemicals in different environmental media at AOCs. Maximum concentrations represent exposure associated with repeated contact with portions of the Annex. The average concentration assumes an individual receives exposure from a wider distribution of sources. USEPA uses a target excess cancer risk goal of  $10^{-6}$  to  $10^{-4}$  for exposure to carcinogenic substances, and typically regulates within a range of  $10^{-6}$  to  $10^{-4}$ .

For noncarcinogens, USEPA assumes adverse health effects are unlikely if the Hazard Quotient is lower than the reference toxicity criteria [called the reference dose (RfD) or the Hazard Quotient, and the sum of these ratios for multiple chemicals is the Hazard Index (HI)]. An HI over 1.0 means that adverse non-cancer effects could result from contact with a particular chemical of concern.

To ensure public health is adequately protected, conservative (unlikely to be exceeded) values were used in deriving both the exposure estimate and the toxicity values. Based on conservative assumptions, it is likely that actual risks are considerably lower than those estimated.

report.

For a complete explanation of risks posed by contamination at the Annex, p Addendum presented in the Addendum to the SI/RI Report. The Addendum to t the Administrative Record and is also included in the Information Reposito

Health Risks Associated With AOC A7: Risks associated with current and fu are as follows:

Current Use - Soil Ingestion

	Average	Maximum
HI	0.09	0.9
Cancer Risk	$3 \times 10^{-6}$	$3 \times 10^{-5}$

Fucure Use (Residential - Includes Soil and Sedimem Ingestion and Groun

	Average	Maximum
HI	0.2	1
Cancer Risk	$7 \times 10^{-5}$	$5 \times 10^{-4}$

Exposure to lead at AOC A7 was evaluated separately using USEPA's Uptake/B Results from the model were compared with an USEPA blood action level of 1 model, lead does not pose a health risk in AOC A7.

Much of the risk estimated for AOC A7 is associated with the presence of h contamination) and contaminated ground water. For risks of the magnitude require frequent contact with these spots. Because frequent contact is un excavated and removed from AOC A7, actual future risks are probably substa estimates that are based on maximum exposure point concentrations.

Laboratory waste buried in the west-central portion of the site consists o chemicals. Hazards posed by this material are undefined but potentially s associated with leaching of materials from the site to the river and conta occurs in the area. Consequently, action to address this potential hazard exceedance in cancer risk under the future use scenario, action at AOC A7

Health Risk Associated With AOC A9: Risks associated with current and fut are as follows:

Current Use - Soil Ingestion

	Average	Maximum
HI	0.03	0.1
Cancer Risk	$2 \times 10^{-6}$	$7 \times 10^{-6}$

Future Use (Residential - Includes Soil and Sediment Ingestion and Groun

	Average	Maximum
HI	1	10
Cancer Risk	$6 \times 10^{-5}$	$2 \times 10^{-4}$

Much of the risk estimated for AOC A9 is associated with the presence of s levels of arsenic and thallium. For risks of the magnitude estimated abov contact with these points. Because frequent contact is unlikely and the h removed from AOC A9, actual future risks are probably substantially lower maximum exposure point concentrations. However, removal of soil contaмина is warranted because cancer risk number and HI, respectively, exceed accep

land use scenario.

Exposure to lead at AOC A9 was evaluated separately using USEPA's UBK Mode model were compared with an USEPA blood action level of 10 µg/dl. Based on not pose a health risk in AOC A9.

#### Supplemental Ecological Risk Assessment

A supplemental ecological risk assessment was conducted as part of the Addendum to determine whether risk estimates from the January 1994 risk assessment required specifically evaluate ecological risk in AOCs A7 and A9. For a complete explanation please refer to Appendix C of the Addendum to the SI/RI Report. A summary follows.

Results of investigation at the Annex reveal a complex area containing several. In AOCs A7 and A9, chemicals of concern for ecological receptors can be seen.

Chemicals present in AOCs A7 and A9 ground water that may pose a risk to receptors in the Assabet River;

Organochlorine pesticides, metals, and polynuclear aromatic hydrocarbon soils that may pose a risk to terrestrial wildlife (these chemicals are AOCs, and are not widely distributed); and,

Metals present at elevated concentrations in sediments in the intermittent AOC A7; these chemicals may pose a risk to aquatic organisms.

Ecological Risks Associated with AOC A7: Soil contaminants at AOC A7 include lindane and chlordane. These contaminants exist at several hotspots, with most on the south portion of the site. There is no visual evidence of ecological damage at the site. An explanation of risks posed by contamination at AOC A7, please refer to the assessment presented in Appendix C of the Addendum to the SI/RI Report. A ground water plume is associated with a ground water plume originating from the site and possibly migrating to the Assabet River. Elevated levels of lindane were found in ground water. Results of the ecological risk assessment indicate the Assabet River is unlikely to adversely affect aquatic organisms. The assessment is unlikely to pose an adverse risk to terrestrial wildlife. Biological monitoring on the south side of AOC A7 showed no impairment attributable to site contaminants.

## VII. DEVELOPMENT AND SCREENING OF ALTERNATIVES

### A. STATUTORY REQUIREMENTS/RESPONSE OBJECTIVES

Under its legal authorities, the Army's primary responsibility at Superfund sites is to take actions that are protective of human health and the environment. In addition, the Army establishes several other statutory requirements and preferences, including that remedial action when complete, must comply with all federal and more stringent standards, requirements, criteria or limitations, unless a waiver is invoked. The Army selects a remedial action that is cost-effective and that utilizes permanent technologies or resource recovery technologies to the maximum extent practicable. Remedies in which treatment which permanency and significantly reduces the concentration of the hazardous substances is a principal element over remedies not involving treatment. Alternatives were developed to be consistent with these Congressional mandates.

Based on preliminary information relating to types of contaminants, environmental potential exposure pathways, remedial action objectives (RAOs) were developed and screening of alternatives. These RAOs were developed to mitigate exposure to public health and the environment. For AOC A7, the primary RAOs are:

Eliminate potential risk to human health and the environment associated with contaminated wastes  
Minimize off-site migration of contaminants; and,  
Limit infiltration of precipitation to the underlying waste with minimizing leachate generation and ground water degradation.

For AOC A9, the primary RAO is:

Reduce potential risk to human health associated with exposure to

#### B. TECHNOLOGY AND ALTERNATIVE DEVELOPMENT AND SCREENING

CERCLA and the NCP set forth the process by which remedial actions are evaluated in accordance with these requirements, a range of alternatives were developed

The FS for AOCs A7 and A9 identified and analyzed the SC and MOM alternative for ground water contamination, respectively. However, during the evaluation additional ground water data were needed to be collected prior to selecting AOCs. Further, based on the potential risks to human health and the environmental conditions, and the proximity to the Assabet River, stabilization of site C was determined to be of high priority. Because AOC A7 contains a landfill for which alternatives are impracticable due to implementability and cost, a remedial action plan was developed and provide SC was determined to be appropriate. The MOM remedial action plan will be developed after additional data is gathered.

With respect to SC, the FS developed a range of alternatives--from one that to the extent feasible, the need for long-term management (including monitoring, excavation and off-site disposal) to one that would employ treatment as a

solidification/stabilization). The range also included alternatives that minimal or no treatment but protecting human health and the environment by and/or reducing the mobility of contaminants, and the no-action alternative.

#### VIII. DESCRIPTION OF ALTERNATIVES

This section provides a narrative summary of each SC alternative evaluated. A detailed assessment of each alternative can be found in Section 4.0 of the

##### AOC A7 Remedial Alternatives

The Army considered three remedial alternatives to address SC at AOC A7. They are described below. A detailed presentation and analysis of the alternatives are in the FS.

**Alternative 1 - No Action:** This alternative was evaluated in the FS to see if it was feasible compared to other alternatives under consideration. Under this alternative, no construction or land use restrictions would be used.

**Alternative 2 - Laboratory Waste Excavation and Off-Site Disposal, Contain Landfill Cap:** Alternative 2 consists of excavation of buried laboratory waste at AOC A7, with off-site treatment and disposal of this waste, and construction of a cap to contain the remaining contaminants. During excavation and transport of all federal and state requirements pertaining to identification, handling, and disposal of hazardous wastes will be attained in this alternative.

Prior to construction of the cap, AOC A7 would be regraded to eliminate depressions to the extent practicable so that precipitation will run off instead of pooling into the landfill. This process would require excavating some solid waste

and replacing the waste closer to the center of the area to be capped. Du contaminated materials within AOC A7 will be consolidated as part of the n proposed cap. The cap would be designed to meet the requirements applicab waste landfill (RCRA Subtitle C).

Following construction, the cap and associated systems will be inspected p assure integrity and proper operation. Long-term O&M will include mainten drainage, and landfill gas control systems. Ground water and storm water will also be implemented. Five-year reviews will also be conducted.

A summary of estimated costs, time for design, construction, and operation

Estimated Time for Design and Construction: 2 years  
Estimated Time of Operation: 30 years  
Estimated Capital Cost: \$1,614,350  
Estimated O&M Costs (present worth): \$595,360  
Estimated Total Cost, Including 20% Contingency (present worth): \$2,

Alternative 3, Laboratory Waste Excavation and Off-Site Disposal, Consolid Subtitle C Landfill Cap: Alternative 3 will consist of the same primary c addition, Alternative 3 will include importation of contaminated soil from consolidation of this waste with contaminated soil from AOC A7, and final Subtitle C landfill cap. The proposed areal extent of the cap, subjects t on Figure 3. The cap will consist of multiple layers, each with a specifi design is consistent with state-of-the-art requirements for hazardous wast degree of isolation and control. As shown on Figure 4, the cap consists o from top of waste to top of finished cap):

Passive gas vent layer over existing waste, if necessary, based on vent and/or control landfill gases generated in the landfill;  
Lower very low permeability barrier, consisting of a geosynthetic c layer of bentonite clay sandwiched between an upper and lower geote  
Upper impermeable barrier, consisting of a synthetic membrane, to s percolating water;  
Drainage layer, consisting of a geonet, to divert precipitation tha surficial vegetative and protective layer off of and away from the and,  
Vegetative and protective layer, approximately 24 inches thick and topsoil, to protect underlying cap components and control erosion b medium for vegetative growth.

Landfill gas controls, such as passive gas vents or extraction wells, will landfill gases generated beneath the cap, thereby preventing accumulation potential disruption of cap integrity.

The cap and drainage system would be connected to a system of drainage swa control run-on and run-off. Along the north side of the landfill, facing engineering controls would be utilized to protect landfill materials and t damage from erosion. The slope will be regraded and, if necessary, a reve installed along this north slope to provide additional protection against to the area would be further restricted by the existing fence along the pe O&M, ground water monitoring, and five-year reviews will be implemented.

A summary of estimated costs, time for design, construction, and operation

Estimated Time for Design and Construction: 2 years  
Estimated Time of Operation: 30 years  
Estimated Capital Cost: \$1,614,700

Estimated O&M Costs (present worth): \$595,360  
Estimated Total Cost Including 20% Contingency (present worth): \$2

#### AOC A9 Remedial Alternatives

Alternative 1 - No Action: This alternative was evaluated in the FS to see to other alternatives under consideration. Under this alternative, no land use restrictions would be used.

Alternative 2 - Limited Action: Alternative 2 is a limited action consist deed restrictions. A fence would be installed around each of the two cont The fencing would consist of a 6-foot-high, gated, chain-link fence topped wire. Warning signs would be mounted on the fence. Deed restrictions wou residential development or recreational use. Monitoring would be performe 30 years.

A summary of estimated costs, time for design, construction, and operation

Estimated Time for Design and Construction: 3 months  
Estimated Time of Operation: 30 years  
Estimated Capital Cost: 15,730  
Estimated O&M Costs (present worth): \$462,280  
Estimated Total Cost, Including 20% Contingency (present worth): \$

Alternative 3 - Off-Site Disposal: Alternative 3 involves the excavation contaminated above the risk-based cleanup levels for arsenic and thallium, facility for final treatment and disposal. Soil from AOC A9 is not expect characteristic [by Toxicity Characteristic Leaching Procedure (TCLP) Test] beryllium. or thallium, based on the relatively low levels of these conta strong adsorption properties. Because the lack of toxicity has not been c disposal costs for both hazardous and non-hazardous soil. If soil is non-disposal at a non-hazardous waste (RCRA Subtitle D) facility. If soil exh aforementioned contaminants, it will require treatment using solidificatio followed by disposal at a hazardous waste (RCRA Subtitle C) facility. Whe borrow material from the Annex will be placed within the excavated area. cover will be placed on top of the fill to support vegetation.

For soil which is hazardous:

- Estimated Time for Design and Construction: 3 months
- Estimated Tirne of Operation: 30 years
- Estimated Capital Cost: \$61,360
- Estimated O&M Costs (present worth): \$25,020
- Estimated Total Cost, Including 20% Contingency (present worth):

For soil which is non-hazardous:

- Estimated Time for Design and Construction: 3 months
- Estimated Time of Operation: 30 years
- Estimated Capital Cost: \$41,010
- Estimated O&M Costs (present worth): \$25,020
- Estimated Total Cost, including 20% Contingency (present worth):

Alternative 4, Off-Site Disposal at AOC A7: This alternative involves exc contaminated soil at AOC A9 within the fenced area. This contaminated soi hazardous and will be transported to AOC A7, approximately 1/4 mile away. beneath a 2-acre RCRA Subtitle C multi-layer cap along with contaminated s

Soil from AOC A9 is not expected to exhibit a hazardous toxicity character lead, arsenic, beryllium, or thallium based on the relatively low levels of relatively strong adsorption properties. However, the lack of toxicity has as a result of testing, soil is found to be hazardous, it will be transported to the Subtitle C) facility for treatment and disposal. When soil excavation is complete the Annex will be placed within the excavated area. A minimum of 6 inches of fill on top of the fill to support vegetation.

A summary of estimated costs, time for design, construction, and operation

Estimated Time for Design and Construction: 3 months  
Estimated Time of Operation: 30 years  
Estimated Capital Cost: \$26,870  
Estimated O&M Costs (present worth): \$25,020  
Estimated Total Cost, Including 20% Contingency (present worth): \$

Alternative 5 - Solidification/Stabilization: Alternative 5 involves the consolidation on site, and addition of solidification/stabilization agents. Soil will be excavated from two locations. These two small hotspots of soil levels of arsenic, lead, beryllium, and thallium would be transported to the treatment process. Pozzolan/Portland cement would be placed in the mixing cement and soils would then be mixed using a backhoe. After hardening, the relatively impermeable monolith. Treated soil would be cured within the cement material would remain on site. The consolidation and treatment area will be topsoiled and seeded. Monitoring would be performed at regular intervals for

A summary of estimated costs, time for design, construction, and operation

Estimated Time for Design and Construction: 6 months  
Estimated Time of Operation: 30 years  
Estimated Capital Cost: \$53,925  
Estimated O&M Costs (present worth): \$347,730  
Estimated Total Cost, Including 20% Contingency (present worth): \$

Solidification/stabilization has been shown to be effective for immobilizing. However, a treatability study is proposed for Alternative 5 to account for site conditions.

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

Section 121(b)(1) of CERCLA presents several factors that, at a minimum, are used in its assessment of alternatives. Building upon these specific statutory evaluation criteria to be used in assessing the individual remedial alternatives

A detailed analysis was performed on the alternatives using the nine evaluation criteria for a site remedy. The following is a summary of the comparison of each alternative with respect to the nine evaluation criteria. These criteria are summarized

#### Threshold Criteria

The two threshold criteria described below must be met in order for the alternative to be selected in accordance with the NCP.

1. Overall protection of human health and the environment addressed. The alternative provides adequate protection and describes how risks posed through

- reduced or controlled through treatment, engineering controls,
2. Compliance with applicable or relevant and appropriate requirements whether or not a remedy will meet all of the ARARs of other Federal laws and/or provide grounds for invoking a waiver.

#### Primary Balancing Criteria

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

3. Long-term effectiveness and permanence addresses the criteria for alternatives for the long-term effectiveness and permanence the certainty that they will prove successful.
4. Reduction of toxicity, mobility, or volume through treatment and alternatives employ recycling or treatment that reduces toxicity how treatment is used to address the principal threats posed by
5. Short-term effectiveness addresses the period of time needed to adverse impacts on human health and the environment that may be and implementation period, until cleanup goals are achieved.
6. Implementability addresses the technical and administrative feasibility the availability of materials and services needed to implement
7. Cost includes estimated capital and O&M costs, as well as present

#### Modifying Criteria

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

8. State acceptance addresses the State's position and key concerns alternative and other alternatives, and the State's comments on waivers.
9. Community acceptance addresses the public's general response to the Proposed Plan and RI/FS Reports.

A detailed assessment of each alternative according to the nine criteria is in the FS Report.

Following the detailed analysis of each individual alternative, a comparative relative performance of each alternative against the nine criteria, was completed for the threshold criteria and the primary balancing criteria can be found in the FS Report for AOC A7 and AOC A9, respectively.

The section below presents the nine criteria and a brief narrative summary of strengths and weaknesses according to the detailed and comparative analysis. The discussion integrates alternatives for AOCs A7 and A9 because the preferred alternative moved contaminated soils from AOC A9 into AOC A7. A detailed assessment of each is in the FS Report.

#### Overall Protection of Human Health and the Environment

The preferred alternative (Alternative 3 for AOC A7 combined with Alternative 4 for AOC A9) provides the maximum protection of human health and the environment. Protection is provided by



which is presumed to be hazardous. It also provides protection against exposure through the placement of a physical barrier over them. The preferred alternative is a multi-layer landfill cap, which stringently controls infiltration and leachate generation. The cap is designed to prevent surficial leachate seepage.

Off-site disposal of contaminated soils (Alternative 2 for AOC A7, and Alternative 3 for AOC A9) is similar to the preferred alternatives, except that contaminated soil from off-site disposal alternatives are equally effective as the preferred alternatives, since the same technology is employed. Effective containment provides overall protection by preventing direct contact, ingestion, and inhalation.

The No Action alternative (Alternative 1 for both AOCs A7 and A9) would not be entirely protective. It is not considered protective because it provides no reduction in exposure pathways.

The limited action alternative for the AOC A9, Alternative 2, provides a degree of protection to human health and the environment by utilizing institutional controls to limit site access. However, it would not be as effective in the long term as the excavation and removal alternatives.

Alternative 5 (AOC A9) involves encapsulation of soil contaminants in a cement matrix to remain on site. This process is considered equally effective to the preferred alternatives for protecting human health and the environment.

#### Compliance with ARARs

Compliance with State and Federal ARARs pertaining to hazardous waste and site closure at AOC A7 would be achieved under the preferred alternative only. Laboratory waste disposal areas will comply with action-specific off-site ARARs. At AOC A7, a no-action alternative would not meet landfill closure requirements.

At AOC A9, Alternatives 3 and 4 (the preferred alternative), will comply with disposal requirements for the material excavated from the hotspots. Since the material remains on site after stabilization in Alternative 5 at AOC A9, an action-specific vadose zone monitoring would have to be implemented.

#### Long-Term Effectiveness and Permanence

At AOC A7, the preferred alternative involves excavation and off-site disposal of wastes, and placement of a cap over the landfill area and all contaminated areas. The preferred alternative provides an effective method of long-term containment and debris removal. However, the effectiveness of containment is dependent on adequate maintenance of the landfill cap. The preferred alternative is distinct from Alternative 2 because the soil from AOC A9 is beneath the cap. At both AOCs, the No Action alternative is not effective because of the continuous potential for contaminant migration of contaminants.

At AOC A9, Alternative 2, the Limited Action alternative, provides a moderate level of protection by preventing direct contact exposure to contaminated soils. Alternative 3, the Preferred Alternative, is permanent for the site. Alternative 5, solidification/stabilization, is a proven treatment for contaminants; however, a treatability study and a long-term monitoring program would be required to determine effectiveness.

#### Reduction of Toxicity, Mobility, or Volume Through Treatment

None of the alternatives at AOC A7 involve treatment or destruction. The preferred alternative provides the greatest reduction in potential mobility of site-related contaminants by minimizing infiltration and subsequent leaching of contaminants from wastes.

ground water, as well as erosion of surficial contamination and the potential through the side slope of the cap. Alternative 2 at AOC A7 is similar to that soil from AOC A9 is not placed beneath the cap. There is no reduction associated with Alternative 1, the No Action alternative, at either AOC A7

At AOC A9, Alternatives 1 and 2, the No Action and Limited Action alternatives in toxicity, mobility, or volume. Alternative 3 does reduce toxicity, mobility, and volume of contaminants by removing contaminated soil from the Annex. Alternative 5, reduces both the toxicity and mobility of inorganic contaminants, but the concentrations remain unchanged.

#### Short-Term Effectiveness

At AOC A7, the SC alternatives (Alternatives 2 and 3, the preferred alternatives for short term. Because of the potential for release of contaminants during the engineering precautions would be taken to lessen the potential for contamination short-term protection of workers and area residents.

At both AOCs A7 and A9, the No Action alternatives (Alternative 1) at both AOCs require remedial workers or the community because there is no remedial action; however, effectiveness because of the continuous potential for contaminant migration.

Alternatives 3 and 4, or excavation and transport (Alternatives 3 and 4), or excavation would require engineering precautions to prevent or minimize short-term exposure to contaminants. Alternative 5 requires addition of alkaline materials to counteract acidity, which increases the likelihood of injury or dust exposure.

#### Implementability

At both AOCs A7 and A9, the No Action alternative (Alternative 1) is easily implementable because no remedial action is required. At AOC A7, Alternatives 2 and 3, which involve construction of a cap, are equal in implementability, although placement of the geomembrane requires additional labor.

At AOC A9, Alternative 2 is easily implementable because it only involves excavation and disposal either off site or at AOC A7, which is easily implementable. Alternative 5, soil solidification, is a proven technology both technically and administratively.

#### Cost

The Costs of an alternative include the capital cost of implementing an alternative over a 30-year period. The total cost of a remedial action is expressed as the sum of construction and O&M costs. The estimated costs of the alternatives increase with the sophistication of the remedial action, from the No Action alternative to the alternatives that involve construction of a multi-layer cap. The preferred alternative (Alternative 2) is the least costly among the alternatives evaluated, excluding the No Action Alternative.

#### State Acceptance

State acceptance addresses whether, based on its review of the Addendum to the Proposed Plan, the State concurs with, opposes, or has no comment on the proposed remedy for AOCs A7 and A9. The State has reviewed the Proposed Plan and the Army has taken the State's comments into account. The State concurs with the proposed remedy for AOCs A7 and A9. A copy of the State's declaration of concurrence is included in Appendix E.

#### Community Acceptance

Community acceptance addresses whether the public concurs with the Army's acceptance of the Proposed Plan has been evaluated based on comments received (dated June 14, 1995) and during the public comment period. This is documented in the public meeting in Appendix B. Based on the public comments, the public is preferred remedial alternative as presented in the Proposed Plan.

#### X. THE SELECTED REMEDY

Based on the potential risks to human health and the environment posed by Annex, and the proximity to the Assabet River, stabilization of site conditions determined to be of high priority. Because AOC A7 contains a landfill for

alternatives are impracticable due to implementability or cost, a remedial conditions and provide SC was determined to be appropriate. This approach term cleanup goals at the Annex and is supported by the expectations of the in the NCP, 40 CFR 300.430(a)(1). The NCP indicates that the principal that be treated wherever practicable (such as in the remediation of a hotspot) as containment, are appropriate for waste that poses a relatively low long is impracticable.

#### A. CLEANUP LEVELS

To meet the RAOs identified in Section VII. the Army proposes to conduct SC and stabilize existing site conditions. For the laboratory waste at AOC were developed since the waste will be excavated and transported off site

For the contaminated soil at AOC A9, the Army has established a cleanup level (ppm) for arsenic and 20 ppm for the thallium. These cleanup levels are based on public health and the environment. A letter from USEPA dated May 19, 1995, developed the risk-based cleanup level for thallium (USEPA, 1995). C will be developed as appropriate within the MOM operable unit for AOCs A7 and A9

#### B. DESCRIPTION OF THE REMEDIAL COMPONENTS

The Army's preferred SC alternative (Alternatives 3 and 4 for AOCs A7 and A9 in the FS) is summarized as follows. The selected alternative involves is to minimize direct exposure to landfill materials and infiltration of precipitation of leachate and impacts to ground water quality and the Assabet River. The alternative for eliminating any future direct contact to contaminated soils at AOC A9. The alternative for AOCs A7 and A9 are described below.

#### PREFERRED ALTERNATIVE SUMMARY

- Site Preparation and Grading
- Excavation and Off-Site Treatment and Disposal of Laboratory Waste
- Excavation of Contaminated Soil from AOC A9 and Consolidation at AOC A7
- Construction of RCRA Subtitle C Landfill Cap at AOC A7
- Environmental Monitoring and O&M at AOC A7
- Institutional Controls at AOC A7
- Five-Year Reviews at AOC A7

Estimated Cost to Implement:

Estimated Capital Cost:

Estimated O&M Costs (present worth):

Estimated Total Cost Including 20% Contingency (present worth)\*:

\*Cost for five-year reviews at AOC A7 only.

#### Excavation and Off-Site Treatment and Disposal of Laboratory Waste at AOC

Prior to construction of the landfill cap, laboratory waste will be excavated and treatment and disposal at an approved facility. The laboratory waste is being considered to be the primary source of ground water contamination.

The method of disposal or treatment of the laboratory waste will be determined in a later phase. The determination will reflect the requirements of CERCLA 120(b)(1) which treatment which permanently and significantly reduces the volume, toxicity, or mobility of substances, pollutants or contaminants, as a principal element, are to be considered as alternatives not involving such treatment."

#### Excavation of Contaminated Soil from AOC A9 and Consolidation at AOC A7

Prior to construction of the landfill cap, contaminated soil from AOC A9 will be consolidated at AOC A7. Excavated materials from other areas on the Annex as fill material to meet the subgrade design specifications for the AOC A7 from other sites is used as subgrade material at AOC A7, the Army will be required to comply with CERCLA and the NCP for any areas which are CERCLA sites, and determine if the consolidated area is hazardous and subject to RCRA LDRs, 40 CFR Part 268.

#### Construction of RCRA Subtitle C Landfill Cap at AOC A7

A multi-layer cap will be placed over the landfill area, as indicated on Figure 1. The final cap, contaminated soil and other solid waste at AOC A7 will be covered by the cap. The cap will cover approximately two acres and be designed in accordance with guidance (USEPA, 1991b). Site-specific factors will be evaluated in determining the design of the cap. The cap will provide a barrier to infiltration and direct precipitation runoff. The north side of the landfill, along the Assabet River at AOC A7, is very steep. Options to address the steep slope are regrading, or construction of a revetment wall. The determination of the option for the steep slope will be made during the re

#### Environmental Monitoring and O&M

Following construction of the landfill cap, the Army will conduct ground water monitoring within the containment system. The environmental monitoring program would be subject to review and approval, and will identify the sampling locations and frequencies. Operations will include inspections and, if needed, repair and/or maintenance of portions of the monitoring wells.

#### Institutional Controls

The selected alternative requires institutional controls and land use restrictions on land at AOC A7. Restrictions on land use at AOC A7 will be implemented by the Army.

#### Five-Year Reviews at AOC A7

The Army will review the conditions at AOC A7 at least once every five years. The five-year review is to ensure that the remedial action continues to protect the environment, and is functioning as designed.

## XI. STATUTORY DETERMINATIONS

The remedial action selected for implementation at AOC A7 and AOC A9 of the CERCLA and, to the extent practicable, the NCP. The selected remedy is protective of the environment, attains ARARs and is cost effective. The selected remedy regarding Superfund remedial actions, including mitigation of the principal disposal of the laboratory waste) to human health and the environment, and such as containment of contaminated soil that poses a relatively low long-term treatment is impracticable.

### A. THE SELECTED REMEDY IS PROTECTIVE OF HUMAN HEALTH AND THE ENVIRONMENT

The remedy at AOC A7 and AOC A9 of the Annex will permanently reduce the risk to human health and the environment by eliminating, reducing or controlling exposure receptors through engineering and institutional controls. Removal and off-site waste from AOC A7, construction of a RCRA Subtitle C multilayer cap over the site and removal of several hotspots from AOC A7 and AOC A9 and consolidation of waste to prevent exposure to the contaminants. The cap will also prevent infiltration of unsaturated waste materials and the resultant generation of leachate. More stringent measures will achieve potential human health risk levels that attain the  $10^{-4}$  to  $10^{-6}$  in level protective of noncarcinogenic endpoints, and will comply with To Be guidance.

### B. THE SELECTED REMEDY ATTAINS ARARS

The remedy at AOCs A7 and A9 will attain all federal and state ARARs. Where available, policies, criteria, and guidance were listed with status as TBC and A9 were identified during both the RI and FS. Appendix C presents tabulations of ARARs previously identified, including a regulatory citation, a requirement to be taken to attain the requirement. The following narrative presents a summary of their applicability to the selected combined remedy for AOCs A7 and A9.

#### Chemical-Specific ARARs

These ARARs are numerical values or procedures that, when applied to a specific site, set limits for individual chemicals or groups of chemicals. Chemical-specific or risk-based standards limiting the concentration of a chemical found in the environment.

AOC A7: There are no chemical-specific ARARs for AOC A7 for this SC ROD site covered with a landfill cap.

AOC A9: At AOC A9, arsenic and thallium are the contaminants that have been identified as a risk. Since no federal and state chemical-specific ARARs for soils exist, risk-based cleanup levels for arsenic and thallium using a guidance value. This guidance is listed as TBC in the ARARs table for AOC A9 in Appendix C.

#### Location-Specific ARARs

Location-specific ARARs set restrictions on the types of remedial activities based on site-specific characteristics and location. No location-specific ARARs were identified.

#### Action-Specific ARARs

Action-specific requirements set controls or restrictions on the design, implementation, and monitoring of waste management actions. They are triggered by the particular types of actions that are selected to accomplish the cleanup. After remedial alternatives are selected, ARARs and TBC guidance that specify performance levels, as well as specific

residual chemicals, will provide a basis for assessing the feasibility and actions.

Landfill Closure: The following is a list of the federal and state ARARs the landfill cap, to storm water management, to environmental monitoring, various activities at AOC A7.

Prior to construction of the landfill cap, excavated materials from other at AOC A7 for fill material to meet the subgrade design specifications for material from other sites can be used as subgrade material at AOC A7, the comply with CERCLA and the NCP for any areas which are CERCLA sites, and d to be consolidated is hazardous and subject to RCRA LDRs, 40 CFR Part 268. hazardous, it may be used for subgrade fill at AOC A7. If it is determine used for subgrade fill at AOC A7 unless it is treated in accordance with L

Although AOC A7 will be receiving contaminated soil from AOC A9, it is not obtain any Federal or State permits. AOCs A7 and A9 may be viewed as sepa which are noncontiguous, as defined in CERCLA 101(9). Therefore, AOC A7 requirements because, under the NCP, it is appropriate to aggregate these response action since they are related based on the threat posed and geogr of the selected disposal approach [55 Federal Register (FR) 8690, March 8,

#### Federal

RCRA, Subtitle C, Subpart B - General Facility Standards (40 CFR  
RCRA Subtitle C, Subpart B - Construction Quality Assurance Progra  
RCRA Subtitle C, Subpart C - Preparedness and Prevention (40 CFR  
RCRA Subtitle C, Subpart D - Contingency Plan and Emergency Proced  
-264.56);  
RCRA Subtitle C, Subpart F - Releases from Solid Waste Management  
-264.101);  
RCRA Subtitle C, Subpart G - Closure and Post-Closure (40 CFR 264

RCRA - Subpart N, Landfill Closure and Post-Closure Care (40 CFR  
RCRA Land Disposal Restriction (40 CFR 268); and  
Clean Water Act: Final National Pollutant Discharge Elimination S  
Storm Water Discharges from Construction Sites; Notice (57 FR 4441

#### State

Hazardous Waste Rules (HWR) - General Management Standards for All  
30.510);  
HWR - Contingency Plan, Emergency Procedures, Preparedness, and Pr  
30.520);  
HWR - Landfill Closure and Post-Closure Care [310 CMR 30.633(1) &  
HWR - Post-Closure [310 CMR 30.591(b) & 30.592(b)];  
HWR - Land Disposal Restrictions (310 CMR 30.750);  
Massachusetts Surface Water Quality Standards (310 CMR 4.00); and  
Massachusetts Ambient Air Quality Standards (310 CMR 6.00).

The following policies, criteria, and guidance (i.e., TBCs) will also be c implementation of the landfill closure remedial action:

RCRA Proposed Amendments for Landfill Closure (52 FR 8712);  
USEPA Guidance: Design and Construction of RCRA/CERCLA Final Cove  
4-91/025); and  
USEPA Guidance: Quality Assurance and Quality Control for Waste C  
(EPA/600/R-93/182).

Laboratory Waste: During the RI at AOC A7, buried laboratory wastes were excavations. Based on interviews, these wastes were dumped by Natick Labo 1970s. Removal of this laboratory waste and associated contaminated soil require treatment of wastes prior to disposal. Since the wastes have been halogenated solvents, they will be transported off site for treatment and requirements of the LDRs.

Soils subject to off-site disposal require hazardous waste characterizatio CFR 261. Under these state and federal regulations, soils that are to be to TCLP testing. TCLP characterizes soils as hazardous or non-hazrdous de characteristics of certain chemical constituents. The test is only applic appropriate to soils.

A detailed list of action-specific ARARs and their status are presented in

#### C. THE SELECTED REMEDIAL ACTION IS COST-EFFECTIVE

In the Army's judgment, the selected remedy is cost effective, i.e., the r proportional to its costs. In selecting this remedy, the Army first ident of human health and the environment and that attain, or, as appropriate, w evaluated the overall effectiveness of each alternative by assessing the r effectiveness and permanence; reduction in toxicity, mobility, or volume t

effectiveness, in combination. The relationship of the overall effectiven determined to be proportional to its costs. The costs of this remedial al

##### AOC A7

Estimated Time for Design and Construction: 2 years  
Estimated Time of Operation: 30 years  
Estimated Capital cost: 1,614,700  
Estimated O&M costs (present worth)': \$595,360  
Estimated Total Cost Including 20% Contingency (present worth): \$2,

##### AOC A9

Estimated Time for Design and Construction: 3 months  
Estimated Capital Cost: \$26,870  
Estimated O&M Costs (present worth): \$25,020  
Estimated Total Cost, Including 20% Contingency (present worth): \$

#### D. THE SELECTED REMEDY UTILIZES PERMANENT SOLUTIONS AND ALTERNATIVE TREATMENT OR RESOURCE RECOVERY TECHNOLOGIES TO THE MAXIMUM EXTENT PRACTICABLE

Once the Army identified those alternatives that attain or, as appropriate protective of human health and the environment, the Army identified which solutions and alternative treatment technologies or resource recovery tech practicable. This determination was made by deciding which one of the ide the best balance of trade-offs among alternatives in terms of: 1) long-te 2) reduction of toxicity, mobility or volume through treatment; 3) short-t 4) implementability; and 5) cost. The balancing test emphasized long-term and the reduction of toxicity, mobility or volume through treatment; and c treatment as a principal element, the bias against off-site land disposal and state acceptance.

The selected remedy provides the best balance of trade-offs among the alte

treatment and disposal of the hazardous laboratory waste will provide reduced volume of the most contaminated material at the site. Residual soils contain low levels. Capping of this material will substantially reduce the contamination at the source area. Capping coupled with institutional controls is an effective long-term hazard associated with direct contact with the contaminants in soil. This alternative will be monitored by management and maintenance of the cap, which is relatively easy to implement. A relatively short duration is required to reduce short-term risk to remedial workers would be minimal.

1The net present worth cost is based on a 7 percent discount rate and 30 years.

E. THE SELECTED REMEDY DOES NOT SATISFY THE PREFERENCE FOR TREATMENT WHICH PERMANENTLY AND SIGNIFICANTLY REDUCES THE TOXICITY, MOBILITY OR VOLUME OF THE HAZARDOUS SUBSTANCES AS A PRINCIPAL ELEMENT

The selected remedy does not satisfy the statutory preference for treatment due to the impracticability of treating the landfill area (i.e., the implementation of which would be associated with treatment of the entire landfill). The removal of the laboratory waste from AOC A7 and, eventual treatment and disposal of the waste, significantly reduces the toxicity, mobility, and volume of the laboratory contaminated soil from both AOCs A7 and A9, the selected remedy provides an RCRA Subtitle C landfill cap. This will result in a significant reduction in the toxicity and volume of the waste. However, this material did not show up on the TCLP results. The use of a RCRA cap for containing such waste will protect the environment to the maximum extent practicable. This approach is consistent with the Superfund program, which indicates that for waste that poses a risk where treatment is impracticable, engineering controls, such as containment, are required.

XII. DOCUMENTATION OF NO SIGNIFICANT CHANGES

The Army released the Proposed Plan for the SC remediation of AOCs A7 and A9. The preferred alternative included removal and off-site disposal of buried laboratory waste from the solid waste landfill area at AOC A7 with a RCRA Subtitle C landfill cap. The remedial action is identical to the remedy proposed in the Proposed Plan, and will be addressed.

XIII. STATE ROLE

The MADEP has reviewed the various alternatives and has indicated its support. The State has also reviewed the RI, Risk Assessment and FS to determine if the alternatives comply with applicable or relevant and appropriate State Environmental Policy Act (SEPA) criteria. The State of Massachusetts concurs with the selected remedy for the Annex. A concurrence is attached as Appendix E.

XIV. REFERENCES

Dames & Moore, 1986. Remedial Investigation of Sudbury Annex, Massachusetts. IR-CR86094, November.

OHM, 1995a. Final Feasibility Study Report for the Fort Devens Sudbury Trinitrotoluene Contamination A7 and A9; Pittsburgh, PA; May.

OHM, 1995b. Draft Final Addendum to the Final Report Site/Remedial Investigation. April.



OHM, 1995c. Proposed Plan, AOC A7, the Old Gravel Pit landfill, AOC A9, t  
Pittsburgh, PA; June.

USEPA, 1991a. Risk Assessment Guidance for Superfund: Volume I - Human H  
(Part B, Development of Risk-Based Preliminary Remedial Goals) Interim, Of  
Remedial Response, Washington, DC; Publication 9285.7-01B; October.

USEPA, 1991b. Design and Construction of RCRA/CERCLA Final Covers; USEPA/  
USEPA Office of Research and Development, Washington, DC; May.

USEPA, 1995. Letter Regarding Fort Devens Sudbury Training Annex Area of  
Based Soil Cleanup Level for Thallium Boston, MA; May.

#### FIGURES

<IMG SRC 0195106>

<IMG SRC 0195106A>

<IMG SRC 0195101B>

<IMG SRC 0195101C>

#### APPENDIX A

##### RISK ASSESSMENT TABLES

#### APPENDIX A

##### SUMMARIES OF SOIL SAMPLING RESULTS FOR AOCs A7 AND A9

The seven tables contained in this appendix present summaries of the  
AOCs A7 and A9. These data have been used as the basis for the human heal

The source of these tables is Appendix C of the Draft Final Addendum to the Investigation Report submitted by OHM in April, 1995. The original table A contains a complete discussion of both the human health and ecological risk assessments found in Appendix C. Sections 3.0 and 4.0 of the Draft Final Addendum Report contain risk assessments for AOCs A7 and A9, respectively.

Table 4-2  
Phase I Total Soil Sampling Results - Area A7

Chemical	Frequency (No.Detect/Total)	Maximum Detection (mg/kg)
METALS:		
Aluminum	58/58	18000.00
Arsenic	58/58	27.00
Barium	56/58	353.00
Beryllium	4/58	0.36
Cadmium	44/58	27.50
Calcium	50/58	5420.00
Chromium	58/58	270.00
Cobalt	43/58	11.90
Copper	58/58	250.00
Iron	58/58	22000.00
Lead	58/58	400.00
Magnesium	58/58	6670.00
Manganese	58/58	480.00
Mercury	16/58	0.92
Nickel	58/58	18.70
Potassium	58/58	6720.00
Silver	2/58	19.00
Vanadium	58/58	63.40
Zinc	58/58	840.00
VOLATILE ORGANICS:		
1,1,2-Trichloroethane	1/83	20.00
1,2 Dichloroethane	1/83	1.00
Acetone	8/83	0.30
Chlorobenzene	2/83	0.56
Chloroform	2/83	20.00
Methylene chloride	21/83	0.03
Nonane	1/83	0.03
Octane	1/83	6.00
Propylbenzene	1/83	0.01
Tetrachloroethylene (PCE)	2/83	20.00
Toluene	3/83	0.002
Trichloroethylene (TCE)	1/83	0.10
Trichlorofluoromethane	1/83	0.11
Xylenes, total combined	2/83	0.10
alpha-Pinene	2/83	0.16
BNAs:		
1,2,3,4-Tetramethylbenzene	1/58	3.00
1,3,5-Trimethylbenzene	1/58	3.00
1-Ethyl-2-methylbenzene	1/58	2.0
2-Methylnaphthalene	3/58	10.00
Anthracene,	2/58	2.00
Benzo[a]anthracene	2/58	3.00
Benzo[a]pyrene	2/58	2.00
Benzo[b]fluoranthene	1/58	1.20

Banzo[g,h,i]perylene	1/58	0.39
Bis (2-ethylhexyl) phthalate	13/58	8.00
Chrysene	1/58	0.79
Di-N-butyl phthalate	33/58	10.00

Table 4-2 (continued)  
Phase I Total Soil Sampling Results - Area A7

Chemical	Frequency (No.Detect/Total)	Maximum Detection (mg/kg)
BNAs (cont.):		
Fluoranthene	3/58	3.00
Fluorene	1/58	0.91
Hexadecanoic acid	1/58	13.00
Indono[1,2,3-c,dipylene	1/58	0.54
Naphthalene	1/58	2.00
Octadecanoic acid	1/58	6.50
Phenanthrene	3/58	5.00
Pyrene	2/58	4.00
Sulfur	1/58	1.60
PCB/PESTICIDES		
DDT	25/54	380.00
DDD	10/54	64.00
DDE	14/54	86.00
Dieldrin	5/54	0.26
Endosulfan sulfate	1/54	0.08
Heptachlor	4/54	0.06
Heptachlor epoxide	4/54	0.06
Lindane	3/54	0.52
PCB 1242	1/54	0.17
PCB 1248	1/54	0.04
PCB 1254	5/54	2.00
PCB 1260	1/54	1.63
alpha-Chlordane	7/54	0.91
alpha-Endosulfan	1/54	0.01
beta-Bonzanehexachloride	1/54	0.02
beta-Endosulfan	2/54	0.19
gamma-Chlordane	6/54	1.70
HERBICIDES:		
Dacthal (DCPA)	1/56	0.08
Silvex	1/56	0.01
EXPLOSIVES		
Cyclonite (RDX)	1/56	4.72
ORGANIC CARBON		
Total Organic Carbon	7/7	2480.00

NOTES:

DDT = 2,2-Bis(p-chlorophenyl)-1,1,1-trichloroethane  
DDD = 2,2-Bis(p-chlorophenyl)-1,1-dichloroethane  
DDE = 2,2-Bis(p-chlorophenyl)-1,1-dichloroethene  
Dacthal = 2,3,5,6-tetrachloro-1,4-benzenecarboxylic acid dimethyl ester

Table 4-5  
Summary of Phase II Boring Res  
(values are in mg/kg unless ot

Chemical			Phase I
A75B19B	(ug/l)	(ug/l)	Background S 95% UCL
METALS:			
		Barium	25.30
		Beryllium	0.30
		Cadmium	0.77
		Chromium	25.55
		Cobalt	2.98
		Copper	10.56
		Iron	15381.77
		Lead	40.71
		Magnesium	2391.06
ND		Nickel	11.26
		Potassium	471.17
		Sodium	ND
		Vanadium	27.22
VOLATILE ORGANICS:			
		Methyl ethyl ketone	ND
ND		BNAs:	
		Bis (2-ethyhexyl) phthalate	ND
ND		PCB/PESTICIDES:	
		2,2-Bis(p-chlorophenyl)-1,1,1-trichloroethane (DDT)	0.05
		2,2-Bis(p-chlorophenyl)-1,1-dichloroethane (DDD)	0.02
ND	ND	2,2-Bis(p-chlorophenyl)-1,1-dichloroethane (DDE)	0.03
0.065	ND	Lindane	ND
ORGANIC CARBON:			
		Total Organic Carbon	NA
NA			

NOTES:

A7SB17B and DUPSB02C are lechate samples (full TCU extraction analysis).  
reported as ug/l.

There were no positive detections for samples A7SB13B, A7SB14B, A7SB15B, a  
analyzed for PCB/pesticides and organophosphorus pesticides only.

NA = Not analyzed

ND = Compound was not detected

Table 5-2  
Phase I Total Soil Sampling Results - Area A9

Chemical	Frequency (No.Detect/Total)	Maximum Detection (mg/kg)
METALS:		

Aluminum	40/40	12000.00
Arsenic	40/40	70.00
Barium	40/40	50.60
Beryllium	2/40	0.34
Cadmium	21/40	1.64
Calcium	31/40	1550.00
Chromium	40/40	24.50
Cobalt	19/40	6.10
Copper	40/40	75.00
Iron	40/40	17000.00
Lead	40/40	450.00
Magnesium	40/40	4070.00
Manganese	40/40	410.00
Mercury	1/40	0.11
Nickel	40/40	13.90
Potassium	40/40	2870.00
Vanadium	40/40	26.70
Zinc	40/40	109.00
VOLATILE ORGANICS:		
1,1,1-Trichloroethane (1,1,1-TCA)	3/40	0.20
1,1,3-Trimethylcyclohexane	1/40	0.03
1,3-Dimethylcyclohexane	1/40	0.04
1,4-Dimethylcyclohexane	1/40	0.01
Acetone	4/40	0.03
Ethylbenzene	2/40	0.01
Methylene chloride	14/40	0.02
Methylthyl ketone	1/40	0.01
Xylenes, total combined	4/40	0.50
alpha-Pinene	4/40	0.32
BNAs:		
2-Methylnaphthlene	1/40	10.00
Benzo[a]pyrene	1/40	0.29
Bis (2-ethylhexyl) phthalate	18/40	5.00
Chrysene	1/40	0.31
Di-N-octyl phthalate	1/40	0.50
Dibenzofuran	1/40	1.40
Fluoranthene	4/40	1.40
Fluorene	1/40	2.40
Indeno[1,2,3-c,d]pyrene	1/40	0.23
Naphthalene	1/40	2.30
Phenanthrene	3/40	10.00
Pyrene	1/40	0.39

Table 5-2 (continued)  
Phasa I Total Soil Sampling Results - Area A9

Chemical	Frequency (No.Detect/Total)	Maximum Detection (mg/kg)
PCB/PESTICIDES:		
DDT	5/40	0.06
DDD	1/40	0.09
DDE	2/40	0.03
Heptachlor epoxide	1/40	0.02
EXPLOSIVES:		
2,6-Dinitrotoluene	1/40	1.10
ORGANIC CARBON:		
Total Organic Carbon	15/15	19700.00

NOTES:

DDT = 2,2-Bis(p-chlorophenyl)-1,1,1-trichloroethane  
 DDD = 2,2 Bis(p-chlorophenyl)-1,1-dichloroethane  
 DDE = 2,2-Bis(p-chlorophenyl)-1,1-dichloroethene

Table 5-4  
 Summary of Phase II Surface Soil Results - Area A

Chemical	Phase I Background Soil 95% UCL		A9S07B	A9S08B	A9S0
METALS:					
Aluminum	13204.18	14000	11000	7100	
Arsenic	8.24		20	4.1	6.
Barium	25.39		32.8	75.8	38.
Beryllium	0.30		0.547	ND	ND
Calcium	633.50		474	2010	92
Chromium	25.55		16.2	53.9	13.
Cobalt	2.96		3.76	3.96	ND
Copper	10.56		7.14	11.7	6.92
Iron	15381.77		12000	16000	990
Lead	40.71		26	31	35
Magnesium	2391.06		2020	5720	226
Nickel	11.26		ND	12	ND
Potassium	471.17		766	2990	102
Selenium	ND		0.45	0.33	0.3
Sodium	ND		61.7	280	66.
Thallium	ND		304	ND	ND
Vanadium	27.22		22.9	48.7	20.
Zinc	39.75		28	42.3	28.

NOTES:

ND = Compound was not detected

Table 5-6  
 Summary of Phase II Hand Auger and Soil Boring Results

Chemical	Phase I Background Soil 95% UCL		A9HA5B	A9HA6B	A9HA
METALS:					
Aluminum	13204.18	15000	17000	5200	
Arsenic	8.24	140	14	6.4	
Barium	25.39		42.7	31.5	18.1
Beryllium	0.30		0.676	0.692	ND
Calcium	633.50	369	241	601	
Cobalt	2.96		4.86	4.85	ND
Magnesium	2391.06	2030	2170	2150	
Potassium	471.17	547	411	1110	
Selenium	ND		0.54	0.49	0.27

NOTES:

These samples were analyzed for metals only  
 ND = Compound was not detected

Table 5-6  
 Summary of Phase II Hand Auger and Soil Boring Results

Chemical	Phase I Background Soil 95% UCL	A9HA5B	A9HA6B	A9HA
METALS:				
Aluminum	13204.18	15000	17000	5200
Arsenic	8.24	140	14	6
Barium	25.39	42.7	31.5	18.1
Beryllium	0.30	0.676	0.692	ND
Calcium	633.50	369	241	601
Cobalt	2.96	4.86	4.85	ND
Magnesium	2391.06	2030	2170	2150
Potassium	471.17	547	411	1110
Selenium	ND	0.54	0.49	0.27

NOTES:

These samples were analyzed for metals only  
 ND = Compound was not detected

APPENDIX B

RESPONSIVENESS SUMMARY

APPENDIX B

RESPONSIVENESS SUMMARY FOR THE RECORD OF DECISION

AOC A7 - The Old Gravel Pit Landfill

AOC A9 - The POL Burn Area

Fort Devens Sudbury Training Annex

Middlesex County, Massachusetts

The purpose of the Responsiveness Summary is to review public response AOCs A7 and A9 at the Fort Devens Sudbury Training Annex. This summary also comment on other remedial alternatives considered but not recommended. In Army's consideration of such comments during the decision-making process a major comments raised during the public comment period for the Proposed Plan

The responsiveness summary for the preferred alternative is divided in

Overview - This section briefly describes the remedial alternative Proposed Plan and any changes to the Proposed Plan due to public comments

Background on Community Involvement - This section provides a summary of public interest in the proposed remedial alternative and identifies key public community relations activities conducted with respect to these issues.

Summary of Major Questions and Comments - This section summarizes the comments received during the public meeting and public comment period.

Remedial Design/Remedial Action concerns - This section describes public issues directly related to design and implementation of the selected remedial alternative.

## OVERVIEW

At the time of the public comment period, the Army had selected a preferred alternative for AOCs A7 and A9 at the Fort Devens Sudbury Training Annex in Massachusetts. The Army's preferred alternative addressed the problem of the presence of buried laboratory waste, solid waste, and soil contamination. The preferred alternative involved excavating the laboratory waste and treating it at an approved facility, excavation of contaminated soil and solid waste from the central landfill area of AOC A7, capping the landfill area with a RCRA Subtitle C and institutional controls, environmental monitoring, operation and maintenance inspections, and 5-year reviews. This preferred alternative was selected and MADEP.

Oral comments were received at the public hearing, however, no written comments were received during the public comment period.

## APPENDIX B (CONTINUED)

### BACKGROUND ON COMMUNITY INVOLVEMENT

Throughout the planning and investigative phases, the Army, USEPA, and the community were directly involved by reviewing and commenting on all proposals, project review meetings have been held to maintain open lines of communication and to keep the community informed of activities.

Citizen input during this process has been predominantly through the Technical Review Committee (TRC) established by the Army. Quarterly meetings of the TRC held since January 1994 together local representatives from the towns of Sudbury, Stow, Maynard, and Needham Heights, and representatives from both the state and federal levels. Local citizens include representatives from the 4-Town Families Organized to Clean Up Sites (FOCUS) Association, and the Organization for the Assabet River. The TRC has also included the Fort Devens Environmental Management Office (EMO), USEPA, MADEP, the U.S. Army Corps of Engineers (USACE), the U.S. Army Environmental Center (USAEC, formerly USATHAMA), and the U.S. Army Corps of Engineers (USACE). In addition, special Public Information Meeting question-and-answer sessions were held to present information about such things as the Facilities Superfund Remedial Program, the Army's Superfund program at the Massachusetts State Public Involvement Program (PIP), and the Master Environmental Monitoring System and tours were also conducted to familiarize any interested citizen or community representatives or agencies with the various sites and the proposed plans. Public and regulatory agency input was solicited and considered during all phases of the process.

On June 1, 1995, the Army finalized the Proposed Plan. On June 7 and 8, 1995, the Proposed Plan appeared in the Enterprise Sun, Maynard Beacon, Southborough Villager, the Needham Heights News, and Sudbury Town Crier. The notices announced the date, time, and place for the Proposed Plan and provided a name and phone number for questions or comments.



A public meeting was held on June 14, 1995, at 7:00 pm at the Stow Town in the Town of Stow, Massachusetts. The remedial investigations and the p for AOCs A7 and A9 were presented and discussed. Representatives at the m of the Fort Devens EMO; Bob Lim, Remedial Project Manager, USEPA; Mark Cas Malewicz, MADEP; Debbie Acone, USACE; Susanne Simon, ATSDR; and Stephen Mc Manager, OHM. The informational meeting was followed immediately by a pub formal public comments were solicited for the record.

#### SUMMARY OF MAJOR QUESTIONS AND COMMENTS

The public comment period ended on July 5, 1995. No written comments o during the public comment period. The following is a summary of major poi public hearing and the Army s response. A transcript of the public hearin appendix.

#### APPENDIX B (CONTINUED)

Question:

What are the components of a RCRA Subtitle C cap, and how does the cap fun

Response:

A large-scale color reproduction of Figure 4 was used as a display at the section through the proposed RCRA Subtitle C landfill cap. It was explain least one foot thick would be placed above the waste to provide a secure s system on. Samples of the geosynthetic clay liner, 30-mil HDPE geomembran 10-ounce geotextile supplied by a manufacturer were passed around for insp and the function of each cap component was explained. It was then pointed of soil cover would be placed above the capping system to protect it, and the soil cover to stabilize the surface.

Once the RCRA Subtitle C landfill cap is installed, access to the site wil fence. Furure use of the site will be comrolled by deed restrictions. Ca through regular inspections and maintenance of the soil cover.

Question:

Who will maintain the Sudbury Training Annex after Fort Devens closes?

Response:

The U.S. Army will maintain the Sudbury Training Annex. At the present ti Drum will be responsible for implementing the Army's plans to remediate an Personnel from Fort Drum have already toured the site and are aware that t concerned with progress at the site. Fort Drum wants to ensure a smooth t assume responsibility for the Sudbury Training Annex.

Question:

Is the Army planning to bring in wastes from sites not on the Sudbury Trai Devens, for disposal in AOC A7?

Response:

No. Only contaminated soils and waste from sites on the Sudbury Training

the landfill cap in AOC A7.

Question:

The proposed plan only deals with soil contamination. What plans are there issues and is there a schedule?

APPENDIX B  
(CONTINUED)

Response:

Soil remediation was separated from ground water remediation when it was determined ground water investigation would be required to assess the extent of the plume originating in AOC A7. This was done so that soil, or source control, without being delayed by the data gap in the ground water investigation. Engineers real estate office has contacted the landowner downgradient of A to install and sample monitoring wells on his property. The Army is now a

There is no schedule at this time regarding the ground water investigation to be ongoing and additional off-site monitoring wells will be installed. Once analytical data is received regarding ground water quality downgradient for ground water will be prepared if a remedial response is warranted.

Question:

How will the Sudbury Training Annex be affected by the Base Realignment and Closure? Who will be responsible for deciding what parts of the Annex can be released and retained for further investigation and/or remediation?

Response:

The BRAC process will require "fence-to-fence" surveys before any decision sections of the Annex can be released. Although some of the surveys, such as archaeological, have been completed, ordnance, radiological, and other surveys any part of the Annex can be released.

It was also pointed out that the Army cannot and will not act unilaterally. USEPA, the MADEP, and citizens groups will all play an active part in the process.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15

PUBLIC HEARING  
Sudbury Training Annex  
Proposed Plan  
held at:

16 Stow Town Buiding  
17 380 Great Road  
18 Stow, Massachuettes  
19 June 14, 1995  
20 7:00 p.m.  
21 (Robin Gross, Resgistered Professional Reporter)  
22  
23  
24

1 P R O C E E D I N G S

2 COMMENTS PERIOD

3 MR. DARGATY: What type of thicknesses are  
4 you talking about as far as the layers of sand?

5 MR. MCGINN: The base laver here is a foot  
6 thick. That whole material right there, the whole  
7 package together is less than half an inch.

8 MR. DARGATY: How about on top?

9 MR. MCGINN: Two feet of soil on top, and  
10 that will all be grassed over.

11 MR. DARGATY: How about preventing people  
12 from inserting poles in there, pipes or anything  
13 else?

14 MR. MCGINN: Part of what goes on is the  
15 whole thing will have a security fence around the  
16 perimeter.

17 MR. DARGATY: For always?

18 MR. MCGINN: Always. The access will be  
19 limited to that site.

20 MR. STRUNK: It's there now, if you've been  
21 to the site, a chain link fence about 8 feet high  
22 and locked gate all around A7, and that will always  
23 stay.

24 MR. DARGATY: So the town will never think

1 of putting anything on there.

2 MR. STRUNK: I think you could do a  
3 restriction on the property. Fort Devens actually  
4 will do a restriction that that will never be  
5 that will prevent access to that site.

6 MR. MCGINN: And also the plan includes 30  
7 years worth of maintenance and monitoring on the  
8 site, which includes regular inspections of all the  
9 security arrangements, the fences, you know, the  
10 soil cover and all that.

11 MS. RUZICH: What's the presumed life of a  
12 cap like that?

13 MR. MCGINN: I don't know, to tell you the  
14 truth. At least 30 years. I honestly don't know.  
15 I've never been asked that question before.

16 MR. STRUNK: We're into the comment period,  
17 by the way. As soon as the questions started. I'll  
18 just make it formal.

19 MR. DARGATY: Then what happens after 25 or  
20 30 years?

21 MS. RUZICH: That's matter transmitters.  
22 Star Trek.  
23 MR. MCGINN: There you go. That will be up  
24 to the regulators at the time.

1 MS. RUZICH: What does that stuff do with  
2 tree roots?

3 MR. MCGINN: You don't let trees grow on  
4 it. That's part of the maintenance on the site.  
5 But all you really want up here is grass, for the  
6 most part.

7 MS. RUZICH: Who will physically be in  
8 charge of the maintenance if Fort Devens closes?  
9 Has it been assigned to anybody at this point?

10 MR. STRUNK: Well, the last ripple I've  
11 heard this continuous thing, Cindy, is it would  
12 be Fort Drum that would take over the responsibility  
13 for Sudbury and the Annex.

14 MS. RUZICH: Do they know where Stow,  
15 Massachusetts, is?

16 MR. STRUNK: Yes, they've been here.  
17 They've toured the site.

18 MS. RUZICH: Really? That's great.

19 MR. STRUNK: I've made them aware. Stow is  
20 very aware of concerns. And I've made it clear we  
21 have a very loud local voice. And Fort Devens is  
22 the voice that people depend on for accurate  
23 information about the Annex, and they were aware of  
24 the issue. I said, probably unlike other sites

1 you've dealt with, the community is very much on top  
2 of what the Army is doing. And they wanted to make  
3 sure that everything, the transition was very smooth  
4 and they understood everything. So they did a tour  
5 of the Annex, particularly these spots right here.

6 MS. RUZICH: What, will they be one party  
7 to the agreement, or is it just that the Army does  
8 the signing and then the Army, someone in  
9 Washington, would assign this to Fort Drum?

10 MR. STRUNK: The major command, force  
11 command, would assign the responsibility for the  
12 Annex to Fort Drum. The rest of Fort Devens itself,  
13 the enclave that's going to remain would be the Army  
14 reserve unit in the center section, that will be  
15 controlled by Fort McCoy in Wisconsin and Fort Drum  
16 is upper New York state, the installation that sent  
17 the troops down to Haiti, 10th Mountain Group, I  
18 think. But that's the latest I've heard. That's  
19 subject to change, again, as these things go back  
20 and forth and different generals yell at different  
21 generals. I hope, it's Fort Drum, I think. They  
22 seem to be prepared to do it.

23 MS. RUZICH: You had mentioned when we were  
24 talking before about moving with the excavated soil

1 and that you would be bringing things into this area  
2 that's being capped. Are we bringing in things from  
3 off-site? Are we taking stuff, say, from Fort  
4 Devens and bringing it here?

5 MR. STRUNK: No.

6 MS. RUZICH: Or is it just A7 and A9?

7 MR. STRUNK: As well as A7 and A9, Cindy,  
8 what I've been discussing with Bob Lim at EPA is we  
9 have other removals to do, local ones, 100 yards  
10 here, 120 yards there.

11 MS. MALEWICZ: On site.

12 MR. STRUNK: We had planned to do that  
13 off-site, but we found they are less contaminated  
14 than other soils that exist there. So to save  
15 money, and for expediency, we're going to work out  
16 to save these small removals from other these other  
17 sites under the cap also instead of going off-site.  
18 The amount of money that's saved is incredible.  
19 Because there was a soil treatment plan on one that  
20 if we don't treat the soil at all the major cost of  
21 the whole removal disappears. It's just so simple;  
22 and to coordinate it in time so this is all done at  
23 the same to me and we don't get involved in spending  
24 money sending stuff that doesn't need to be sent off

1 base. So it's only stuff from the Sudbury Annex.

2 MS. MALEWICZ: According to the state  
3 regulations they would not be permitted to take  
4 off-site waste.

5 MR. STRUNK: That's true.

6 MS. RUZICH: I just wanted to make sure it  
7 didn't become sort of a generic landfill for  
8 whatever.

9 MS. MALEWICZ: No, no.

10 MR. LIM: That wouldn't happen.

11 MR. DARGATY: What are we talking about,  
12 50,000 square feet?

13 MR. STRUNK: Probably more, an acre and how  
14 much?

15 MR. MCGINN: The whole cap area now is  
16 running just about two acres.

17 MR. STRUNK: That's, what, 43 feet, 46,000  
18 square feet an acre, so it would be 86,000.

19 MS. RUZICH: Let's see, a couple of other  
20 things. One was more administrative. What are your  
21 requirements for posting this meeting and  
22 advertising the meeting; and did we do that? I  
23 couldn't find an ad in the Maynard Beacon, the last  
24 issue. I did find one in Stow, but have you done

1 everything about --

2 MR. STRUNK: I have the credit card for

3 newspapers like we did, Cindy, a display ad, and we  
4 have the tear sheets back from the newspaper.  
5 They'll tear the ad out to prove they printed it and  
6 send it in before we pay them. So it was all done  
7 by credit card, it was done three weeks ago. So  
8 it's been out.

9 MS. RUZICH: Okay.

10 MR. STRUNK : I sent tee TRC members -- all  
11 TRC members had a notice and everything. So I think  
12 we pretty well covered it.

13 MS. RUZICH: One thing I wanted to say was,  
14 you know, I appreciate that we're finally doing  
15 this. It's been five years since we started doing  
16 this. In fact, the first meeting that I attended  
17 was in July of 1990. I think the only people who  
18 were the same people who were here are the three of  
19 us from Focus. I think everybody else has gone  
20 through one or multiple revisions of individuals at  
21 this point, and I appreciate that we finally got  
22 here. This may be a record in terms of federal  
23 Superfund, only five years to get to talking about  
24 doing a cleanup.

1 Let's see, the other question I had was you  
2 had mentioned that the area going downstream from  
3 OHM, A7-51 well, that you would be looking  
4 off-site. Why, wasn't that, if you suspect that  
5 something is migrating off-site, why did the  
6 investigation stop at the boundary? Because if the  
7 suspected contamination is coming from A7, shouldn't  
8 the off-site area that's downstream be a part of  
9 that same investigation and the same treatment?

10 MR. STRUNK: When it became clear that we  
11 wouldn't be able to resolve the groundwater issue  
12 until we had additional wells downgradient, I  
13 requested from the department of Army headquarters  
14 permission to put off-site wells. They granted that  
15 permission; the Corps of Engineers real estate  
16 office has sent a letter requesting right of way to  
17 the landowner. The landowner in this case has  
18 agreed, but they haven't returned the letter yet.  
19 So we don't have it in our hands. But once  
20 that's --

21 MS. RUZICH: Is that the Sand and Gravel --

22 MR. STRUNK: Apparently the person who owns  
23 that owns quite a bit of land along there

24 MS. RUZICH: Malone, Crow Island?

1 MR. DARGATY: Malone Sand and Gravel.

2 MR. STRUNK: And apparently the water that  
3 land is situated, it would never be considered  
4 buildable property or anything like that; and he  
5 didn't mind. So I haven't yet received the formal  
6 okay from the landowner for those wells, but as soon  
7 as that's aboard we plan to put in two or three

8 wells between the perimeter of the Annex and the  
9 Assabet River. And that's information we really  
10 need in order to --

11 MS. RUZICH: So we're really only dealing  
12 with the soil contamination in this step. Does the  
13 document itself require that the groundwater issues  
14 we dealt with in a specific period of time?

15 MR. STRUNK: I would say that, let's see,  
16 our original schedule on the ROD called for a Record  
17 of Decision in the fall of 1996. That was the  
18 original AIG schedule. And we didn't want to delay  
19 the whole ROD until we had resolved the groundwater,  
20 so at EPA suggestion we kept on schedule and kept  
21 the source control moving by just breaking it out  
22 and dealing with the source control first; let's get  
23 that done, and then as we learn more we can get the  
24 wells in. Hopefully we can develop a plan for

1 dealing with the groundwater situation, if there is  
2 one that really needs to be dealt with. And if  
3 that's the situation I'd like to see that as fast as  
4 I can and hopefully, on schedule

5 MS. RUZICH: I guess what I'm asking is,  
6 we're doing this piece, and one of the biggest  
7 concerns we have had over time is the piecing up of  
8 the Annex, is this little spot is clean so we don't  
9 have to worry about this and you're checking it off  
10 bit by bit, and in the meantime the Army is shutting  
11 down operations in Massachusetts. So I guess what  
12 I'm asking is, is there a scheduled date at this  
13 point for the groundwater treatment?

14 MR. STRUNK: No, we don't have one. And  
15 that's a good point.

16 MS. ACONE: We couldn't get closure on this  
17 site until we clean the groundwater. The site  
18 wouldn't close.

19 MR. LIM: As far as the groundwater  
20 contamination, as far as we're concerned, the  
21 investigation is still continuing in the  
22 groundwater. And that the FS, however, evaluated  
23 the remedy for the groundwater, which is a  
24 groundwater collection trench. However, we

1 recognize that there was a missing piece of data  
2 between 51 and the Assabet River that we needed to  
3 fill that data gap. The groundwater investigation  
4 is still considered ongoing, and the Army will be  
5 installing monitoring wells as soon as we can.

6 MS. RUZICH: I'm confused on "little site,  
7 big site." We've got lots of little sites within  
8 one big Superfund site. The entire Superfund site  
9 will not be released until that groundwater patch is  
10 dealt with and all the other issues in the site as  
11 well?

12 MR. LIM: All the other sites, as you're

13 talking about, the other study areas.  
14 MS. RUZICH: So as a whole group it doesn't  
15 get released until every last one of them is  
16 finished in terms of the EPA's --  
17 MR. DARGATY: You don't know that for sure,  
18 do you? They could possibly release some areas  
19 where groundwater is not affected.  
20 MR. LIM: As far as that would -- in the  
21 base closure process, from what I understand, the  
22 case gets divided into clean and dirty parcels, and  
23 once Sudbury goes final on the base closure list we  
24 would go through the process of I suppose parceling

1 the Annex as far as what's clean and what's dirty.  
2 And, you know, theres other processes  
3 within the base closure process that I'm not  
4 entirely aware of; but under the current non-base  
5 closure situation that Sudbury is still in, the  
6 Annex wouldn't be released in any way until all  
7 cleanup at all sites are completed.  
8 MS. RUZICH: Does the base closure happen  
9 in Octcber of this year then? Is that the plan?  
10 MR. STRUNK: No, I'm not certain, Cindy.  
11 It's July 1st Congress will accept the bases that  
12 are proposed on the list, which Sudbury Annex is,  
13 and after that I'm not sure. I haven't heard really  
14 what a clear outline is yet.  
15 MS. RUZICH: So the Sudbury Annex isn't  
16 tied to Fort Devens?  
17 MR. STRUNK: No, its separated. Fort  
18 Devens was listed for base closure I think in 1991,  
19 and the Annex was just placed on it this winter,  
20 this January. So it's a separate entity. And  
21 they've nominated me to be the base closure  
22 environmental coordinator for it and they have sent  
23 all this early material down, but I have no  
24 schedules from the Army yet. And I know basically

1 what has to happen there, but it's going to take a  
2 while to do that.  
3 MR. LIM: But in September, for our  
4 September TRC, I'm sure we'll know more  
5 information. We'll be able to perhaps give a brief  
6 outline of the process as far as the federal  
7 screening process and all the other base closure  
8 type processes that I'm sure you are concerned  
9 about, about the property and parceling and stuff  
10 MS. RUZICH: The question, the thing I'm  
11 trying to find out, is even though the base is  
12 closed does EPA retain jurisdiction over the cleanup  
13 issue?  
14 MR. LIM: Yes, I will still be the project  
15 manager.  
16 MS. RUZICH: So you essentially are the  
17 person who agrees whether to release the whole



18 site?  
19 MR. LIM: Yes. EPA is involved in that.  
20 MS. RUZICH: So the Army can't choose to  
21 say, "Well, we declare are this square clean so we're  
22 taking that and we're going to sell it and build  
23 things without your cooperation"?  
24 MR. LIM: The Army cannot do anything

1 unilaterally. The EPA and DEP will still be  
2 involved.  
3 MS. MALEWICZ: I can add to that a little  
4 bit. I'm involved in the Watertown Arsenal cleanup,  
5 which is a base closing. And they prepare, the Army  
6 will send out, once it's termed a BRAC site, if it  
7 should become a BRAC site, base closing site, they  
8 will prepare what they call a CRFA document which is  
9 available for public comment as well. At that time  
10 they will ask DEP and EPA on their recommendations  
11 of what areas may be able to be released; in other  
12 words, are deemed clean in the sense that  
13 historically they weren't used for anything, there's  
14 no evidence of contamination, maybe some areas that  
15 there's no further action.  
16 With those recommendations, they will put  
17 together a package saying XYZ area may be able to be  
18 released. Then their real estate division will say,  
19 you know, can the town use it now or could it be  
20 used, so they can get that piece back into the  
21 community. Watertown was a -- is a 65 acre,  
22 originally 65 acre parcel and it's now a 37.5 acre  
23 parcel, and because of the spotted contamination  
24 deemed it wasn't sufficient to have any parcels

1 parceled off for use right away.  
2 So they do take the DEP and EPA's  
3 recommendations to heart. And there's actually, if  
4 it should go BRAC closing, we can provide you more  
5 information, get you up to speed, and there's an  
6 actual formal process that you would be a part of.  
7 MR. STRUNK: Cindy, the things they are  
8 funding for is doing a complete ordinance survey,  
9 radiological survey, things that hadn't been under  
10 the investigation, remediation fund, that's covered  
11 in BRAC, so it's a lot more extensive fence-to-fence  
12 survey that covers a lot of things.  
13 MS. RUZICH: They were supposed to do that  
14 as part of the original work plan, a lot of those.  
15 I think some of that stuff actually did occur at  
16 Sudbury.  
17 MR. STRUNK: They have, actually, yes, in  
18 the Sudbury Annex, a lot of things that would be  
19 done under base closure have already been pretty  
20 well completed, like the historical and  
21 archeological survey. This is true.  
22 Well, any further questions?

23 MR. CASELLA: I've got a question for  
24 Steve. Will the groundwater data be in, Steve,

1 before we initiate the capping operation for the  
2 area? Is there enough time,

3 MR. MCGINN: The additional groundwater  
4 data?

5 MR. CASELLA: Yes.

6 MR. MCGINN: I don't know what the schedule  
7 is on that right now

8 MR. STRUNK: I would imagine that it would  
9 be. Don't you think, Debbie?

10 MR. DARGATY: It's eventually going to be  
11 irrelevant, if you're going to remove all the  
12 contamination before you cap it.

13 MR. MCGINN: Well, we're removing the  
14 primary source of the contamination

15 MR. DARGATY: You may still have some in  
16 there.

17 MR. MCGINN: You've still got, you know, a  
18 contaminated groundwater plume which is already  
19 covering this area right here, so removing the  
20 primary source is going to reduce the loading --

21 MR. DARGATY: How far down are you going to  
22 go, to the water level?

23 MR. MCGINN: As far as the excavation in  
24 here? I'd say probably between 8 and 10 feet in

1 some places. It will be below the top of the  
2 groundwater.

3 MR. DARGATY: You will be below the  
4 groundwater?

5 MR. MCGINN: Yes. From what we can tell  
6 right now, based on what we've seen in the borings  
7 and what we're seen in the test pits and what we  
8 have for groundwater levels in here, it is below too  
9 of the groundwater. Could be less than that in some  
10 places, maybe a little more.

11 MR. DARGATY: If you were to remove all the  
12 contamination, there still may be pockets that have  
13 migrated down between the primary source and the  
14 well you're going to dig, right?

15 MR. MCGINN: Because we're already going to  
16 see the contamination here in well No. 8 which is in  
17 the source area and also downgradient of well No.  
18 51. So, you know, you've already got contamination  
19 from this area leaching out in this area, traveling  
20 in the groundwater and is already in this area. And  
21 where it extends out to over here is essentially --

22 MR. DARGATY: That's a slope, right?

23 MR. MCGINN: As far as the top of the  
24 groundwater there, yes.

1 MR. DARGATY: From the primary source to  
2 where you're going to put the well, that's like a  
3 big slope, if I remember correctly.  
4 MR. MCGINN: It's kind of flat in this area  
5 and slope, off pretty fast heading this way and then  
6 shallows off, but this is a gradual easy slope all  
7 the way down to the river.  
8 MR. DARGATY: Does the water flow downhill  
9 at that point, do you know?  
10 MR. MCGINN: Yes, it does. Essentially  
11 from the site it's flowing straight across the site  
12 this way (indicating).  
13 MR. DARGATY: I know it's flowing down, but  
14 is it flowing at an angle?  
15 MR. MCGINN: Oh, sure.  
16 MR. DARGATY: Do you know that for sure?  
17 MR. MCGINN: You can see that the gradient  
18 elevations from the downgradient of the groundwater  
19 -- there's a slope on top of the groundwater. The  
20 slope on top of the groundwater is nowhere near as  
21 steep as the slope you're seeing out here.  
22 MR. DARGATY: Will that tell you something  
23 as to what the depth of migrating contamination is  
24 between the primary source and where you're going to

1 dig your well?  
2 MR. MCGINN: Sure.  
3 MR. DARGATY: If what you say is true, that  
4 wouldn't be any deeper than what it is at the  
5 primary source?  
6 MR. MCGINN: Below the top of ground  
7 surface, no.  
8 MR. DARGATY: You wouldn't expect to find  
9 contamination 20, 30 feet below, except for the  
10 water?  
11 MR. MCGINN: Well, the answer to that is  
12 sort of yes and no. In this particular case the  
13 answer would be no. Based on the geology and the  
14 hydrology out here, I would say the answer would be  
15 no.  
16 MS. MALEWICZ: Steve, can you clarify for  
17 the audience why you're leaving certain materials  
18 behind, like TCLP and why you're removing others? I  
19 think that clarifies why the cap is appropriate and  
20 why it is appropriate to leave some things behind.  
21 MR. MCGINN: Sure. This area in here,  
22 we've had all the test pit results from this area.  
23 Along with the test pits, you can see the squares,  
24 we've got -- right through here we've got a variety

1 of them in here located on top of geophysical  
2 anomalies. We came through in this area and did the  
3 geophysical surveys, located the test pits over the  
4 anomalies, essentially dug down to see what we could

5 find, what was buried out there. We dug down to a  
6 depth of 6 feet in all these pits, took samples at  
7 2, 4, and 6 feet below ground surface, and what  
8 we're seeing is a definite difference between what  
9 we're seeing in this area here and what we're seeing  
10 over in this area right here.

11 Primarily this is essentially solid waste  
12 as opposed to liquid chemical waste over here.  
13 Along with the chemical waste we've got in here  
14 there's also, by test pit R, which is this one  
15 we've got buried drums and other lab waste here. We  
16 do know we have had material leaching out of those  
17 things, broken drums, broken glass containers; and  
18 the type of chemical contamination you see here is  
19 actually different than what you see going on here.

20 We do see low levels of pesticides and some  
21 metals in this area right through here, but at much  
22 lower concentrations than you're seeing over in this  
23 area. Also, from what we can tell right now from  
24 the test pits, the borings and all the other

1 information we've got, this material here, while  
2 less hazardous than this material, also is at a  
3 higher level relative to the top of groundwater. So  
4 that the balance of the buried material out here is  
5 not in the top of groundwater; also, there's not a  
6 lot of material leaching out of it, or at this point  
7 there's not a lot of material leaching out of it  
8 getting down into the groundwater and then being  
9 transported out.

10 We're fairly confident about saying that  
11 the balance of the well control we've got out in  
12 front of this area right here, these five wells  
13 we've got which are downgradient of this whole area  
14 right here, show a lot, essentially a lot cleaner  
15 groundwater out in front of this area than we're  
16 seeing out in this area right here.

17 So this material, we're seeing some  
18 contaminated groundwater here with the same  
19 contamination that we're seeing in the soils and  
20 groundwater up in the source area.

21 This area over here, we're seeing lower  
22 levels of contaminants and different types of  
23 contaminants in the soils. And also we're not  
24 seeing a lot of those contaminants out in the

1 groundwater right now. Which is why I feel  
2 confident that you could go ahead and cap this stuff  
3 and leave it right here and you know you're not  
4 going to be creating a problem for yourself down the  
5 road; and why we think you can take this material  
6 here and place it out here. Because essentially  
7 this material out here is of the same nature and  
8 character as what we see right here.

9 Then what appears to be hazardous materials

10 are all slated to be dug and taken completely off  
11 the site altogether, because the type of cap and the  
12 situation here is not appropriate for containing  
13 this kind of material.

14 MR. DARGATY: Well, Tom, if there's no  
15 other questions, let's bang it up and go home.

16 MR. STRUNK: Okay, George. Like I said,  
17 until July 5th if you want to write up any comments,  
18 send them to me, I'll pass it on and we'll include  
19 that in the formal record. You're welcome to do  
20 that; I appreciate it if you did. Anything that  
21 came to your mind. And thank you very much for  
22 coming out this evening.

23 (Whereupon, the proceedings were  
24 concluded at 8:00 p.m.)

1 C E R T I F I C A T E

2 I, Robin Gross, Registered Professional  
3 Reporter, do hereby certify that the foregoing  
4 transcript, Volume I, is a true and accurate  
5 transcription of my stenographic notes taken on June  
6 14, 1995.

7  
8  
9  
10 \_\_\_\_\_ Robin Gross  
11 Registered Professional Reporter  
12

13 - - - -  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24

APPENDIX C

ARARs

APPENDIX C

ARARs

The ARARs tables contained in this appendix are reproductions of the Feasibility Study Report for the Fort Devens Sudbury Training Annex, Middle submitted by OHM in May, 1995. The original table numbers have been retained for comparison.

## AND DISPOSAL OF

LA

### SUBTITLE C LANDFILL CAP

Required Action To Be Taken To Attain ARAR	Status	
Laboratory Waste - Federal		
RCRA - Identification and Listing of Wastes. Sets forth Laboratory waste includes soil and debris Hazardous Waste (40 CFR 261) containers. The wastes is assumed to be classified as F002 spent solvents.	Relevant and Appropriate	Established criteria Identified particular
RCRA - Land Disposal Restrictions land disposal and Removal of laboratory waste and associated contaminated (40 CFR 268) Appropriate defines for LDRs. Since the wastes have been classified as F002 spent halo wastes will be transported off site for treatment and the requirements of the LDRs.	Relevant and Appropriate	Identified RCRA-listed
Off-Site Rule (40 CFR 300.440) contaminants Laboratory waste material will be transported to a TSD compliance.	Applicable	Requires transfer CERCLA or compliance and all

### Laboratory Waste - State

HWR - Requirements for Generators accumulation of waste prior Generator requirements will be complied with (310 CMR 30.4000-30.416) Appropriate to off-site removal of laboratory waste materials.	Relevant and Appropriate	Requirements
HWR - Use and Management of containers. Packing of laboratory waste materials will Containers (310 CMR 30.680) Appropriate	Relevant and Appropriate	Requirements

requirements.

Soil- Federal

RCRA Subtitle C, Subpart B security, training, General Facility Standards (40 CFR stores, or 264.10 - 264.18)	Relevant and Requirements regarding security, training, and insp Appropriate	General and insp inspecti disposes
---	--	---

Requirement	Status	
RCRA Subtitle C, Subpart B - units, this Consitution Quality Assurance (CQA) Program (40 CFR 264.19) plan must	Relevant and A CQA program will be developed and implemented for the Appropriate construction of the landfill cap at Area A7. program	For all the regulati program identify quality

RCRA Subtitle C, Subpart C - equipment and Preparedness and Preparation (40 arrangements with CFR 264.30 - 264.37) requirements regarding communications equipment will apply during	Relevant and Since these regulations are prmarily intended for f Appropriate operations and a landfill cap being constructed local re	Requirem communic local re
---	---	----------------------------------

RCRA Subtitle C, Subpart D - contingency an emergency Contingency Plan and Emergency operations. Procedures (40 CFR 264.50 - 264.50)	Relevant and During all remedial action, a contingency pla Appropriate procedures will be developed.	Outline planning proced
--	---	----------------------------

RCRA - Subpart N, Landfill Closure designed and and Post-Closure Care (40 CFR standards. Cover to provide 264.310) protected.	Relevant and Cap design will meet performance standards. Appropriate prevention measures will be taken.	Final co Runofff a constructio Surveyed long-ter be accom necessar prevente 264.117
--	--	---

RCRA Subtitle C, Subpart G - poll-closure of Closure and Post-closure (40 CFR ground water 264.117 - 264.120) relevant and appropriate. period. Deed restrictions will be placed restricting the future uses of	Reievam and Because Area A7 is being closed as a landfill pa Appropriate concerning long-term maintained maintenance of the site ar Sets a minimum of 30-year post-closure care closure	Details hazardou monitori closure
---	--	--

plan will be prepared. The plan will identify maintenance activities and their frequency.

RCRA Subtitle C, Subpart F - monitoring	Relevant and	Specific
Releases from Solid Waste	Ground water monitoring will be conducted follow	
closure-care periods.	Appropriate	requirem
Management Units (40 CFR 264.90 -	of the cap. Corrective action may be taken monit	
monitoring shows	action.	Correcti
264.101)		exceeden

RCRA Proposed Amendmends for alternative closure and post-	To Be Considered	Provides
Landfill Closure (52 FR 8712)	Cap and post-closure monitoring will be design	closure
exposure pathways of concern.		conditio

Requirment	Status
Action To Be Taken To Attain ARAR	

RCRA - Land Disposal Restrictions	Applicable	Land dis
restricted without	If soil at Areas A7 and A9 fail TCLP testing, so	
(LDRs) (40 CFR 268)		specifie
the	before the final disposal. Soils that fail TCLP testing could not be	definiti
consolidated under the landfill cap at Area A7.		
		action m
		be consi
		specify
		technolo
		Subtitle

USEPA Guidance: Design and	To Be Considered	USEPA gu
on the design and	Guidance will be considered in the design and constu	
Construction of RCRA/CERCLA		construc
landfill cap at Area A7.		
Final Covers (EPA/625/4-91/025)		

USEPA Guidance: Quality	To Be Considered	USEPA gu
on quality	A construction quality assurance program will he dev	
Assurance and Quality Control for		assurita
facilities.	remedial action at Area A7 based on this guidance document.	
Waste Containment Facilities		
(EPA/600/R-93/182)		

Clean Water Act: Final NPDES	Relevant and	Address
For construction	During construction, storm water management practices	
General Permits for Storm Water	Appropriate	sites g
storm water	implemented.	



Discharges From Construction Sites;	polluti
stabilization	
Notice (57 FR 44412-44435)	practic
practices,	

such as  
mainten

#### Soil - State

HWR - General Management	Relevant and	Establi
including security. Requirements regarding security, inspection, and training		
Standards fur All Facililies (310	Appropriate	inspect
during and after construction of the landfill cap.		
CMR 30.510)		

HWR - Contingency Plan,	Relevant and	Require
spill control for During the remedial construction, safety and communication		
Emergency Procedures.	Appropriate	hazardo
shall will be kept at the site, and local authorities will be familiar		
Preparedness, and Prevention (310		include
situations and to site operations. Plans will be developed and implemented		prevent
CMR 30.520)		
work. Copies of plans will be kept on site.		

environ  
and fir

Requirement	Status
Action To Be Taken To Attain ARAR	

HWR - Landfill Closure and Post-	Relevant and	Sets for
a landfill. For Landfill cap at Area A7 will be designed to meet performan		
Closure Care (310 CMR 30.633(1) &	Appropriate	closure,
constructed to: provide for this requirement. Following construction lon		long-ter
(2B))		
maintenance requirements for the landfill will also apply.		

landfill  
minimize  
Post-clo  
from 310  
period (  
30.660).

HWR - Post-Closure (310 CMR	Relevant and	Requirem
operations and Requires a minimum of 30 years for post-closure car		
30.591(b) & 30.592(b))	Appropriate	maintena
which at any other site where hazardous waste will remain in place.		
		hazardou

HWR - Land Disposal Restrictions	Relevant and	Identifi
which Area restricted If soils from Areas A7 and A9 fail TCLP test, then		
(310 CMR 30.750)	Appropriate	from lan
limited which requires treatment prior to disposal, is applicabie.		

TCLP testing could not be consolidated under the landfill cap as part of Circumta

Massachusetts surface Water Quality Relevant and Massachu  
Act requires During construction, any new discharge outfall pipes wi  
Standards (310 CMR 4.00) (see also Appropriate addition  
during construction. be set back from the Assabet River. Receiving swale  
57 FR 44426-44427) Set back  
and trenches or basins, filter media dikes in other BMPs will be prep  
the goal to minimize erosion yer maximize infiltration of otherwise are depe  
to discharge.

Massachusetts Ambient Air Quality Applicable Establis  
ambient air quality The emissions limits for particulate matter will b  
Standards (310 CMR 6.00) standard  
6.04(1) engineering controls during construction activities at Ar  
provides  
standard  
matter a  
when the  
or equal  
concentr  
calendar  
is less

Requirement	Status
Action To Be Taken To Attain ARAR	

#### Federal

Human Health Evaluation Manual To Be Considered USEPA gu  
remediation goals for Using the guidance, risk-based cleanup level,  
(Pan B, Development of Risk-based carcinog  
various media. arsenic and thallium. Arsenic and thallium contamina  
Preliminary Remediation  
excavated to 30 and 20 parts per million, respectively.  
Goals)(OSWER 9285.7-01B)  
Confirmatory samples will be taken to ensure that all contaminated soils  
removed.

RCRA - Identification and Listing of	Applicable	Establis
Sets forth	Soils at Area A9 will be TCLP tested to determine if it is	
Hazardous Waste (40 CFR 261)		criteria
particular wastes.		

	identifies the characteristics of a	
hazardous waste and contains a list		
		of parti

Preparation of Soil Sampling	To Be	USEPA gu
soil	During remedial design, a soil sampling plan will be devel	
Protocols: Sampling Techniques and	Considered	sampling
the basis for	implementation during excavation of soil. The goal of th	
Strategies (EPA/600/R-92/128, July		proper s
discussed	will be to determine whether soil can be consolidated as pa	
1992)		includin
subgrade of the landfill cap or must be shipped off-site for		

State

HWR - Identification and Listing of	Applicable	Establis
regulated hazardous	Soil will be TCLP tested for arsenic to determine i	
Hazardous Waste (310 CMR 30.100)		waste.
hazardous,	characteristics.	
		characte

Massachusetts Air Pollution Control	Applicable	Establis
ambient air quality	If necessary, emissions limits for particulate mat	
Regulations (310 CMR 6.00)		standard
6.04(1)	through engineering controls during excavation activities	
		provides
		standard
		matter a
		when the
		or equal
		Concentr
		calendar
		is less tha

#### APPENDIX D

#### ADMINISTRATIVE RECORD INDEX

Fort Devens - Sudbury Annex

Administrative Record File

Index  
for Source Control  
Record of Decision for AOC A7 and A9

Prepared for  
New England Division  
Corps of Engineers

With Assistance from  
ABB Environmental Service, Inc  
Corporate Place 128, 107 Audubon Road, Wakefield, MA 01880 . (617) 245

Introduction

This document is the Index to the Administrative Record File for the Source Decision for AOCs A7 and A9 at the Fort Devens-Sudbury Annex. Section I of site-specific documents and Section II cites guidance documents used by U.S. Army in its response action at the site. Some documents in this Administrative Record have been cited but not physically included in the Administrative Record for the ROD. If a document has been cross-referenced to another Administrative Record, the available corresponding comments and responses have been cross-referenced. We made every effort to include all appropriate comments and responses individually. However, comments were only included as part of the response package.

The Administrative Record File is available for public review at EPA Region 1 in Boston, Massachusetts (index only), at the Fort Devens Environmental Management Office, Fort Devens, Massachusetts, and at the Sudbury Town Hall, Sudbury, Massachusetts. Supplemental/Addendum volumes may be added to this Administrative Record File. Comments concerning the Administrative Record should be addressed to the Fort Devens Management Office.

The Administrative Record is required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA).

ADMINISTRATIVE RECORD INDEX FILE  
for  
Source Control  
for Record of Decision for AOC A7 and A9  
Fort Devens - Sudbury Annex Sites

Complied: September 8, 1995

All of the below entries are filed in the Master Fort Devens - Sudbury Ann Record File and are therefore cross referenced in this Index.

1.0 Pre-Remedial

1.2 Preliminary Assessment

Reports

The record cited below as entry number 1 is oversized and may be rev appointment only, at the Fort Devens Environmentat Management Office

1. "Installation Assessment NARADCOM Research and Development La Massachusetts," EPA Environmental Monitoring Systems Labora 1982).
2. "Burn Pit Remediation - Study Area A9," U.S. Army (November 2

1.3 Site Inspection

Reports

1. "Final Report - Site Investigation - Natick Lab Annex Propert Associates (March 4, 1991).
2. Phase II Site Investigations Report (Draft), Vol I-III, Fort Training Annex, Massachusetts," Ecology and Environment, Inc.
3. "Phase II Site Investigations Report (Draft Final), Volume I-Sudbury Training Annex, Massachusetts," Ecology & Environment 1994).
4. "Replacement pages for the July 1994 Draft Final Phase II Sit Report, Fort Devens Sudbury Training Annex, Massachusetts." Environment, Inc. (September 1994).
5. "Draft Supplemental Site Investigation Task Order Work Plan, Sudbury Annex," ABB Environmental Services, Inc. (October 199
6. "Draft Final Supplemental Site Investigation Task Order Work Annex," ABB Environmental Services, Inc. (January 1995).
7. "Finat Supplemental Site Investigations Task Order Work Plan, ABB Environmental Services, Inc. (April 1995).
8. "Revised Figures, Final Supplemental Site Investigation Task Sudbury Annex," ABB Environmental Services, Inc. (May 1995).

Comments

9. Comments Dated April 29, 1994 from Lorna Bozeman, Department Human Services, Agency for Toxic Substances and Disease Regis Georgia on the "Draft Phase II site Investigation," (Ecology Inc.).
10. Comments Dated Ma 16, 1994 from Robert Lim, USEPA, on the "Dr II Site Investigations Report, Volumes 1-3," Ecology and Envi (March 1994).
11. Comments Dated June 14, 1994 from Jay Naparstek, Commonwealth Massachusetts Department of Environmental Protection on the M "Phase II Site Investigations Report Vol 1-3, Sudbury Trainin Massachusetts," Ecology and Environment, Inc.

12. Comments Dated June 27, 1994 from Robert Lim, USEPA, on the D Groundwater Model Report (as included in the Final Phase II S Report).
13. Comments Dated August 22, 1994 from Jay Naparstek, Commonwealth Massachusetts Department of Environmental Protection on the J II Site Investigations Report Vols 1-3, Fort Devens Sudbury T Massachusetts," Ecology and Environment, Inc.
14. Comments Dated August 23, 1994 from Robert Lim, USEPA, on the "Draft Final Phase II Site Investigations Report, Vol 1-3, Fort Devens Training Annex," Ecology and Environment, Inc.
15. Comments Dated November 22, 1994 from Robert Lim, USEPA, on the 1994 "Draft Task Order Work Plan, Supplemental Site Investigation Environmental Services, Inc.
16. Comments Dated December 5, 1994 from Jay Naparstek, Commonwealth Massachusetts Department of Environmental Protection on the "Investigations, Fort Devens Sudbury Training Annex Sudbury, MA Environmental Services, Inc.
17. Comments Dated February 22, 1995 from Robert Lim, USEPA, on the

1995 Draft Final Supplemental Site Investigation Task Order Work Plan Environmental Services, Inc.).

#### Responses to Comments

18. Responses Dated June 1994 from U.S. Army Environmental Center Phase II Site Investigations Report, Fort Devens Sudbury Training Annex, Massachusetts (Ecology and Environment, Inc.).
19. Responses Dated September 1994 from U.S. Army Environmental Center Draft Phase II Site Investigation Report, Fort Devens Sudbury (Ecology and Environment, Inc.).
20. Responses Dated January 20, 1995 from U.S. Army Environmental Center the Draft Supplemental Site Investigation Task Order Work Plan Environmental Services, Inc. (October 1994).
21. Responses Dated February 22, 1995 from U.S. Army Environmental Center the Draft Final Supplemental Site Investigation Task Order Work Plan Environmental Services, Inc. (January 1995).

#### Responses to Responses to Comments

22. Comments Dated November 23, 1994 from Jay Naparstek, Commonwealth Massachusetts Department of Environmental Protection on the Response Letter.
- 1.7 Correspondence Related to Proposal of a Site to the NPL
1. Letter from Daniel J. Hannon, Commonwealth of Massachusetts, Department of Environmental Protection to Fort Devens Installation Commander (1991), concerning notification that Fort Devens is considered a site.
- 2.0 Removal Response
  - 2.1 Correspondence
    1. Memorandum from Timothy Prior, U.S. Army for the Recorder concerning contaminated soil disposal.
    2. Memorandum from Joseph Pierce, U.S. Army to Fort Devens Commander (August 19, 1991) concerning Air Force nonconformance

Sudbury Annex.

3. "Record of Environmental Consideration," (November 9,
4. "3 Bills of Lading," (May 6, 1993).

## 2.2 Removal Response Reports

1. "Removal of Underground Storage Tanks," Environmental (1989).
2. "Post Removal Reports - UST No. 0094-SA P12 Burning G Storage Tank Closure," ATEC Environmental Consultants
3. "Post Removal Report - Underground Storage Tank Closures Building 405," ATEC Environmental Consultants (November)
4. "Post Removal Report - Underground Storage Tank Closures Building 106," ATEC Environmental Consultants (November)

## 3.0 Remedial Investigation (RI)

### 3.4 Interim Deliverables

The document cited below as entry number 1 may be reviewed by the Fort Devens Environmental Management Office.

1. "Installation Action Plan," (July 14, 1993).
2. "Initial Screening of Remedial Technologies and Processes Sudbury Training Annex, Middlesex County, Massachusetts Services Corp., (September 23, 1993).
3. "Development and Screening of Remedial Alternatives For Training Annex, Middlesex County, Massachusetts," OHM Corp., (October 28, 1993).

### Comments

4. Comments Date October 25, 1993 from D. Lynne Welsh, Co Massachusetts Department of Environmental Protection on of Remedial Technologies and Process Options, Fort Dev Annex, Middlesex County, Massachusetts, OHM Remediation 23, 1993).
5. Comments Dated October 26, 1993 from Robert Lim, USEPA Screening of Remedial Technologies and Process Options Corp. (September 23, 1993).
6. Comments Dated October 27, 1993 from Cindy Svec Ruzich on the "Draft Initial Screening of Remedial Technologies"
7. Comments Dated December 10, 1993 from Robert Lim, USEPA 1993 "Draft Development and Screening of Remedial activities Devens Sudbury Training Annex," OHM Remediation Services
17. Comments Dated December 22, 1993 from Jay Naparstek, C

Massachusetts Department of Environmental Protection on the October "Development and Screening of Remedial Alternatives: Fort Dev Training Annex, Sudbury Massachusetts," OHM Remediation Services

## 3.6 Remedial Investigation (RI) Reports

The records cited below as entries number 1 and 2 may be reviewed, but only, at the Fort Devens Environmental Management Office.

1. "Final Remedial Investigations of the Sudbury Annex," Dames & (November 1986).
2. "Draft Site/Remedial Investigation Report - Volumes I-IV," OH Services Corp. (February 1993).
3. "Draft/Final Site/Remedial Investigation Report - Vol I-V," O Services Corp. (July 1993).
4. "Final Site/Remedial Investigation Report Fort Devens Sudbury Middlesex County, Massachusetts," OHM Remediation Services Co 31, 1993).
5. "Final Report Site/Remedial Investigation, Fort Devens Sudbur Middlesex County, Massachusetts, Vol I-VI," OHM Remediation S (January 1994).
6. "Draft Addendum Report Site/Remedial Investigation, Fort Deve Training Annex Middlesex County, Massachusetts," OHM Remediat Corp. (August 1994).
7. "Draft Final Addendum Report, Site/Remedial Investigation, Fo Sudbury Training Annex. Middlesex County, Massachusetts," OH Services Corp. (April 1995).

#### Comments

8. Comments Dated April 12, 1993 from Cindy Svec Ruzich, Four To on the February 1993 "Draft Site/Remedial Investigation - Vol Remediation Services Corp with the attached Comments Dated Ma from Cambridge Environmental, Inc. on the February 1993 "Draf Investigation - Volumes I-IV," OHM Remediation Services Corp.
9. Comments Dated April 12, 1993 from James P. Byrne, EPA Regio February 1993 "Draft Site/Remedial Investigation - Volume I-I Remediation Services Corp.
10. Comments Dated April 13, 1993 from Molly J. Elder for D. Lynn Commonweatth of Massachusetts Department of Environmental Pro February 1993 "Draft Site/Remedial Investigation - Volume I-I Remediation Services Corp.
11. Comments Dated May 18, 1993 from Kenneth C. Carr for Gordon E

U.S. Department of the Interior Fish and Wildlife Services on "Draft Site/Remedial Investigation - Volume I-IV," OHM Remedi Corp.

12. Comments Dated August 6, 1993 from Cindy Svec Ruzich, Four To on the Comment Time Extension on the "Draft Final RI/SI Repor Response to FOCUS Comments on "Draft RI/SI Investigation Repo
13. Comments Dated August 20, 1993 from James P. Byrne, USEPA, on Final Site/Remedial Investigation Report," OHM Remediation Se
14. Comments Dated September 2, 1993 from D. Lynne Welsh, commonw Massachusetts Department of Environmental Protection on the J Final Site/Remedial Investigation Report," OHM Remediation Se
15. Update of Comments Dated September 12, 1993 from Cindy Svec R Town Focus on the Draft SI/RI Investigation Report.
16. Comments Dated September 14, 1993 from Robert Lim, USEPA on t Time Extension on "Draft Final SI/RI Investigation Report and to Comments on "Draft SI/RI Investigation Report".
17. Comments Dated October 3, 1994 from Jay Naparstek, Commonweal Massachusetts Department of Environmental Protection on the A "Draft Addendum Final Site/Remedial Investigation Report, For Training Annex," OHM Remediation Services Corp.
18. Comments Dated October 5, 1994 from Robert Lim, USEPA, on the Addendum Report, Fort Devens Sudbury Training Annex.



19. Comments Dated October 13, 1993 from Cindy Svec Ruzich of Fou on the Draft Final RI/SI Phase I Investigation Report, Volume
20. Comments Dated October 17, 1994 from Robert Lim, USEPA, on th 1994 Draft SI/Ri Addendum Report, Fort Devens Sudbury Trainin Remediation Services Corp.).
21. Comments Dated November 1, 1994 from Jay Naparstek, Commonwea Massachusetts Department of Environmental Protection on the A Addendum Report, Fort Devens Sudbury Training Annex.
22. Letter Dated November 7, 1994 from Robert Lim, USEPA, to the Risk Assessment Issues in the Remedial Investigation of Areas A4, A7, and A9.
23. Follow-up Letter Dated November 21, 1994 from Robert Lim, USE Ecological Risk Assessment Issues in the Remedial Investigati Contamination A4, A7, and A9.
24. Comments Dated May 19, 1995 from Robert Lim, USEPA, on the Dr Site/Remedial Investigation Addendum Report, Fort Devens Sudb Annex (OHM Remediation).
25. Comments Dated May 19, 1995 from Robert Lim, USEPA, on the Ar Contamination A9, Risk Based Soil Cleanup Level for Thallium.

#### Response to Comments

26. Responses Dated July 16, 1993, July 19, 1993 and July 28, 199 Remediation Services Corp to the April 12, 1993 Four Town FOC 12, 1993 EPA Region I, the April 13, 1993 Commonwealth of Mas Department of Environmental Protection and the May 18, 1993 U of Interior Fish and Wildlife Service Comments on the Februar Site/Remedial Investigation- Volumes I-IV," OHM Remediation S
27. Responses Dated October 14, 1993 from U.S. Army Environmental Draft Site/Remedial Investigation Report, Fort Devens Sudbury (OHM Remediation Services Corp.).
28. Responses Dated October 28, 1993 from U.S. Army Environmental Draft Final Site/Remedial investigation Report, Fort Devens S Annex (OHM Remediation Services Corp.).
29. Responses Dated November 4, 1994 from OHM Remediation Service the USEPA Comments on the "Draft SI/RI Addendum Report.
30. Responses Dated June 21, 1995 from U.S. Army Environmental Ce Draft Final Addendum to the Final Site/Remedial Investigation Devens Sudbury Training Annex.

#### Responses to Responses to Comments

31. Rebuttals Dated November 15, 1994 from Robert Lim, USEPA, on to the Army's Responses to Comments on the Draft SI/RI Addend
32. Correction Letter Dated November 22, 1994 from Robert Lim, US November 15, 1994 letter.

#### 3.7 Work Plans and Progress Reports

#### Reports

The records cited below as entries number 1 and 2 may be reviewed, b only, at the Fort Devens Environmental Management Office.

1. "Draft Work Plan, Draft Field Sampling Plan, Draft Heatth and Draft Quality Assurance Plan," OHM Remediation Services Corp 1991).

2. "Draft Final Work Plan, Draft Final Field Sampling Plan, Draft Safety Plan, Draft Final Quality Assurance Plan," OHM Remediation Services Corp. (December 1991).
  3. "Final Work Plan," OHM Remediation Services Corp. (April 1992)
  4. "Final Field Sampling Plan," OHM Remediation Services Corp. (April 1992)
  5. "Final Health and Safety Plan," OHM Remediation Services Corp. (April 1992)
  6. "Final Quality Assurance Project Plan - Volume I-II," OHM Remediation Services Corp. (April 1992).
- 
7. "Draft Master Quality Assurance Project Plan," Ecology and Environment, Inc. (June 1993).
  8. "Draft Technical Plan Addenda, Phase II Site Inspections, Remediation Investigations," Ecology and Environment, Inc. (June 1993).
  9. "Final Technical Plan Addenda, Phase II Site Inspections, Remediation Investigations, Fort Devens Sudbury Training Annex, Massachusetts & Environment, Inc. (January 1994).

#### Comments

10. Comments Dated August 21, 1991 from Anne D. Flood, Town of Middlebury on the June/July 1991 "Draft Work Plan, Draft Field Sampling Plan and Safety Plan, Draft Quality Assurance Plan," OHM Remediation Services Corp.
11. Comments Dated August 22, 1991 from Gregory M. Ciardi, Maynard Schools on the June/July 1991 "Draft Work Plan, Draft Final Safety Plan, Draft Health and Safety Plan, Draft Quality Assurance Plan," OHM Remediation Services Corp.
12. Comments Dated February 12, 1992 from Todd S. Alving, Organized River on the December 1991 "Draft Final Work Plan, Draft Field Sampling Plan, Draft Final Health and Safety Plan, Draft Final Quality Assurance Plan," OHM Remediation Services Corp.
13. Comments Dated May 13, 1992 from James P. Byrne, EPA Region I on the April 1992 "Final Work Plan, Final Field Sampling Plan, Final Health and Safety Plan, Final Quality Assurance Project Plan," OHM Remediation Services Corp. and the April 1992 "Final Community Relations Plan," Dames & Moore.
14. Comments Dated May 18, 1992 from Ken Raina, Lake Boon Association on the April 1992 "Final Work Plan, Final Field Sampling Plan, Final Health and Safety Plan, Final Quality Assurance Project Plan," OHM Remediation Services Corp.
15. Comments Dated May 19, 1992 from Deborah Schumann and Cindy S. Ruzich, Four Town FOCUS on the April 1992 "Final Work Plan, Final Field Sampling Plan, Final Health and Safety Plan, Final Quality Assurance Project Plan," OHM Remediation Services Corp.
16. Comments dated July 7, 1993 from Jack McKenna, Metcalf & Eddy on the July 1993 "Draft Technical Plan Addenda, Phase II Site Inspections, Remediation Investigations," Ecology and Environment, Inc. and the June 1993 Addendum to the Final Technical Plans - Phase II Feasibility Study, Remediation Services Corp.
17. Comments Dated July 23, 1993 from Molly J. Elder for D. Lynne on the June 1993 "Draft Master Quality Assurance Project Plans," Ecology and Environment, Inc.
18. Preliminary Comments Dated July 25, 1993 from Cindy Svec Ruzich, Four Town Focus on the "Technical Plan Addenda, Phase II Site Inspections, Remediation Investigations," Ecology and Environment, Inc.

Investigations," Ecology and Environment, Inc.

19. Comments Dated August 5, 1993 from Lynne Chappell, Commonwealth Massachusetts Department of Environmental Protection on the J "Technical Plans Addenda Phase II Site Inspections, Remedial Devens Sudbury Training Annex, Massachusetts, " Ecology and E
20. Comments Dated August 6, 1993 from James P. Byrne, USEPA, on Work Plan, Field Sampling Plan, Quality Assurance Project Plan, Safety Addenda for the Phase II Site Investigations and Remedial Ecology and Environment, Inc.

#### Responses to Comments

21. Response Dated October 1991 from OHM Remediation Services Corporation Regulatory Agency Comments on the June/July 1991 "Draft Work Field Sampling Plan, Draft Health and Safety Plan, Draft Quality Assurance Project Plan," OHM Remediation Services Corp.
22. Response Dated November 19, 1991 from Joseph Pierce, U.S. Army August 21, 1991 Comments from Todd S. Alving, Organization for River on the June/July 1991 "Draft Work Plan, Draft Field Sampling Plan, Draft Health and Safety Plan, Draft Quality Assurance Project Plan, Remediation Services Corp.
23. Response Dated November 20, 1991 from Dennis R. Dowdy, U.S. Army August 22, 1991 Comments from Gregory M. Ciardi, Maynard Public on the June/July 1991 "Draft Work Plan, Draft Field Sampling and Safety Plan, Draft Quality Assurance Project Plan," OHM Remediation Services Corp.
24. Response Dated November 25, 1991 from Ronald J. Ostrowski, U.S. Army the August 21, 1991 Comments from Anne D. Flood, Town of Maynard June/July 1991 "Draft Work Plan, Draft Field Sampling Plan, Draft Health and Safety Plan, Draft Quality Assurance Plan," OHM Remediation Services Corp.
25. Response Dated November 1991 from OHM Remediation Services Corporation Four Town FOCUS Comments on the June/July 1991 "Draft Work Plan, Draft Field Sampling Plan, Draft Health and Safety Plan, Draft Quality Assurance Plan," OHM Remediation Services Corp.
26. Responses from OHM Remediation Services Corp. to EPA Region I FOCUS, and the U.S. Department of the Interior Fish and Wildlife Comments on the December 1991 "Draft Final Work Plan, Draft Final Sampling Plan, Draft Final Health and Safety Plan, Draft Final Quality Assurance Plan," OHM Remediation Services Corp.
27. Draft Responses to Four Town FOCUS Comments on the April 1992 Work Plan," OHM Remediation Services Corp.
28. Responses Dated September 1993 from U.S. Army Environmental Command Technical Plan Addenda Phase II Site Investigation/Remedial Investigation Devens Sudbury Training Annex, Massachusetts (Ecology and Environment, Inc.).

Inc.).

#### Responses to Responses to Comments

29. Response Dated October 21, 1991 from D. Lynne Chappell, Commonwealth Massachusetts Department of Environmental Protection to the Response October 1991 from OHM Remediation Services Corp. to Regulatory Agency Comments on the June/July 1991 "Draft Work Plan, Draft Field Sampling Plan, Draft Health and Safety Plan, Draft Quality Assurance Plan," OHM Remediation Services Corp.
30. Response Dated October 22, 1991 from James P. Byrne, EPA Region I Response Dated October 1991 from OHM Remediation Services Corporation Regulatory Agency Comments on the June/July 1991 "Draft Work Field Sampling Plan, Draft Health and Safety Plan, Draft Quality Assurance Project Plan," OHM Remediation Services Corp.

- Pan," OHM Remediation Services Corp.
31. Response Dated October 22, 1991 from Steven E. Mierzykowski, Department of the Interior Fish and Wildlife Service to the R October 22, 1991 from OHM Remediation Services Corp. to Regul Comments on the June/July 1991 "Draft Work Plan, Draft Field Draft Health and Safety Plan, Draft Quality Assurance Plan," Services Corp.
32. Response Dated January 2, 1992 from Four Town FOCUS to the Re November 1991 from OHM Remediation Services Corp. to the FOCU Comments on the June/July 1991 "Draft Work Plan, Draft Field Draft Quality Assurance Plan," OHM Remediation Services Corp.
33. Rebuttals Dated November 2, 1993 from D. Lynne Welsh, Commonw Massachusetts Department of Environmental Protection on the J Technical Plan Addenda, Phase II Site Investigation/Remedial Sudbury Training Annex," Ecology and Environment, Inc.
- 3.9 Health Assessments
1. "Health Consultation," U.S. Department of Health and Human Se for Toxic Substances and Disease Registry (November 23, 1992)
2. "Final Site-Specific Risk Assessment for the Sudbury Training Sudbury, Massachusetts," OHM Remediation Services Corp. (Janu

#### 4.0 Feasibility Study (FS)

##### 4.4 Interim Deliverables

1. "Preliminary Draft Screening of Alternatives," OHM Remediatio (May 25, 1993).

##### 4.6 Feasibility Study (FS) Reports

1. "Draft Final Report Feasibility Study, Fort Devens Sudbury Tr Middlesex County, Massachusetts," OHM Remediation Services Co 1994).
2. "Draft Final Feasibility Study Report, Fort Devens Sudbury Tr Middlesex County, Massachusetts," OHM Remediation Services Co 1994).
3. "Draft Final Report, Feasibility Study at Fort Devens Sudbury Areas A7 and A9," OHM Remediation Services Corp. (January 199
4. "Draft Final Feasibility Study at Fort Devens Sudbury Trainin and A9," OHM Remediation Services Corp. (March 1995).
5. "Final Feasibility Study at Fort Devens Sudbury Training Anne A9," OHM Remediation Services Corp. (May 1995).

##### Comments

6. Letter Dated January 30, 1995 from Robert Lim, USEPA, on the Record of Decision Proposal for Fort Devens Sudbury Annex Are Contamination A7 and A9.
7. Comments Dated March 2, 1995 from Robert Lim, USEPA, on the D Feasibility Study Report at Fort Devens Sudbury Training Anne A9," (OHM Remediation Services Corp.).
8. Comments Dated April 3, 1995 from Robert Lim, USEPA, on the F Sudbury Training Annex Feasibility Study for Area A7, 100-Flo Specific ARAR," (OHM Remediation Services Corp.).
9. Cross Reference: Comment Dated May 19, 1995 from Robert Lim, the Area of Contamination A9, Risk Based Soil Cleanup Level f [Filed and Cited as entry number 29 in minor break 3.6 Remedi

Reports of this Administrative Record File Index.]

Response to Comments

10. Responses Dated September 20, 1994 from U.S. Army Environment the Draft Final Feasibility Study (OHM Remediation Services Corp.)
11. Responses Dated May 2, 1995 from U.S. Army Environmental Center Draft Final Feasibility Study Report, Sudbury Training Annex Remediation Services Corp.).

Responses to Responses to Comments

12. Rebuttals Dated October 4, 1994 from Robert Lim, USEPA, on the Response to Comments on the Feasibility Study.

4.7 Work Plans and Progress Reports

Reports

1. "Draft Final Addendum to the Final Technical Plans - Phase II OHM Remediation Services Corp. (June 1993).
2. "Final Addendum to the Final Technical Plans for the Phase II at the Fort Devens Sudbury Training Annex, Middlesex County, OHM Remediation Services Corp. (November 10, 1993).

Comments

3. Cross Reference: Preliminary Comments Dated July 7, 1993 from Metcalf & Eddy on the June 1993 "Draft Technical Plan Addenda Inspections, Remedial Investigations," Ecology & Environment 1993 "Draft Final Addendum to the Final Technical Plans - Phase II Study," OHM Remediation Services Corp. Filed and cited as entered in 3.7 Work Plans and Progress Reports in this Administrative
4. Comments Dated July 22, 1993 from D. Lynne Chappell, Commonwealth of Massachusetts Department of Environmental Protection on the Final Addendum to the Final Technical Plans - Phase II Feasibility Remediation Services Corp.
5. Comments Dated July 23, 1993 from D. Lynne Welsh, Commonwealth of Massachusetts Department of Environmental Protection on the "Final Technical Plans Phase II Feasibility Study, Fort Devens Annex, Sudbury, Massachusetts," OHM Remediation Services Corp.
6. Comments Dated August 6, 1993 from James P. Byrne, USEPA, on 1993 "Addendum to the Final Technical Plans, Phase II Feasibility Devens Sudbury Training Annex," OHM Remediation Services Corp.
7. Comments Dated August 6, 1993 from Cindy Svec Ruzich of Four on the "Draft Addendum to the Final Technical Plans Phase II Remediation Services Corp.

Responses to Comments

8. Responses Dated September 7, 1993 from OHM Remediation Services Corp. USEPA Comments on the "Addendum to the Final Technical Plans, Feasibility Study, Fort Devens Sudbury Training Annex.

Responses to Responses to Comments

9. Rebuttal Dated October 1, 1993 from D. Lynne Welsh, Commonwealth of Massachusetts Department of Environmental Protection on the J

Responses to MADEPs Comments on the Draft Final Addendum to t

Technical Plans Phase I Feasibility Study, Fort Devens Sudbury  
Sudbury, Massachusetts (OHM Remediation Corp).

4.9 Proposed Plan for Selected Remedial Action

Reports

1. "Draft Proposed Plan, Area 7, the Old Gravel Pit Landfill, A  
Burn Area, Fort Devens Sudbury Training Annex, Sudbury, Massa  
OHM Remediation Services Corp. (March 1995).
2. "Draft Final Proposed Plan, Area 7, the Old Gravel Pit Landfi  
POL Burn Area, Fort Devens Sudbury Training Annex, Sudbury, M  
OHM Remediation Services Corp." (April 1995).
3. "Proposed Plan AOC A7, the Old Gravel Pit Landfill, AOC A9, t  
Area, Fort Devens Sudbury Training Annex, Middlesex County, M  
OHM Remediation Services Corp. (June 1995).

Comments

4. Comments Dated April 12, 1995 from Robert Lim, USEPA, on the  
Draft Proposed Plan, Sudbury Training Annex (OHM Remediation  
Corp.).
5. Comments Dated May 18, 1995 from Robert Lim, USEPA on the Apr  
Draft Final Proposed Plan, Fort Devens Sudbury Training Annex  
Remediation Services Corp.).

5.0 Record of Decision (ROD)

5.2 Applicable or Relevant and Appropriate Requirements (ARARs)

1. Letter from D. Lynne Chappell, Commonwealth of Massachusetts  
Environmental Protection to Jeff Waugh, U.S. Army (January 6,  
Concerning transmittal of the attached potential ARARs.
2. "Draft Preliminary Applicable or Relevant and Appropriate Req  
Fort Devens Sudbury Training Annex," OHM Remediation Services  
(January 21, 1993).

5.4 Record of Decision

Reports

1. "Record of Decision, Source Control Operable Unit, AOC A7, th  
Pit Landfill, AOC A9, the POL Burn Area, Fort Devens Sudbury  
  
Annex, Middlesex County, Massachusetts," OHM Remediation Serv  
(June 1995).
2. "Draft Final Record of Decision, Source Control Operable Unit  
Old Gravel Pit Landfill, AOC A9, the POL Burn Area, Fort Deve  
Training Annex Middlesex County, Massachusetts," OHM Remediat  
Corp. (August 1995).
3. "Final Record of Decision, Source Control Operable Unit, AOC  
Gravel Pit Landfill, AOC A9, the POL Burn Area, Fort Devens S

Training Annex Middlesex County, Massachusetts," OHM Remediat Corp. (September 1995).

#### Comments

4. Comments Dated July 21, 1995 from Robert Lim, USEPA, on the J Draft Record of Decision, Source Control Operable Unit AOC A7 Gravel Pit Landfill, AOC 9, the POL Burn Area, Fort Devens Su Annex, Middlesex County, Massachusetts (OHM Remediation Servi
5. Comments Dated August 25, 1995 from Robert Lim, USEPA, on the 1995 Draft Final Record of Decision, Source Control Operable the Old Gravel Pit Landfill, AOC 9, the POL Burn Area, Fort D Training Annex, Middlesex County, Massachusetts (OHM Remediat Corp.).

### 10.0 Enforcement

#### 10.16 Federal Facility Agreements

##### Reports

The document cited below as entry number 1 may be reviewed, by appoi the Fort Devens Environmental Management Office.

1. "Draft Federat Facility Agreement Under CERCLA Section 120," I and U.S. Department of the Army (March 1991).
2. "Final Federal Facility Agreement Under CERCLA Section 120," I and U.S. Department of the Army (November 15, 1991).

#### Comments

3. Comments Dated July 12, 1991 from Edmond G. Benoit, Commonwea Massachusetts Department of Environmental Protection on the M Federat Facility Agreement Under CERCLA Section 120," EPA Reg U.S. Department of the Army.

#### Responses to Comments

4. Response Dated September 5, 1991 from James P. Byrne, EPA Reg Comments Dated July 12, 1991 from Edmond G. Benoit, commonwea Massachusetts Department of Environmental Protection on the M Federal Facility Agreement Under CERCLA Section 120," EPA Reg U.S. Department of the Army.

### 13.0 Community Relations

#### 13.2 Community Relations Plans

##### Reports

The document cited below as entries 1 and 2 may be reviewed, by appo the Fort Devens Environmental Management Office.

1. "Draft Community Relations Plan," Dames & Moore (August 1991)
2. "Draft Final Community Relations Plan," Dames & Moore (Decemb
3. "Final Community Relations Plan," Dames & Moore (April 1992).

#### Comments

4. Comments Dated September 30, 1991 from Cindy Svec Ruzich and Schumann, Four Town FOCUS on the August 1991 "Draft Community Plan," Dames & Moore.
5. Comments Dated February 14, 1992 from Cindy Svec Ruzich and D Schumann, Four Town FOCUS on the December 1991 "Draft Final C Relations Plan," Dames & Moore.
6. Comments Dated March 17, 1992 from D. Lynne Chappell, Commonw Massachusetts Department of Environmental Protection on the D "Draft Final Community Relations Plan," Dames & Moore.
7. Comments from James P. Byrne, EPA Region I on the December 19 Final Community Relations Plan," Dames & Moore.
8. Croa Reference: Comments Dated May 13, 1992 from James P. By Region I on the April 1992 "Final Work Plan, Final Field Samp Heath and Safety Plan, Final Quality Assurance Project Plan," Corp. and the April 1992 "Final Community Relations Plan," Da Filed and cited as entry number 15 in 3.7 Work Plans and Prog this Administrative Record Index.

#### Response to Comments

9. Response to the EPA Comments on the August 1991 "Draft Commun Plan," Dames & Moore.
10. Response to the Commonwealth of Massachusetts Department of E Protection Comments on the August 1991 "Draft Community Relat Dames & Moore.

#### 13.11 Technical Review Committee Documents

1. Technical Review Committee Meeting Summary, List of Attendees (May 14, 1991).
2. Technical Review Committee Meeting Summary and List of Attend 1991).
3. Technical Review Committee Meeting Summary and List of Attend 23, 1991).
4. Technical Review Committee Meeting Summary and List of Attend 23, 1991).
5. Technical Review Committee Meeting Summary, Agenda, Handouts, and List of Attendees (April 28, 1992).
6. Technical Review Committee Meeting Summary, Agenda, Handouts, and List of Attendees (July 14, 1992).
7. Technical Review Committee Meeting Summary, Agenda, Handouts, and List of Attendees (October 27, 1992).
8. Agenda and Attendance List for Sudbury Annex Working Meeting 1992).
9. Technical Review Committee Meeting Summary, List of Attendees (February 2, 1993).
10. Letter from Richard D. Dotchin, U.S. Army to James P. Byrne, (March 3, 1993). Concerning followup to the February 2, 1993 Committee Meeting.
11. Technical Review Committee Meeting Summary, List of Attendees (rune 9, 1993).

#### 17.0 Site Management Records

##### 17.6 Site Management Plans

The document cited below as entries number 1 and 2 may be reviewed,



only, at the Fort Devens Environmental Management Office.

#### Reports

1. "Draft Master Environmental Plan," OHM Remediation Services C 1991).
2. "Draft Final Master Environmental Plan," OHM Remediation Serv (October 1991).
3. "Final Master Environmental Plan," OHM Remediation Services C 1992).
4. "Draft Master Environmental Plan, Fort Devens Sudbury Trainin Massachusetts," Ecology & Environment, Inc. (May 1994).
5. "Draft Project Operations Plan, Fort Devens Sudbury Training Massachusetts, Volume I & II," ABB Environmental Services, In 1 994).
6. "Final Project Operations Plan, Fort Devens Sudbury Training Massachusetts, Volume I & II," ABB Environmental Services, In

#### Comments

7. Comments Dated July 11, 1991 from James P. Byrne, EPA Region 1991 "Draft Master Environmental Plan," OHM Remediation Servi
8. Comments Dated July 15, 1991 from D. Lynne Chappell, Commonwe Massachusetts Department of Environmental Protection on the M Master Environmental Plan," OHM Remediation Services Corp.
9. Comments from James P. Byrne, EPA Region I on the January 199 Master Environmental Plan," OHM Remediation Services Corp.
10. Comments Dated June 27, 1994 from Robert Lim, USEPA, on the M "Master Environmental Plan, Update, Fort Devens Sudbury Train Massachusetts," Ecology and Environment, Inc.

#### Responses to Comments

11. Response Dated August 28, 1991 from OHM Remediation Services Comments Dated July 11, 1991 from James P. Byrne, EPA Region 1991 "Draft Master Environmental Plan," OHM Remediation Servi
12. Response Dated August 28, 1991 from OHM Remediation Services Comments Dated July 15, 1991 from D. Lynne Chappell, Commonwe Massachusetts Department of Environmental Protection on the M Master Environmental Plan," OHM Remediation Services Corp.

#### Responses to Responses to Comments

13. Raponse Dated September 12, 1991 from James P. Byrne, EPA Reg Response Dated August 28, 1991 from OHM Remediation Services

#### 17.8 Federal and Local Technical and Historical Records

The document cited below as entry number 1 may be reviewed, by appoi the Fort Devens Environmental Management Office.

1. "An Intensive Archeological Survey of the Sudbury Training An Archaeology Laboratory, Inc. (April 1985).

## GUIDANCE DOCUMENTS

The following guidance documents were relied upon during the Fort De cleanup. These documents may be reviewed, by appointment only, at the Management Office at Fort Devens, Massachusetts.

1. Occupational Safety and Health Administration (OSHA). Hazardous Emergency Response (Final Rule, 29 CFR Part 1910, Federal Register Number 42) March 6, 1989.
2. USATHAMA. Geotechnical Requirements for Drilling Monitoring Well Acquisition, and Reports, March 1988.
3. USATHAMA. IRDMIS User's Manual, Version 4.2, April 1991.
4. USATHAMA. USATHAMA Quality Assurance Program: PAM-41, January 1991.
5. USATHAMA. Draft Underground Storage Tank Removal Protocol - Fort Devens, Massachusetts, December 4, 1992.
6. U.S. Environmental Protection Agency. Guidance for Preparation of Work/Quality Assurance Project Plans for Environmental Monitoring May 1984.
7. U.S. Environmental Protection Agency. Office of Research and Development. Guidelines and Specifications for Preparing Quality Assurance Plans EPA/600/5-80/005, 1983.
8. U.S. Environmental Protection Agency. Test Methods for Evaluating Solid Waste SW-846 Third Edition, September 1986.
9. U.S. Environmental Protection Agency. Office of Emergency and Hazardous Waste. Risk Assessment Guidance for Superfund, Volume I, Human Health (Part A), EPA/1-89/002, 1989.
10. U.S. Environmental Protection Agency. Office of Emergency and Hazardous Waste. Risk Assessment Guidance for Superfund, Volume I, Human Health (Part A), EPA/1-89/002, 1989.
11. U.S. Environmental Protection Agency. Hazardous Waste Management and Identification Listing of Hazardous Waste: Toxicity Characterization Rule, 40 CFR Part 261 et seq., Federal Register Part V, June 29, 1980.
12. U.S. Army. Environmental Quality - Environmental Protection and Regulation 200-1, April 23, 1990.
13. U.S. Environmental Protection Agency, 1991. Design and Construction of RCRA/CERCLA Final Covers; Office of Research and Development; EPA/625/4-91/025: May.
14. U.S. Environmental Protection Agency, 1991. Risk Assessment Guidance Volume I - Human Health Evaluation Manual (Part B, Development of Preliminary Remediation Goals) Interim; Office of Emergency and Hazardous Waste, Washington, DC; Publication 9285.7-01B; October.

## APPENDIX E

### STATE LETTER OF CONCURRENCE

<IMG SRC 0195106D>

Commonwealth of Massachusetts  
Executive Office of Environmental Affairs

Department of

Environmental Protection

William F. Weld  
Governor

Trudy Cox  
Secretary

Argeo Paul Cellucci  
Lt. Governor

David B. Stru  
Commissioner

September 26, 1995

John P. DeVillars  
Regional Administrator  
U.S. Environmental Protection Agency  
Region I, JFK Building  
Boston MA., 02203-2211

RE: Fort Devens Sudbury Training Annex  
AOC A7, the Old Gravel Pit Landfill  
AOC A9, the POL Burn Area  
Sudbury, MA

Dear Mr. DeVillars:

The Massachusetts Department of Environmental Protection (MA DEP) has reviewed the August, 1995 Draft Final Record of Decision (ROD) regarding sites AOC A7 and AOC A9 for the Fort Devens Sudbury Training Annex Superfund Site located in Sudbury, Massachusetts.

Based upon that draft final report, MA DEP concurs with the selected remedial action. This action addresses the problems associated with AOC A7 and AOC A9 by preventing further endangerment to health, welfare, and the environment by implementation of this record of decision.

The preferred remedial alternative for AOC's A7 and A9 involves excavating laboratory waste with removal to an approved treatment facility. Additional contaminated soil and solid waste below hazardous levels will be consolidated in the central landfill area of AOC 7.

The landfill area will be capped with a RCRA Subtitle C multi-layer cap. Fencing, monitoring, and maintenance provisions with inspection over the life of the facility will be required.

Specifically, the major components for the selected alternative are as follows:

Site Preparation and Grading  
Excavation and Off-Site Treatment/Disposal of Laboratory Waste at AOC 7  
Excavation of Contaminated Soil from AOC A9 and Consolidation

One Winter Street Boston, Massachusetts 02108 FAX (617) 556-1049

<IMG SRC 0195106E> printed

at AOC A7

Construction of RCRA Subtitle C Landfill Cap at AOC A7  
Environmental Monitoring and O&M at AOC A&7  
Institutional Controls at AOC A7  
Five Year Reviews at AOC A7

The remedial action selected for the AOC A7 and AOC A9 is consistent with the Massachusetts Contingency Plan. This remedy is protective of human health, welfare and the environment, attains ARAR's and is cost effective.

This concurrence is based upon the State's understanding that:

- 1). The MADEP will continue in the review and approval of operational designs and maintenance plans
- 2). Ground water monitoring wells will be established on the northerly side of the proposed landfill.
- 3). Site conditions shall be reviewed within five (5) years from the conclusion of the remedial action to ensure that public health and the environment are not impacted.

If you require any additional information regarding this matter please contact the Bureau of Waste Site Cleanup at any time.

Very truly yours,

Edward Kunce, Deputy  
Assistant Commissioner

cc: Ms. Linda Murphy, Director, U.S. EPA  
Mr. Jerry Collins, Maynard BOH  
Mr. Robert Dargaty, Town of Stow  
Mr. Robert Steere, Hudson Board of Selectmen  
Mr. Strunk, Fort Devens, EMO  
Ms. Cindy Ruzich, Four Town FOCUS  
Mr. Robert Lim, U.S. EPA  
Mr. Richard Chalpin, MADEP NERO  
Mr. Steven Johnson, MA DEP  
Ms. Lynne Welsh, CERO