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U.S. Army Corps of Engineers
New England District

RECORD OF DECISION
AREA OF CONTAMINATION 63AX
DEVENS RESERVE FORCES TRAINING AREA
DEVENS, MASSACHUSETTS

IN ACCORDANCE WITH U.S. ARMY REGULATION 200-2, THIS DOCUMENT IS INTENDED BY THE U.S. ARMY TO COMPLY WITH THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969.

SEPTEMBER
~~OCTOBER~~ 1997

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ABB Environmental Services, Inc.

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DEVENS RESERVE FORCES TRAINING AREA
DEVENS, MASSACHUSETTS

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AREA OF CONTAMINATION 63AX
DEVENS RFTA
DEVENS, MASSACHUSETTS

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DECLARATION FOR THE RECORD OF DECISION

SITE NAME AND LOCATION

Area of Contamination 63AX
Devens Reserve Forces Training Area
Devens, Massachusetts

STATEMENT OF PURPOSE AND BASIS

This decision document presents the U.S. Army's selected remedial action for Area of Contamination (AOC) 63AX at the Devens Reserve Forces Training Area (RFTA), Devens, Massachusetts. It was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 as amended, 42 USC §§ 9601 et seq. and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) as amended, 40 CFR Part 300. The following have been delegated the authority to approve this Record of Decision: The Devens Base Realignment and Closure (BRAC) Environmental Coordinator; the Devens RFTA Installation Commander; and the Director of the Waste Management Division, U.S. Environmental Protection Agency New England

This decision document is based on the Administrative Record developed in accordance with Section 113(k) of CERCLA. The Administrative Record is available for public review at the Devens BRAC Environmental Office, 30 Quebec Street, Devens, Massachusetts, and at the Ayer Town Hall, Main Street, Ayer, Massachusetts. The Administrative Record Index (Appendix D of this Record of Decision) identifies each of the items considered during selection of the remedial action.

DESCRIPTION OF THE SELECTED REMEDY

The Army's selected remedy at AOC 63AX is No Further Action. AOC 63AX poses no unacceptable risks to human health or the environment. Further, previous removal actions have eliminated underground storage tanks (USTs) and contaminated soils that would otherwise be a continuing source of groundwater contamination.

STATE CONCURRENCE

The Commonwealth of Massachusetts has concurred with the selected remedy. Appendix E of this Record of Decision contains a copy of the Declaration of State Concurrence.

DECLARATION

The selected remedy is consistent with CERCLA and, to the extent practicable, the NCP. Based on previous removal actions at AOC 63AX and the results of the remedial investigation, no further action is necessary to ensure protection of human health and the environment.

Because previous removal of the waste oil UST and the 5,000 gallon gasoline UST removed the sources of contamination at AOC 63AX, further engineering controls are not necessary to prevent unacceptable exposure to hazardous substance. Therefore, five-year site-reviews will not apply to this action.

The foregoing represents the selection of a remedial action by the U.S. Department of the Army and the U. S. Environmental Protection Agency, with the concurrence of the Commonwealth of Massachusetts Department of Environmental Protection.

Concur and recommend for immediate implementation:

U.S. DEPARTMENT OF THE ARMY

James C Chambers

12 September 1997

James C. Chambers
BRAC Environmental Coordinator
Devens Reserve Forces Training Area
Devens, Massachusetts

Date

DECLARATION FOR THE RECORD OF DECISION
Area of Contamination 63AX
Devens RFTA, Devens, Massachusetts

The foregoing represents the selection of a remedial action by the U.S. Department of the Army and the U. S. Environmental Protection Agency, with the concurrence of the Commonwealth of Massachusetts Department of Environmental Protection.

Concur and recommend for immediate implementation:

U.S. DEPARTMENT OF THE ARMY

12 Sep 97

H. Carter Hunt, Jr.
Installation Commander
Devens Reserve Forces Training Area
Devens, Massachusetts

Date

The foregoing represents the selection of a remedial action by the U.S. Department of the Army and the U. S. Environmental Protection Agency, with the concurrence of the Commonwealth of Massachusetts Department of Environmental Protection.

Concur and recommend for immediate implementation:

U.S. ENVIRONMENTAL PROTECTION AGENCY

9-29-97

Harley F. Laing Date

Director, Office of Site Remediation and Restoration
U.S. Environmental Protection Agency, New England

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DECISION SUMMARY

I. SITE NAME, LOCATION, AND DESCRIPTION

This Record of Decision addresses past releases to soil and groundwater at Area of Contamination (AOC) 63AX at Devens Reserve Forces Training Area (RFTA), Devens Massachusetts. The Devens RFTA, formerly Fort Devens, is located in the Towns of Ayer and Shirley (Middlesex County) and Harvard and Lancaster (Worcester County), approximately 35 miles northwest of Boston, Massachusetts.

AOC 63AX is located north and near the western end of Patton Road on the southern portion of what was formerly the Main Post at Fort Devens (Figure 1 in Appendix A). AOC 63AX consists of a large paved and fenced area, Building 2517, currently used as a warehouse by the U.S. Bureau of Prisons, and Building 2514 which is abandoned. Contamination at AOC 63AX is attributed to a previously removed 1,000-gallon waste oil underground storage tank (UST) adjacent to Building 2517 and a previously removed 5,000-gallon gasoline UST adjacent to Building 2514 (Figure 2 in Appendix A).

A more complete description of AOC 63AX can be found in Section 5.0 of the remedial investigation (RI) report.

II. SITE HISTORY AND ENFORCEMENT ACTIVITIES

A. Land Use and Response History

Fort Devens was established in 1917 as Camp Devens, a temporary training camp for soldiers from the New England area. In 1931, the camp became a permanent installation and was renamed Fort Devens. Throughout its history, Fort Devens served as a training and induction center for military personnel, and as a unit mobilization and demobilization site. All or portions of this function occurred during World Wars I and II, the Korean and Vietnam conflicts, and operations Desert Shield and Desert Storm. During World War II, more than 614,000 inductees were processed and Fort Devens reached a peak population of 65,000.

The primary mission of Fort Devens was to command, train, and provide logistical support for non-divisional troop units and to support and execute Base Realignment and Closure (BRAC) activities. The installation also supported the Army Readiness Region and National Guard units in the New England area.

Fort Devens was identified for cessation of operations and closure under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, and was officially closed in September 1996. Portions of the property formerly occupied by Fort Devens were retained by the Army for reserve forces training and renamed the Devens RFTA. Areas not retained as part of the Devens RFTA were, or are in the process of being, transferred to new owners for reuse and redevelopment. AOC 63AX is located in an area planned for transfer to the Massachusetts Government Land Bank for commercial/industrial development. The Devens Reuse Plan designates the future use of the area as an Innovation and Business Technology Zone. Under this classification, potential future uses could include office buildings, light industry, and academic and institutional facilities.

The following items summarize the history of AOC 63AX.

- **1940s.** Building 2514 is thought to have served as a pumphouse for an historic gas station which supported a vehicle motor pool during World War II.

- **Late 1940s or early 1950s.** Motor pool operations were discontinued at Building 2514. No records are available on the decommissioning of this motor pool.

- **1966.** Building 2517 was built to serve as a tactical equipment repair shop. Subsequently, Building 2517 served as a motor repair shop, dispatch office for the Office of Logistics, and recreational vehicle storage facility.

- **1980.** A 1,000-gallon waste oil UST was installed along the southwestern side of Building 2517.

- **1989.** The Building 2517 waste oil UST and 100 cubic yards of contaminated soil were removed as part of a Fort Devens initiative to replace waste oil USTs with aboveground storage tanks. Because residual total petroleum hydrocarbon compounds (TPHCs) were

observed in soils at the bottom of the excavation, the site was recommended for additional investigation.

- **1992.** The historic gas station associated with Building 2514, designated Study Area (SA) 43K, was investigated as part of the Groups 2 and 7 Site Investigation (SI). During the SI, the 5,000-gallon gasoline UST was located and subsequently removed along with approximately 140 tons of contaminated soil. Soil sampling and field analysis performed following the UST removal, indicated no detectable concentrations of benzene, ethylbenzene, toluene, xylene (BTEX), or TPHCs in subsurface soil around the excavation. Based upon these findings, SA 43K was recommended for No Further Action. The No Further Action Decision Document was signed by USEPA and MADEP in January 1995.

- **1993.** Buildings 2517 and 2514 were investigated as part of Area Requiring Environmental Evaluation (AREE) 61O. A suspected drywell associated with Building 2514 and the former waste oil UST associated with Building 2517 were identified as potential sources of contamination.

- **1994.** The former waste oil UST associated with Building 2517 was designated AREE 63AX, and a field investigation was performed. To evaluate soil exposure risks under current and potential future land-use conditions, the Army compared soil sample analytical data to Massachusetts Contingency Plan (MCP) Method 1 S-2/GW-2 standards and identified no exceedances. Because several volatile organic compounds (i.e., benzene, trichloroethene, and 1,1-dichloroethene) in groundwater samples exceeded federal drinking water Maximum Contaminant Levels (MCLs) and MCP groundwater standards, an RI was recommended.

- **1995.** The former waste oil UST associated with Building 2517 was designated AOC 63AX, and an RI was performed. During the RI, the former gasoline UST associated with Building 2514 was identified as a potential contaminant source and subsequently became part of AOC 63AX. The remedial investigation did not identify volatile organic compounds in groundwater at concentrations exceeding federal or Massachusetts standards. No evidence of the drywell was found during the RI.

B. Enforcement History

On December 21, 1989, Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) to evaluate and implement response actions to cleanup past releases of hazardous substances, pollutants, and contaminants. A Federal Facility Agreement to establish a procedural framework for ensuring that appropriate response actions are implemented at Fort Devens was developed and signed by the Army and the U.S. Environmental Protection Agency (USEPA) Region I on May 13, 1991, and finalized on November 15, 1991. AOC 63AX is considered a subsite of the entire installation.

In 1995, the U.S. Department of Defense, through the U.S. Army Environmental Center (USAEC), initiated an RI for AOC 63AX, and the RI report was issued in February 1997. The purpose of the RI was to determine the nature and extent of contamination at AOC 63AX, assess human health and ecological risks, and assess whether additional response actions were necessary. Based on the results of the risk assessment, the Army, along with the USEPA and MADEP, concluded that AOC 63AX did not present unacceptable risks to human health or the environment and that a feasibility study to evaluate remedial action alternatives was not needed.

The Proposed Plan detailing the Army's plan for No Further Action at AOC 63AX was issued in April 1997 for public comment. Technical comments presented during the public comment period are included in the Administrative Record. Appendix C, the Responsiveness Summary, contains a summary of these comments and the Army's responses, and describes how these comments affected the No Further Action decision.

III. COMMUNITY PARTICIPATION

The Army has held regular and frequent information meetings, issued fact sheets and press releases, and held public meetings to keep the community and other interested parties informed of activities at AOC 63AX.

In February 1992, the Army released, following public review, a community relations plan that outlined a program to address community concerns and keep citizens informed about and

involved in remedial activities at Fort Devens. As part of this plan, the Army established a Technical Review Committee (TRC) in early 1992. The TRC, as required by SARA Section 211 and Army Regulation 200-1, included representatives from USEPA, USAEC, Fort Devens, Massachusetts Department of Environmental Protection (MADEP), local officials, and the community. Until January 1994, when it was replaced by the Restoration Advisory Board (RAB), the committee generally met quarterly to review and provide technical comments on schedules, work plans, work products, and proposed activities for the SAs at Fort Devens. The SI, AREE, and RI reports; Proposed Plan; and other related support documents were all submitted to the TRC or RAB for their review and comment. The Community Relations Plan was updated to address Base Realignment and Closure issues and reissued in May 1995.

The Army, as part of its commitment to involve the affected communities, forms a RAB when an installation closure involves transfer of property to the community. The Fort Devens RAB was formed in February 1994 to add members of the Citizen's Advisory Committee (CAC) to the TRC. The CAC had been established previously to address Massachusetts Environmental Policy Act/Environmental Assessment issues concerning the reuse of property at Fort Devens. The RAB initially consisted of 28 members (15 original TRC members plus 13 new members) representing the Army, USEPA Region I, MADEP, local governments, and citizens of the local communities. The RAB currently consists of 19 members. It meets monthly and provides advice to the installation and regulatory agencies on the Devens RFTA cleanup programs. Specific responsibilities include: addressing cleanup issues such as land use and cleanup goals; reviewing plans and documents; identifying proposed requirements and priorities; and conducting regular meetings that are open to the public.

On June 3, 1997, the Army issued the Proposed Plan, to provide the public with a brief explanation of the Army's proposal for No Further Action at AOC 63AX. The Proposed Plan also described the opportunities for public participation and provided details on the upcoming public comment period and public meetings.

During the week of June 2, 1997, the Army published a public notice announcing the Proposed Plan and public information meeting in the Lowell Sun, Worcester Telegram and Gazette, Fitchburg-Leominster Sentinel Enterprise, and the Public Spirit. The Army also made the Proposed Plan available to the public at the public information repositories at the Davis Public

Library at the Devens RFTA, the Ayer Public Library, the Hazen Memorial Library in Shirley, the Harvard Public Library, and the Lancaster Public Library.

From June 3 through July 3, 1997, the Army held a 30-day public comment period to accept public comments on the Proposed Plan and on other documents released to the public. On June 25, 1997, the Army held an informal public information meeting at Devens RFTA to present the Army's Proposed Plan to the public and to provide the opportunity for open discussion concerning the Proposed Plan. The Army also accepted verbal or written comments from the public at the meeting. A transcript of this meeting, public comments, and the Army's response to comments are included in the attached Responsiveness Summary (see Appendix C).

All supporting documentation for the decision regarding AOC 63AX is contained in the Administrative Record for review. The Administrative Record is a collection of all the documents considered by the Army in choosing the plan of action for AOC 63AX. On June 25, 1997, the Army made the Administrative Record available for public review at the Devens BRAC Environmental Office, and at the Ayer Town Hall, Ayer, Massachusetts. An index to the Administrative Record is available at the USEPA Records Center, 90 Canal Street, Boston, Massachusetts and is provided as Appendix D.

IV. SCOPE AND ROLE OF THE RESPONSE ACTION

This No Further Action decision addresses soil and groundwater contamination attributed to historical releases from the former waste oil UST at Building 2517 and the former gasoline UST at Building 2514. The waste oil UST and approximately 100 cubic yards of contaminated soil were removed in 1989. The gasoline UST and approximately 140 tons of contaminated soil were removed in 1992. No other sources of contamination have been identified at AOC 63AX. No evidence of a suspected drywell associated with Building 2514 was found during the RI.

V. SUMMARY OF SITE CHARACTERISTICS

Section 5.0 of the RI report, February 1997, contains an overview of SI, AREE, and RI activities at AOC 63AX. Significant findings of the RI are summarized in the following subsections.

A. Soils

1) Building 2517 Waste Oil Underground Storage Tank

During the RI, subsurface soils in the vicinity of the waste oil UST excavation were characterized by collecting 46 field-analytical samples from 15 TerraProbe^{SM} points and 5 soil samples from 3 soil borings. The results of field analysis were used to assess whether residual contaminants from the former waste oil UST were present in subsurface soil and to provide a basis for locating subsequent soil borings and monitoring wells from which to collect confirmatory samples for off-site analysis for BTEX, selected halogenated compounds, and TPHC.

A total of nine soil samples were collected from three soil borings for off-site analysis for Project Analyte List (PAL) volatile organic compounds (VOCs), PAL semivolatile organic compounds (SVOCs), PAL inorganics, and TPHC. The SVOCs fluoranthene (0.13 micrograms per gram [µg/g]), phenanthrene (0.067 µg/g), and pyrene (0.051 µg/g) were detected in the 6 feet below ground surface (bgs) sample from boring AXB-95-05X, and TPHC (123 µg/g) was detected in the 4 feet bgs sample from boring AXB-95-04X. Bis(2-ethylhexyl)phthalate (up to 2.9 µg/g) and toluene (up to 0.0016 µg/g) were reported in samples from borings AXB-95-01X and AXB-95-04X, but were attributed to laboratory contamination. The waste oil UST identified as the most likely source of this contamination was removed along with approximately 100 cubic yards of soil in 1989.

2) Building 2514 Gasoline Underground Storage Tank

Subsurface soil near and downgradient of Building 2514 and the former location of the 5,000-gallon gasoline UST was characterized by collection of 29 field-analytical samples from 11 TerraProbe^{SM} points. Field analysis consisted of BTEX, selected halogenated compounds, and TPHC. The results of field analysis were used to delineate contaminant distribution, assess potential sources, and provide a basis for locating subsequent soil borings from which to collect confirmatory samples for off-site analysis.

Seven soil samples (including one duplicate) were collected from two soil borings (AXB-95-02X and AXB-95-03X) for off-site analysis for PAL VOCs, PAL SVOCs, PAL inorganics, and TPHC.

The SVOC naphthalene was detected at 0.18 µg/g in the 4 feet bgs sample from boring AXB-95-03X, and TPHC was detected in five samples. The two highest TPHC concentrations, 8,840 and 885 µg/g, were observed in the 4- and 6-feet bgs samples, respectively, from boring AXB-95-02X. The maximum TPHC concentration in samples from boring AXB-95-03X was 136 µg/g in the 4-feet bgs sample. Toluene, acetone, trichlorofluoromethane, and bis(2-ethylhexyl)phthalate were also reported in samples from borings AXB-95-02X and AXB-95-03X, but were attributed to laboratory contamination.

One confirmatory soil sample was collected at 3-feet bgs from one of four test pits dug in an effort to locate the suspected drywell at Building 2514. Twelve SVOCs at individual concentrations up to 0.91 µg/g were reported in the sample. The reported TPHC concentration was 413 µg/g. No evidence of the drywell was found in either geophysical or intrusive investigations; it was concluded that the reported drywell did not exist.

B. Groundwater

Preliminary characterization of groundwater downgradient of Buildings 2514 and 2517 was accomplished by field analysis of groundwater samples from 17 TerraProbe^{SM} points. Field analysis consisted of BTEX, selected halogenated compounds, and gasoline range organics. The results of field analysis were used to delineate horizontal contaminant distribution and aid in placement of monitoring well locations.

Seven new monitoring wells were installed to supplement the three existing monitoring wells. Two rounds of groundwater samples were collected from all ten monitoring wells and analyzed for PAL VOCs, PAL SVOCs, total and dissolved PAL inorganics, pesticides, polychlorinated biphenyls (PCBs), TPHC, and several water quality parameters.

The VOCs ethylbenzene, chloroform, and dichloromethane were reported at low concentrations (maximum value of 2.9 micrograms per liter [µg/L]) in three Round 1 samples. The presence of chloroform was attributed to laboratory contamination. Based on laboratory quality assurance/quality control samples, other Round 1 VOC results were considered estimated and possibly biased high. Toluene was reported in five Round 2 samples at concentrations of up to 1.5 µg/L.

One SVOC, 2-methylnaphthalene at 3.8 µg/L, was detected in one Round 1 sample, and two SVOCs, diethylphthalate and bis(2-ethylhexyl)phthalate, were detected in a total of four Round 1 and Round 2 samples. The presence of both phthalate compounds was attributed to laboratory contamination.

Several inorganic analytes were detected at concentrations above background in unfiltered groundwater samples. These analytes were aluminum, arsenic, barium, calcium, copper, iron, lead, magnesium, manganese, nickel, potassium, sodium, and zinc. Concentrations of aluminum, barium, lead, and zinc dropped to below background in filtered samples. Arsenic exceeded its federal drinking water MCL in the Round 1 sample from monitoring well 63AX-94-01, and iron and manganese exceeded federal secondary drinking water guidelines in the majority of samples. Aluminum exceeded the federal secondary drinking water guideline in the majority of unfiltered samples and appeared associated with the presence of suspended soil particles in the samples.

The highest concentrations of arsenic were detected in monitoring wells 63AX-94-01 and 63AX-94-02 which were located approximately 50 and 75 feet, respectively, downgradient of the waste oil UST excavation. An arsenic concentration of 130 µg/L was reported for the unfiltered Round 1 sample from monitoring well 63AX-94-01, while the filtered sample had a concentration of 79.4 µg/L. Both values exceeded the MCL of 50 µg/L. Arsenic concentrations in unfiltered and filtered Round 2 samples from monitoring well 63AX-94-01 were 47.5 and 46.8 µg/L, respectively. The maximum arsenic concentration in samples from monitoring well 63AX-94-02 was 30.1 µg/L in the unfiltered Round 2 sample. The maximum detected arsenic concentration in the remaining monitoring wells, including wells downgradient of 63AX-94-01 and 63AX-94-02, was 17.1 µg/L. Arsenic is not known to have been a constituent of the materials stored in the waste oil UST, and the high arsenic concentrations of monitoring wells 63AX-94-01 and 63AX-94-02 may be attributable to secondary mobilization caused by reducing conditions in the aquifer as a result of aerobic degradation of fuel-related compounds.

Concentrations of iron varied widely among AOC 63AX monitoring well samples; however, the highest unfiltered and filtered concentrations were observed in monitoring wells 63AX-94-01 and 63AX-94-02 (21,600 and 10,800 µg/L, respectively). Similar to arsenic, the high iron concentrations of monitoring wells 63AX-94-01 and 63AX-94-02 may be attributable to secondary mobilization caused by reducing conditions in the aquifer as a result of aerobic degradation of fuel-related compounds.

Concentrations of manganese also varied widely, but were greatest at monitoring wells further down- and cross-gradient than monitoring wells 63AX-94-01 and 63AX-94-02. Although less well defined than for arsenic and iron, high manganese concentrations at AOC 63AX may also be attributable to secondary mobilization caused by reducing conditions in the aquifer as a result of aerobic degradation of fuel-related compounds.

No TPHC, pesticides, or PCBs were reported in the RI off-site laboratory groundwater samples.

The overburden at AOC 63AX consists of three to five feet of gravelly-sand and silty-sand overlying increasingly dense basal till. This till extends to at least 27.7 feet below ground surface; the exact depth is not known because bedrock was not encountered during explorations at AOC 63AX. The water table occurs in the overburden at AOC 63AX at a depth of approximately six to eight feet below ground surface. Groundwater flow in the overburden is primarily northwest to southeast across the site. Although flow from northeast to southwest has also been observed, it is interpreted to be a transitory condition resulting from the paved yard which inhibits groundwater recharge. Groundwater velocity is moderately slow with a calculated maximum of 0.35 feet per day and a mean of 0.08 feet per day, consistent with the glacial till observed at the site. Upward vertical gradients were observed during each groundwater elevation measurement round at AOC 63AX. Bedrock aquifer characteristics were not monitored during the RI. Decreasing hydraulic conductivity with depth appears to serve as an aquitard between the watertable aquifer and deeper overburden and bedrock aquifer. Because of these upward gradients and low groundwater velocities, groundwater transport is not considered a major contaminant migration pathway.

Groundwater at Devens RFTA is designated Class 1 under Massachusetts regulations. Class 1 groundwaters consist of groundwaters "found in the saturated zone of unconsolidated deposits or consolidated rock and bedrock and are designated as a source of potable water supply". However, because of the low permeability at AOC 63AX, the aquifer is not considered capable of producing a sufficient quantity of water for use as a water supply.

VI. SUMMARY OF SITE RISKS

The risk assessment contained in the RI report evaluates the probability and magnitude of potential human health effects associated with exposure to contaminated media at AOC 63AX. The human health risk assessment followed a four step process: (1) contaminant identification, which identified those hazardous substances that, given the specifics of the site, were of significant concern; (2) exposure assessment, which identified actual or potential exposure pathways, characterized the potentially exposed populations, and determined the extent of possible exposure; (3) toxicity assessment, which considered the types and magnitude of adverse health effects associated with exposure to hazardous substances; and (4) risk characterization, which integrated the three earlier steps to summarize the potential and actual risks posed by hazardous substances at the site, including carcinogenic and non-carcinogenic risks. A detailed discussion of the human health risk assessment approach and results is presented in Section 9.0 of the RI report.

Eight soil chemicals of potential concern and six groundwater chemicals of potential concern, listed in Tables 1 and 2 in Appendix B of this Record of Decision, were selected for evaluation in the human health risk assessment of the RI report. These chemicals of potential concern were selected to represent potential site-related hazards based on toxicity, concentration, frequency of detection, mobility, and persistence in the environment. A summary of the health effects of each of the chemicals of potential concern can be found in the risk assessment detailed in Section 9.0 of the RI report and associated appendices.

Potential human health effects associated with exposure to the chemicals of potential concern were estimated quantitatively or qualitatively through the development of several hypothetical exposure pathways associated with current and anticipated future land use. These pathways, listed below, were developed to reflect the potential for exposure to hazardous substances based on the present uses, potential future uses, and location of the site. A more detailed description can be found in Subsection 9.3.1 of the risk assessment.

Current and Future Land Use

- utility/maintenance worker exposure through incidental ingestion of subsurface soil and inhalation of volatile organic compounds from soil and groundwater which could collect in excavations

- construction worker exposure through incidental ingestion of subsurface soil, inhalation of volatile organic compounds from soil and groundwater which could collect in excavations, and inhalation of particulates from soil

Future Land Use

- Commercial worker exposure through ingestion of site derived groundwater for the following four pathways:

  ◊ unfiltered groundwater from hot-spot monitoring wells 63AX-94-01 and 63AX-94-02;

  ◊ filtered groundwater from hot-spot monitoring wells 63AX-94-01 and 63AX-94-02;

  ◊ unfiltered groundwater excluding hot-spot monitoring wells 63AX-94-01 and 63AX-94-02; and

  ◊ filtered groundwater excluding hot-spot monitoring wells 63AX-94-01 and 63AX-94-02.

Because the area surrounding AOC 63AX is paved and provides neither shelter nor foraging opportunities for wildlife, the RI report concluded that potential ecological receptors and exposure pathways were not present, and did not evaluate ecological risks associated with exposure to soil and groundwater.

Excess lifetime cancer risks were determined for each exposure pathway by multiplying the exposure level with the chemical-specific cancer slope factor. Cancer slope factors have been

developed by USEPA from epidemiological or animal studies to reflect a conservative "upper bound" of the risk posed by potentially carcinogenic chemicals. That is, the true risk is unlikely to be greater than the risk predicted. The resulting risk estimates are expressed in scientific notation as a probability (e.g., $1x10^{-6}$ for 1/1,000,000) and indicate (using this example), that an average individual is not likely to have greater than a one in a million chance of developing cancer over 70 years as a result of site-related exposure to the chemical at the stated concentration. Current USEPA practice considers carcinogenic risks to be additive when assessing exposure to a mixture of hazardous substances.

The hazard index (HI) was also calculated for each exposure pathway as a measure of the potential for non-carcinogenic health effects. The HI is the sum of the hazard quotients for individual chemicals with similar exposure pathways and toxic endpoints. A hazard quotient is calculated by dividing the exposure level by the reference dose (RfD) or other suitable benchmark for non-carcinogenic health effects for each individual chemical. RfDs have been developed by USEPA to protect sensitive individuals over the course of a lifetime, and they reflect a daily exposure level that is likely to be without an appreciable risk of an adverse health effect. RfDs are derived from epidemiological or animal studies and incorporate uncertainty factors to help ensure that adverse health effects will not occur. The hazard quotient is often expressed as a single value (e.g., 0.3) indicating the ratio of the stated exposure to the RfD value (in this example, the exposure as characterized is approximately one third of an acceptable exposure level for the given chemical). The hazard quotient is only considered additive for chemicals that have the same or similar toxic endpoint. For example, the hazard quotient for a chemical known to produce liver damage should not be added to a second whose toxic endpoint is kidney damage.

Table 3 in Appendix B summarizes the carcinogenic and non-carcinogenic risks for soil and groundwater under the evaluated current and future land use conditions. Review of that table shows that estimated excess carcinogenic risks for exposure to soil were less than the USEPA threshold risk level of $1x10^{-6}$ under current and future land use conditions. Similarly, potential noncancer risks did not exceed the USEPA HI threshold value of 1.

There is no current use of, or exposure to, groundwater at the site, therefore the risk assessment evaluated potential risks associated with ingestion of groundwater by a future commercial/ industrial worker. Arsenic was the only detected carcinogenic chemical, and the potential carcinogenic risks are wholly attributable to arsenic. Review of Table 3 in Appendix B shows that

potential excess cancer risks associated with commercial worker ingestion of unfiltered and filtered groundwater with the maximum detected concentrations of arsenic at monitoring wells 63AX-94-01 and 63AX-94-02 were $7x10^{-4}$ and $4x10^{-4}$, respectively, which exceed the USEPA target risk range of $1x10^{-4}$ to $1x10^{-6}$. However, potential cancer risks associated with worker ingestion of unfiltered and filtered groundwater, given the average detected concentrations of arsenic at these two monitoring wells, were $6x10^{-5}$ and $4x10^{-5}$, respectively, which are within the USEPA target risk range of $1x10^{-4}$ to $1x10^{-6}$. Potential noncancer risks associated with monitoring wells 63AX-94-01 and 63AX-94-02 ranged from an HI of 1 to an HI of 6.

The potential cancer risks associated with exposure to site-wide groundwater (excluding monitoring wells 63AX-94-01 and 63AX-94-02) were within the USEPA target risk range. Potential cancer risks associated with commercial worker ingestion of unfiltered and filtered groundwater with the maximum and average detected concentrations of arsenic ranged from $1x10^{-4}$ to $1x10^{-6}$, respectively. Potential noncancer risks ranged from an HI of 3 to an HI of 0.6 for unfiltered and filtered groundwater, respectively.

Based on uncertainties associated with the potential carcinogenic effects of arsenic, USEPA risk management guidance[1] suggests that a tenfold lowering of cancer risk may be appropriate. If a downward modifying factor of 10 is applied, cancer risk estimates associated with exposure to maximum observed arsenic concentrations at AOC 63AX fall within or below the USEPA target risk range.

Further, the maximum detected arsenic concentration (130 μg/L), which exceeded the federal and Massachusetts drinking water standard of 50 μg/L, was observed in the Round 1 groundwater sample from monitoring well 63AX-94-01. The concentration in the Round 2 groundwater sample was below the federal and Massachusetts standard. The average exposure point concentration of arsenic in monitoring wells 63AX-94-01 and 63AX-94-02 was 53 μg/L, only slightly exceeding the federal and Massachusetts drinking water standard. The maximum detected concentration of arsenic in site-wide groundwater (excluding monitoring wells 63AX-94-01 and 63AX-94-02) was 17.7μg/L, well below the federal and Massachusetts drinking water standard.

[1] "Agency Policy on the Carcinogenic Risk Associated with Inorganic Arsenic"; memorandum from Lee M. Thomas, Office of the Administrator for Pesticides and Toxic Substances; Washington, D.C.; June 21, 1988.

Arsenic, iron, and manganese were the primary contributors to non-cancer risk; however, as pointed out, they do not appear to have a site-related source. In addition, because the risk assessment used a RfD for iron which was not based on a toxic effect threshold, adverse effects from ingestion of iron at AOC 63AX are considered unlikely.

An ecological risk assessment was not performed. The area surrounding AOC 63AX is paved and provides neither shelter nor foraging opportunities for wildlife. Ecological receptor exposure to site contaminants is considered unlikely.

In summary, the risk assessment did not identify potential human health risks associated with exposure to soil at AOC 63AX exceeding USEPA target values. There is no current exposure to groundwater or an associated risk. Potential risk was associated with future commercial worker exposure to groundwater; however, downward modification of the carcinogenic risk estimates results in an estimate that is within the USEPA target risk range of $1x10^{-4}$ to $1x10^{-6}$. Further, the property at AOC 63AX is served by the Devens public water supply system, and future worker exposure to site-derived groundwater is unlikely. Therefore, the Army concludes that AOC 63AX does not pose an imminent or substantial endangerment to public health, welfare, or the environment.

VII. DOCUMENTATION OF NO SIGNIFICANT CHANGES

The Army presented a Proposed Plan for No Further Action at AOC 63AX on June 3, 1997. This Record of Decision contains no significant changes from the Proposed Plan.

VIII. STATE ROLE

The Commonwealth of Massachusetts has reviewed the SI, AREE, and RI reports; Proposed Plan; and this Record of Decision and concurs with the No Further Action decision. A copy of the Declaration of State Concurrence is attached as Appendix E.

APPENDIX A - FIGURES

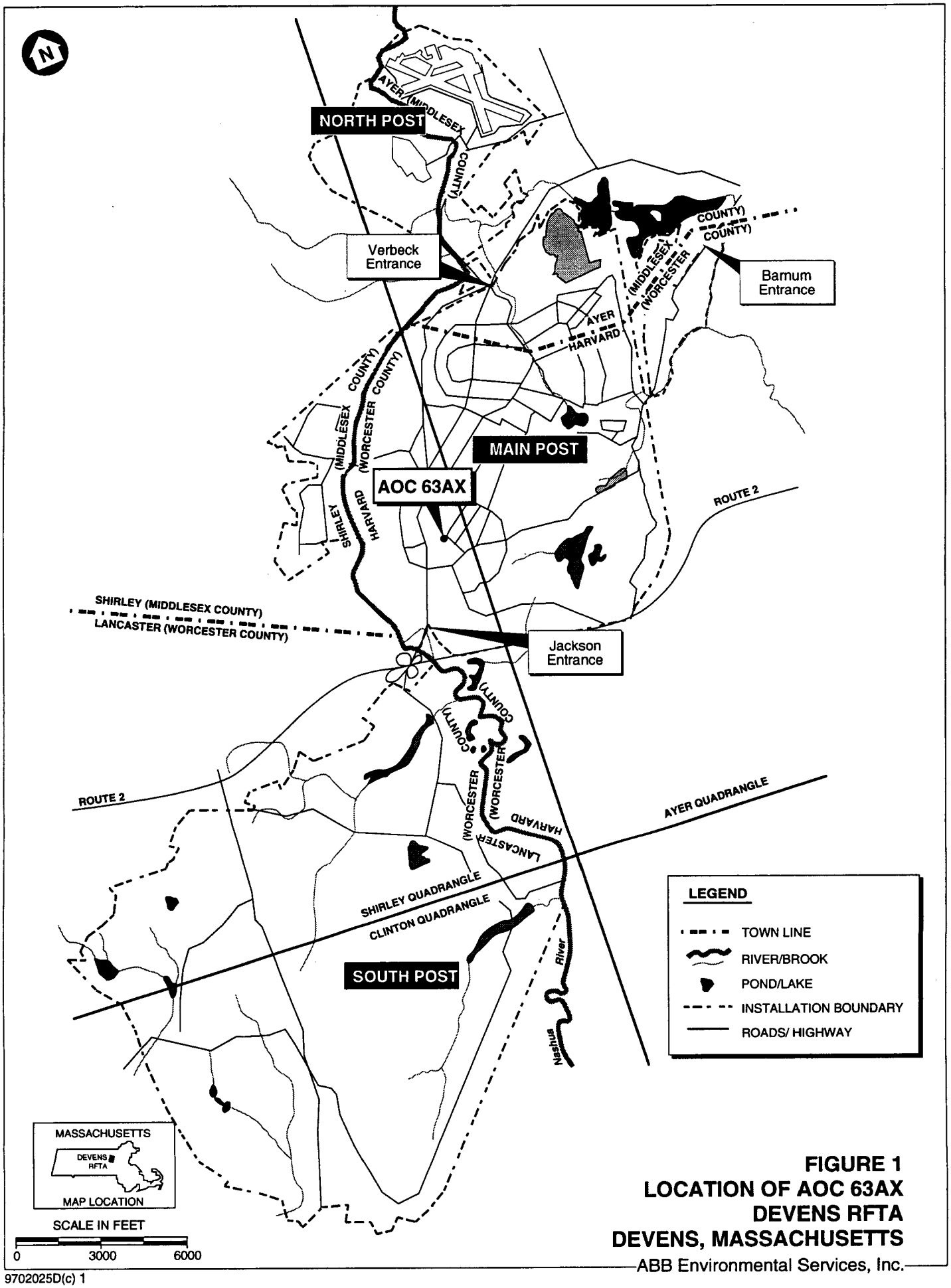

FIGURE 1
LOCATION OF AOC 63AX
DEVENS RFTA
DEVENS, MASSACHUSETTS

ABB Environmental Services, Inc.

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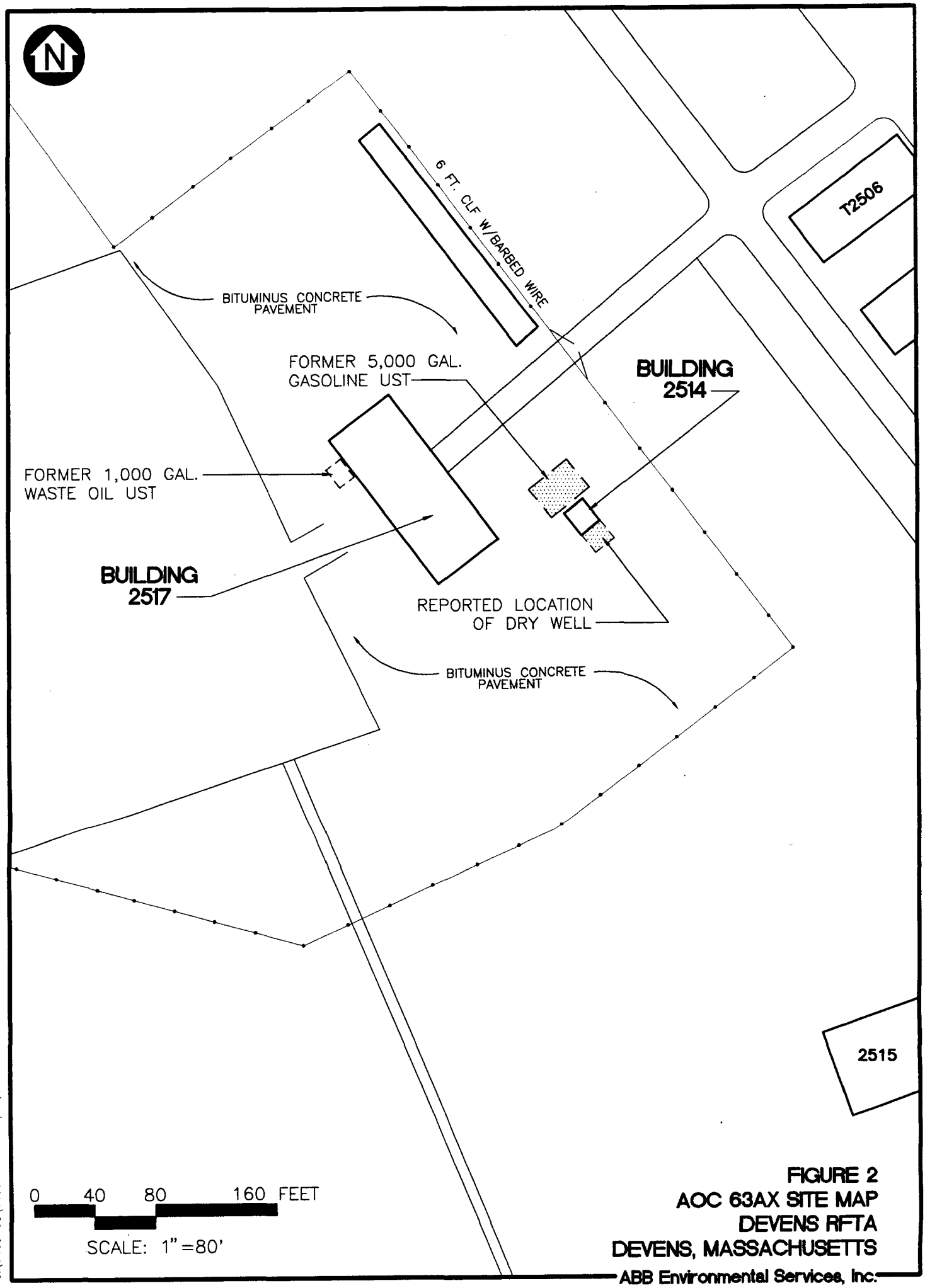

FIGURE 2
AOC 63AX SITE MAP
DEVENS RFTA
DEVENS, MASSACHUSETTS

ABB Environmental Services, Inc.

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APPENDIX B - TABLES

TABLE 1
SUMMARY OF STATISTICS FOR AOC 63AX

AOC 63AX RECORD OF DECISION
DEVENS RFTA
DEVENS, MASSACHUSETTS

	Range of SQLs	Frequency of Detection	Concentration Maximum Detected	Arithmetic Mean	95% UCL	Back-Ground*	Region III RBC**	ARARS	MADEP Method 1 Standards***	CPC?	Notes
SUBSURFACE SOIL (1 - 16 feet bgs)[a] (mg/kg)											
PAL METALS											
Aluminum		16 / 16	16700	8788.44	10097.06	18000	7800	NA	NA	Yes	Exceeds RBC3, Background2
Antimony	1.09-1.09	1 / 16	2.7	0.68	0.79	0.5	3.1	NA	40	No	Less than RBC1
Arsenic		16 / 16	28	17.11	21.54	19	0.43	NA	30	Yes	Exceeds RBC3
Barium		16 / 16	45.7	26.93	31.19	54	550	NA	5000	No	Less than RBC1, Background2
Beryllium	0.5-0.5	1 / 16	1.45	0.33	0.39	0.81	0.15	NA	3	Yes	Exceeds RBC3
Calcium		16 / 16	10900	2622.00	5271.13	810	NA	NA	NA	No	Essential Nutrient4
Chromium		16 / 16	38.8	20.73	23.81	33	39	NA	1000	No	Less than RBC1
Cobalt		16 / 16	12	8.50	9.49	4.7	470	NA	NA	No	Less than RBC1
Copper		16 / 16	23.7	15.56	18.73	13.5	310	NA	NA	No	Less than RBC1
Iron		16 / 16	22500	17171.25	19930.37	18000	2300	NA	NA	Yes	Exceeds RBC3
Lead		17 / 17	24.1	11.16	14.3	48	NA	400 f	600	No	Background2, Less than ARAR5
Magnesium		16 / 16	6970	4377.50	5324.11	5500	NA	NA	NA	No	Essential Nutrient4
Manganese		16 / 16	731	403.34	528.48	380	180	NA	NA	Yes	Exceeds RBC3
Nickel		16 / 16	42.9	31.57	35.87	14.6	160	NA	700	No	Less than RBC1
Potassium		16 / 16	1890	879.69	1164.45	2400	NA	NA	NA	No	Background2, Essential Nutrient4
Selenium	0.25-0.25	1 / 16	0.569	0.15	0.18	1	39	NA	2500	No	Less than RBC1, Background2
Sodium		16 / 16	441	321.63	350.72	234	NA	NA	NA	No	Essential Nutrient4
Vanadium		16 / 16	28.8	12.58	14.88	32.3	55	NA	2000	No	Less than RBC1, Background2
Zinc		16 / 16	52.3	39.24	43.82	43.9	2300	NA	5000	No	Less than RBC1
PAL SEMIVOLATILE ORGANICS											
Acenaphthylene	0.033-0.7	1 / 16	0.064	0.05	0.07	-	310 j	NA	100	No	Less than RBC1
Anthracene	0.033-0.7	1 / 16	0.09	0.05	0.08	-	2300	NA	1000	No	Less than RBC1
Bis(2-ethylhexyl) Phthalate	0.62-10	7 / 16	400	25.93	36.6	-	46	NA	100	Yes	Exceeds RBC3
Benzo[a]anthracene	0.17-3	1 / 16	0.36	0.25	0.39	-	0.88	NA	4	No	Less than RBC1
Benzo[a]pyrene	0.25-5	1 / 16	0.49	0.35	0.53	-	0.088	NA	0.7	Yes	Exceeds RBC3
Benzo[b]fluoranthene	0.21-4	1 / 16	0.4	0.30	0.45	-	0.88	NA	4	No	Less than RBC1
Benzo[ghi]perylene	0.25-5	1 / 16	0.31	0.34	0.48	-	310	NA	100	No	Less than RBC1
Benzo[k]fluoranthene	0.066-1	1 / 16	0.51	0.11	0.2	-	8.8	NA	40	No	Less than RBC1
Chrysene	0.12-2	1 / 16	0.51	0.17	0.28	-	88	NA	40	No	Less than RBC1
Fluoranthene	0.068-1	2 / 16	0.91	0.14	0.28	-	310	NA	600	No	Less than RBC1
Naphthalene	0.037-0.7	2 / 16	0.18	0.06	0.11	-	310	NA	4	No	Less than RBC1
Phenanthrene	0.033-0.7	2 / 16	0.28	0.07	0.13	-	310	NA	100	No	Less than RBC1
Pyrene	0.033-0.7	2 / 16	0.74	0.09	0.19	-	230	NA	500	No	Less than RBC1
PAL VOLATILE ORGANICS											
Xylenes	0.0015-0.0015	1 / 17	0.0067	0.0011	0.0013	-	16000	NA	500	No	Less than RBC1
Acetone	0.017-0.017	3 / 17	0.031	0.013	0.02	-	780	NA	3	No	Less than RBC1
Toluene	0.0008-0.0008	2 / 17	0.0024	0.0006	0.00073	-	1600	NA	90	No	Less than RBC1
Trichlorofluoromethane	0.0059-0.0059	6 / 17	0.015	0.005	0.01	-	2300	NA	NA	No	Less than RBC1
OTHER											
Total Petroleum Hydrocarbons	5-28.1	14 / 21	8840	516.65	1022.49	-	NA	NA	5000	Yes	

TABLE 1
SUMMARY OF STATISTICS FOR AOC 63AX

AOC 63AX RECORD OF DECISION
DEVENS RFTA
DEVENS, MASSACHUSETTS

	Range of SQLs	Frequency of Detection	Concentration Maximum Detected	Concentration Arithmetic Mean	Concentration 95% UCL	Back-Ground*	Region III RBC**	ARARS	MADEP Method 1 Standards***	CPC?	Notes
GROUNDWATER HOT SPOT[b] (63AX-94-01 & 63AX-94-02) (mg/L) - UNFILTERED											
PAL METALS											
Aluminum		2 / 2	8.63	2.727	NC	6.87	3.7	0.05 h	NA	Yes	Exceeds RBC3, Exceeds ARAR6
Arsenic		2 / 2	0.13	0.0532	NC	0.0105	0.000045	0.05 g	0.05	Yes	Exceeds RBC3, Exceeds ARAR6
Barium		2 / 2	0.0584	0.0328	NC	0.0396	0.26	2 g	2	No	Less than RBC1, Less than ARAR5
Calcium		2 / 2	51	39.85	NC	14.7	NA	NA	NA	No	Essential Nutrient4
Chromium		1 / 2	0.0133	0.0055	NC	0.0147	0.018	0.1 g	0.05	No	Less than RBC1, Background2, Less than ARAR5
Copper		1 / 2	0.012	0.006	NC	0.00809	0.15	1.3 i	NA	No	Less than RBC1, Less than ARAR5
Iron		2 / 2	22.8	15.94	NC	9.1	1.1	0.3 h	NA	Yes	Exceeds RBC3, Exceeds ARAR6
Lead		1 / 2	0.00618	0.002	NC	0.00425	NA	0.015 i	0.015	No	Less than ARAR5
Magnesium		2 / 2	10.5	6	NC	3.48	NA	NA	NA	No	Essential Nutrient4
Manganese		2 / 2	5.35	3.64	NC	0.291	0.084	0.05 h	NA	Yes	Exceeds RBC3, Exceeds ARAR6
Potassium		2 / 2	5.3	4.027	NC	2.37	NA	NA	NA	No	Essential Nutrient4
Sodium		2 / 2	41	32.75	NC	10.8	NA	NA	NA	No	Essential Nutrient4
Zinc		1 / 2	0.0294	0.0153	NC	0.0211	1.1	5 h	0.9	No	Less than RBC1, Less than ARAR5
PAL SEMIVOLATILE ORGANICS											
2-Methylnaphthalene		1 / 2	0.0038	0.0016	NC	-	0.15 j	NA	0.01	No	Less than RBC1
Diethylphthalate		1 / 2	0.0048	0.0019	NC	-	2.9	NA	0.03	No	Less than RBC1
PAL VOLATILE ORGANICS											
Ethylbenzene		1 / 2	0.00059	0.00033	NC	-	0.13	0.7 g	0.7	No	Less than RBC1, Less than ARAR5
Toluene		2 / 2	0.00063	0.00043	NC	-	0.075	1 g	1	No	Less than RBC1, Less than ARAR5
GROUNDWATER HOT SPOT[c] (63AX-94-01 & 63AX-94-02) (mg/L) - FILTERED											
PAL METALS											
Arsenic		2 / 2	0.0794	0.0362	NC	0.0105	0.000045	0.05 g	0.05	Yes	Exceeds RBC3, Exceeds ARAR6
Barium		2 / 2	0.0262	0.0169	NC	0.0396	0.26	2 g	2	No	Less than RBC1, Background2, Less than ARAR5
Calcium		2 / 2	57.2	47.9	NC	14.7	NA	NA	NA	No	Essential Nutrient4
Iron		2 / 2	12	7.471	NC	9.1	1.1	0.3 h	NA	Yes	Exceeds RBC3, Exceeds ARAR6
Magnesium		2 / 2	13.5	8.59	NC	3.48	NA	NA	NA	No	Essential Nutrient4
Manganese		2 / 2	3.89	2.672	NC	0.291	0.084	0.05 h	NA	Yes	Exceeds RBC3, Exceeds ARAR6
Potassium		2 / 2	3.87	3.19	NC	2.37	NA	NA	NA	No	Essential Nutrient4
Sodium		2 / 2	41.1	35.75	NC	10.8	NA	NA	NA	No	Essential Nutrient4

TABLE 1
SUMMARY OF STATISTICS FOR AOC 63AX

AOC 63AX RECORD OF DECISION
DEVENS RFTA
DEVENS, MASSACHUSETTS

	Range of SQLs	Frequency of Detection	Concentration Maximum Detected	Concentration Arithmetic Mean	Concentration 95% UCL	Back-Ground*	Region III RBC**	ARARS	MADEP Method 1 Standards***	CPC?	Notes
GROUNDWATER[d] (mg/L) - UNFILTERED											
PAL METALS											
Aluminum		6 / 6	5.12	1.95	NC	6.87	3.7	0.05 h	NA	Yes	Exceeds RBC[3], Exceeds ARAR[6]
Arsenic		6 / 6	0.0177	0.0067	NC	0.0105	0.000045	0.05 g	0.05	Yes	Exceeds RBC[3], Less than ARAR[5]
Barium		6 / 6	0.0481	0.03	NC	0.0396	0.26	2 g	2	No	Less than RBC[1], Less than ARAR[5]
Calcium		6 / 6	60.6	52.78	NC	14.7	NA	NA	NA	No	Essential Nutrient[4]
Chromium	0.00602-0.00602	3 / 6	0.0119	0.0043	NC	0.0147	0.018	0.1 g	0.05	No	Less than RBC[1], Background[2], Less than ARAR[5]
Copper	0.00809-0.00809	2 / 6	0.0123	0.0051	NC	0.00809	0.15	1.3 i	NA	No	Less than RBC[1], Less than ARAR[5]
Iron		6 / 6	10.2	3.85	NC	9.1	1.1	0.3 h	NA	Yes	Exceeds RBC[3], Exceeds ARAR[6]
Lead	0.00126-0.00126	4 / 6	0.0137	0.0027	NC	0.00425	NA	0.015 i	0.015	No	Less than ARAR[5]
Magnesium		6 / 6	25.1	12.1	NC	3.48	NA	NA	NA	No	Essential Nutrient[4]
Manganese		6 / 6	8.74	4.11	NC	0.291	0.084	0.05 h	NA	Yes	Exceeds RBC[3], Exceeds ARAR[6]
Potassium		6 / 6	5.58	3.27	NC	2.37	NA	NA	NA	No	Essential Nutrient[4]
Sodium		6 / 6	78.8	39.4	NC	10.8	NA	NA	NA	No	Essential Nutrient[4]
PAL SEMIVOLATILE ORGANICS											
Bis(2-ethylhexyl) Phthalate	0.0048-0.0048	2 / 6	0.4	0.033	NC	-	0.0048	0.006 g	0.006	Yes	Exceeds RBC[3], Exceeds ARAR[6]
Diethyl Phthalate	0.002-0.002	2 / 6	0.0041	0.0014	NC	-	2.9	NA	0.03	No	Less than RBC[1]
PAL VOLATILE ORGANICS											
Methylene Chloride	0.0023-0.0023	1 / 6	0.0029	0.00128	NC	-	0.0041	0.005 g	0.005	No	Less than RBC[1], Less than ARAR[5]
Chloroform	0.0005-0.0005	1 / 6	0.00067	0.000282	NC	-	0.00015	0.1 g	0.005	Yes	Exceeds RBC[3], Less than ARAR[5]
Toluene	0.0005-0.0005	2 / 6	0.0015	0.000386	NC	-	0.075	1 g	1	No	Less than RBC[1], Less than ARAR[5]

TABLE 1
SUMMARY OF STATISTICS FOR AOC 63AX

AOC 63AX RECORD OF DECISION
DEVENS RFTA
DEVENS, MASSACHUSETTS

	Range of SQLs	Frequency of Detection	Concentration Maximum Detected	Concentration Arithmetic Mean	Concentration 95% UCL	Back-Ground*	Region III RBC**	ARARS	MADEP Method 1 Standards***	CPC?	Notes
GROUNDWATER[e] (mg/L) - FILTERED											
PAL METALS											
Arsenic	0.00254-0.00254	3 / 6	0.0161	0.00489	NC	0.0105	0.000045	0.05 g	0.05	Yes	Exceeds RBC3, Less than ARAR5
Barium		6 / 6	0.0277	0.019	NC	0.0396	0.26	2 g	2	No	Less than RBC1, Background2, Less than ARAR5
Calcium		6 / 6	69.1	53.276	NC	14.7	NA	NA	NA	No	Essential Nutrient4
Copper	0.00809-0.00809	1 / 6	0.0122	0.00467	NC	0.00809	0.15	1.3 i	NA	No	Less than RBC1, Less than ARAR5
Iron	0.0388-0.0388	5 / 6	6.8	1.184	NC	9.1	1.1	0.3 h	NA	Yes	Exceeds RBC3, Exceeds ARAR6, Background2
Lead	0.00126-0.00126	1 / 6	0.00141	0.00069	NC	0.00425	NA	0.015 i	0.015	No	Background2, Less than ARAR5
Magnesium		6 / 6	35.5	14.153	NC	3.48	NA	NA	NA	No	Essential Nutrient4
Manganese		6 / 6	7.46	3.366	NC	0.291	0.084	0.05 h	NA	Yes	Exceeds RBC3, Exceeds ARAR6
Potassium		6 / 6	4.43	2.896	NC	2.37	NA	NA	NA	No	Essential Nutrient4
Sodium		6 / 6	79.2	38.97	NC	10.8	NA	NA	NA	No	Essential Nutrient4

NOTES:

a Based on samples from AXB-05-01X (6, 8 & 16 ft), -02X (4, 6, 15 & 15 ft dup.), -03X (2, 4, 6 ft), -04X (4, 6, 10 ft), -05X (6, 8, 10 ft), AXE-95-03X (3 ft), 43K-92-01X (5 ft), LRS-01, -02, -03, -04 (5 ft).
b Based on unfiltered samples taken in 1995 and 1996 from 63AX-94-01 and 63AX-94-02.
c Based on filtered samples taken in 1995 and 1996 from 63AX-94-01 and 63AX-94-02.
d Based on unfiltered samples taken in 1995 and 1996 from 63AX-94-03, AXM-95-05X, -06X, -07X, -08A, -08B
e Based on filtered samples taken in 1995 and 1996 from 63AX-94-03, AXM-95-05X, -06X, -07X, -08A, -08B
f USEPA soil lead screening level (OSWER Directive 9355.4-12, 1994b)
g MCL (USEPA, 1996b)
h Secondary MCL (USEPA, 1996b)
i Action Level (USEPA, 1996b)
j Value for naphthalene used as surrogate

*Background: Maximum concentration in Fort Devens background listed;
95 percent UCL of Fort Devens background groundwater. See Appendix F for development of background.
**Region III RBCs (USEPA, 1996a): Residential RBC for soil used for subsurface soil evaluation; tap water RBC used for groundwater evaluation. RBCs based on carcinogenic effects are associated with a 1x10-6 cancer risk level; RBCs based on noncarcinogenic effects are associated with an adjusted HQ of 0.1 (USEPA, 1996a).
***MCP Method 1 Standards (MADEP, 1995):
Lowest GW standard used for groundwater; lowest S-3 value used for soil

Less than RBC1 - Maximum detected concentration less than risk-based concentration
Background2 - Sample concentrations detected are at or below background concentrations.
Exceeds RBC3 - Maximum detected concentration exceeds risk-based concentration
Essential Nutrient4 - Analyte is an essential human nutrient (magnesium, calcium, potassium, sodium) and is not considered a CPC.
Less than ARAR5 - Maximum detected concentration is less than concentration shown in ARAR column.
Exceeds ARAR6 - Maximum detected concentration is greater than concentration shown in ARAR column.

Chemicals selected as CPCs are shaded.
RBC - Risk-based Concentration
mg - milligram
kg - kilogram
L - liter
ARAR - Applicable or Relevant and Appropriate Requirements
MCL - Maximum Contaminant Level
CPC - chemical of potential concern
bgs - below ground surface
SQL - Sample Quantitation Limit
- - not applicable for organics
NC - 95 percent UCL not calculated for groundwater
NA - No value available

TABLE 2
CHEMICALS OF POTENTIAL CONCERN

AOC 63AX RECORD OF DECISION
DEVENS RFTA
DEVENS, MASSACHUSETTS

Chemical	Subsurface Soil	Groundwater			
		Wells 63AX-94-01, -02		Site-wide Groundwater*	
		Unfiltered	Filtered	Unfiltered	Filtered
Aluminum	X	X		X	
Arsenic	X	X	X	X	X
Beryllium	X				
Iron	X	X	X	X	X
Manganese	X	X	X	X	X
Chloroform				X	
Bis(2-ethylhexyl)phthalate	X			X	
Benzo(a)pyrene	X				
Total petroleum hydrocarbons	X				

Notes:

* = Site-wide groundwater excludes monitoring wells 63AX-94-01 and 63AX-94-02.

TABLE 3
QUANTITATIVE RISK SUMMARY

AOC 63AX RECORD OF DECISION
DEVENS RFTA
DEVENS, MASSACHUSETTS

	Central Tendency		Reasonable Maximum Exposure	
Exposure Pathway	**Cancer Risk**	**Hazard Index**	**Cancer Risk**	**Hazard Index**
Current and Future Land Use				
Utility/Maintenance Worker				
Incidental ingestion of subsurface soil			5E-07	0.03
Inhalation of volatiles from soil and groundwater			5E-09	ND
Total	Not evaluated*		**5E-07**	**0.03**
Construction Worker				
Incidental ingestion of subsurface soil			3E-07	0.3
Inhalation of volatiles from soil and groundwater, and Inhalation of soil particulates			1E-09	0.0006
Total	Not evaluated*		**3E-07**	**0.3**
Future Land Use				
Commercial Worker				
Ingestion of unfiltered groundwater from wells 63AX-94-01 and 63AX-94-02	6E-05	2	7E-04	6
Ingestion of filtered groundwater from wells 63AX-94-01 and 63AX-94-02	4E-05	1	4E-04	4
Ingestion of unfiltered site-groundwater (excluding wells 63AX-94-01 and 63AX-94-02	8E-06	0.9	1E-04	3
Ingestion of filtered site-groundwater (excluding wells 63AX-94-01 and 63AX-94-02	6E-06	0.6	1E-04	2

Notes:

* = Central tendency exposures were not evaluated because Reasonable Maximum Exposures were below USEPA target risk range and threshold.

ND = Hazard index was not determined because toxicity values were not available for chemicals of potential concern

APPENDIX C - RESPONSIVENESS SUMMARY

This Responsiveness Summary has been prepared to meet the requirements of Sections 113(k)(2)(B)(iv) and 117(b) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, which requires response to "significant comments, criticisms, and new data submitted in written or oral presentations" on a proposed plan for remedial action. The purpose of this Responsiveness Summary is to document Army responses to questions and comments expressed during the public comment period by the public, potentially responsible parties, and governmental bodies in written and oral comments regarding the Proposed Plan for Area of Contamination (AOC) 63AX.

The Army held a 30-day public comment period from June 3 through July 3, 1997, to provide an opportunity for interested parties to comment on the remedial investigation (RI) report, Proposed Plan, and other documents developed to address contamination at AOC 63AX, Devens Reserve Forces Training Area (RFTA), Devens, Massachusetts. The RI characterized soil and groundwater contamination at AOC 63AX and evaluated potential human health and ecological risks. Based on the results of the RI and risk assessment, the Army concluded that AOC 63AX did not pose unacceptable risks to human health or the environment. The Army identified its proposal for No Further Action in the Proposed Plan issued on June 3, 1997.

All documents considered in arriving at the No Further Action decision were placed in the Administrative Record for review. The Administrative Record contains all supporting documentation considered by the Army in choosing the remedy for AOC 63AX. The Administrative Record is available to the public at the Devens Base Realignment and Closure (BRAC) Environmental Office, 30 Quebec Street, Devens RFTA, and at the Ayer Town Hall, Main Street, Ayer. An index to the Administrative Record is available at the U.S. Environmental Protection Agency (USEPA) Records Center, 90 Canal Street, Boston, Massachusetts and is provided as Appendix D to the Record of Decision.

This Responsiveness Summary is organized into the following sections:

I. **Statement of Why the Army Recommended No Further Action**-This section briefly states why the Army recommended No Further Action for AOC 63AX.

II. **Background on Community Involvement**-This section provides a brief history of community involvement and Army initiatives to inform the community of site activities.

III. **Summary of Comments Received During the Public Comment Period and Army Responses**-This section provides Army responses to oral and written comments received from the public and not formally responded to during the public comment period. A transcript of the public meeting consisting of all comments received during this meeting and the Army's responses to these comments is provided in Attachment A of this Responsiveness Summary.

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I. STATEMENT OF WHY THE ARMY RECOMMENDED NO FURTHER ACTION

The Army recommended No Further Action because the risk assessment did not identify potential human health risks associated with exposure to soil at AOC 63AX exceeding USEPA target values. There is no current exposure to groundwater or an associated risk. Potential risk was associated with future commercial worker exposure to groundwater; however, downward modification of the carcinogenic risk estimates results in an estimate that is within the USEPA target risk range of $1x10^{-4}$ to $1x10^{-6}$. Further, the property at AOC 63AX is served by the Devens public water supply system, and future worker exposure to site-derived groundwater is unlikely. An ecological risk assessment was not performed. The area surrounding AOC 63AX is paved and provides neither shelter nor foraging opportunities for wildlife. Ecological receptor exposure to site contaminants is considered unlikely.

Based on these facts, the Army concluded that AOC 63AX does not pose an imminent or substantial endangerment to public health, welfare, or the environment.

II. BACKGROUND ON COMMUNITY INVOLVEMENT

The Army has held regular and frequent information meetings, issued fact sheets and press releases, and held public meetings to keep the community and other interested parties informed of activities at AOC 63AX.

In February 1992, the Army released, following public review, a community relations plan that outlined a program to address community concerns and keep citizens informed about and involved in remedial activities at Fort Devens. As part of this plan, the Army established a Technical Review Committee (TRC) in early 1992. The TRC, as required by SARA Section 211 and Army Regulation 200-1, included representatives from USEPA, USAEC, Fort Devens, Massachusetts Department of Environmental Protection (MADEP), local officials, and the community. Until January 1994, when it was replaced by the Restoration Advisory Board (RAB), the committee generally met quarterly to review and provide technical comments on schedules, work plans, work products, and proposed activities for the study areas at Fort Devens. The Site Investigation, Area Requiring Environmental Evaluation, and RI reports; Proposed Plan; and other related support documents were all submitted to the TRC or RAB for their review and comment. The Community Relations Plan was updated to address Base Realignment and Closure issues and reissued in May 1995.

The Army, as part of its commitment to involve the affected communities, forms a RAB when an installation closure involves transfer of property to the community. The Fort Devens RAB was formed in February 1994 to add members of the Citizen's Advisory Committee (CAC) to the TRC. The CAC had been established previously to address Massachusetts Environmental Policy Act/Environmental Assessment issues concerning the reuse of property at Fort Devens. The RAB initially consisted of 28 members (15 original TRC members plus 13 new members) representing the Army, USEPA Region I, MADEP, local governments, and citizens of the local communities. The RAB currently consists of 19 members. It meets monthly and provides advice to the installation and regulatory agencies on the Devens RFTA cleanup programs. Specific responsibilities include: addressing cleanup issues such as land use and cleanup goals; reviewing plans and documents; identifying proposed requirements and priorities; and conducting regular meetings that are open to the public.

On June 3, 1997, the Army issued the Proposed Plan, to provide the public with a brief explanation of the Army's proposal for No Further Action at AOC 63AX. The Proposed Plan also described the opportunities for public participation and provided details on the upcoming public comment period and public meetings.

During the week of June 2, 1997, the Army published a public notice announcing the Proposed Plan and public information meeting in the Lowell Sun, Worcester Telegram and Gazette,

Fitchburg-Leominster Sentinel Enterprise, and the Public Spirit. The Army also made the Proposed Plan available to the public at the public information repositories at the Davis Public Library at the Devens RFTA, the Ayer Public Library, the Hazen Memorial Library in Shirley, the Harvard Public Library, and the Lancaster Public Library.

From June 3 through July 3, 1997, the Army held a 30-day public comment period to accept public comments on the Proposed Plan and on other documents released to the public. On June 25, 1997, the Army held an informal public information meeting at Devens RFTA to present the Army's Proposed Plan to the public and to provide the opportunity for open discussion concerning the Proposed Plan. The Army also accepted verbal or written comments from the public at the meeting. A transcript of this meeting, public comments, and the Army's response to comments are attached to this Responsiveness Summary.

All supporting documentation for the decision regarding AOC 63AX is contained in the Administrative Record for review. The Administrative Record is a collection of all the documents considered by the Army in choosing the plan of action for AOC 63AX. On June 25, 1997, the Army made the Administrative Record available for public review at the Devens BRAC Environmental Office, and at the Ayer Town Hall, Ayer, Massachusetts. An index to the Administrative Record is available at the USEPA Records Center, 90 Canal Street, Boston, Massachusetts and is provided as Appendix D.

III. SUMMARY OF COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD AND ARMY RESPONSES

No comments were received during the public comment period.

ATTACHMENT A - PUBLIC MEETING TRANSCRIPT

Volume I
Pages 1 to 4

U.S. ARMY

BASE REALIGNMENT AND CLOSURE

DEVENS RESERVE FORCES TRAINING AREA

- -x
PUBLIC HEARING ON PROPOSED PLAN :
FOR AOC 63AX :
- -x

BEFORE: James Chambers, Environmental Coordinator

Held at:

Devens Reserve Forces Training Area Headquarters
31 Quebec Street (Building 379)
Ayer, Massachusetts 01432
Thursday, June 25, 1997
7:15 p.m.

(William J. Ellis, Registered Professional Reporter)

* * * *

DORIS O. WONG ASSOCIATES, Inc.
50 FRANKLIN STREET, BOSTON, MASSACHUSETTS 02110 TELEPHONE (617) 426-2432

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

2 MR. CHAMBERS: Good evening. Thanks for
3 coming out this very hot evening.
4 I'm James Chambers. I'm the BRAC
5 Environmental Coordinator for the U.S. Army Devens
6 Reserved Forces Training Area.
7 Tonight we're here to have the public
8 meeting on the proposed plan for the Area of
9 Contamination 63AX. The proposed plan was sent out
10 May 27, for a 30-day comment period. The comment
11 period ends this Friday, June 27. I invite you to
12 either make public comment -- oral comments this
13 evening or written comments and submit them to us by
14 the 27th of June.
15 So we'll hold this meeting open till 7:30;
16 and, then, if we receive no comments by that time,
17 then we'll close the meeting.
18 (Discussion off the record)
19 MR. CHAMBERS: The public comment
20 period -- I'm sorry -- is from June 3 through
21 July 3. So we'll solicit written comments till the
22 3rd of July.
23 (Discussion off the record)
24 MR. CHAMBERS: All right. Everyone. There

being no further comment on this proposed plan, I'm going to close the public hearing. I'd like to remind you again to please sign the attendance sheet, and thank you for coming.

(Whereupon the proceedings were adjourned at 7:31 p.m.)

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

2 I, William J. Ellis, Registered
3 Professional Reporter, do hereby certify that the
4 foregoing transcript, Volume I, is a true and
5 accurate transcription of my stenographic notes
6 taken on June 25, 1997.
7
8
9 _____
10 William J. Ellis
11 Registered Professional Reporter
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FORT DEVENS
PUBLIC MEETING
PROPOSED PLAN
AREA OF CONTAMINATION (AOC) 63AX
25 JUNE 1997
7:00 PM
Devens Reserve Forces Training Area
Commander's Conference Room
Building 679, Quebec Street

NAME	ORGANIZATION	ADDRESS	PHONE #
RON OSTROWSKI	D CC	43 BUENA VISTA DEVENS	508 772 6340
Joanne K Dunne	DEP	627 Main st Worc	508 767-2828
CHRIS KNUTH	DEP	"	508-767-2829
James G. Byrne	EPA New England	JFK Federal Bldg. Boston MA	(617) 573-5799
Eric Hawitz	Devens RFTA	P.O. Box 3, Devens, MA 01433	508-796-2159
Rod Rustad	ABB-ES	P.O. Box 7050 Portland ME 04112	(207) 828-3613
J. DANIEL DRUN	Devens, RFTA	30 Quebec St. Devens MA 01432	508-796-3514
Lynne Welsh	MADEP - CERO	627 Main St, Worc.	(508) 767-2851
MARK R. Applebee	USACE-NAE	424 Trapelo Rd Waltham MA 02254	617 647 8227
H. CARTER HUNT JR	DEVENS RFTA	31 QUEBEC ST DEVENS	508-796-2126
Jerry Keefe	EPA	JFK Federal Bld Boston MA	617 223 5532
JAMES C CHAMBERS	DEVENS RFTA - BEC	30 QUEBEC ST	(508) 796-3114
William J. Ellis	Dei's O. Long - Covet Reporters	18 Marsh St. Gloucester, MA	508 281 7134
Alan J. Filip	ABB-ES	107 Audubon Rd Wakefield, MA	617-245-6606

APPENDIX D - ADMINISTRATIVE RECORD INDEX

ADMINISTRATIVE RECORD INDEX

AOC 63AX

1.0 Pre-Remedial

1.2 Preliminary Assessment

Work Plans

1. Draft Supplemental Work Plan BRAC EE, AREEs 61, 63, 66, 69 Fort Devens, Massachusetts, Arthur D. Little, Inc., (April 30, 1993). Filed in Group AREE.
2. Underground Storage Tank (AREE 63) Memorandum Work Plan Base Realignment and Closure Environmental Evaluation (BRAC EE), Fort Devens, Massachusetts, Arthur D. Little, Inc., (February 17, 1994). Filed in Group AREE.
3. Final Supplemental Work Plan - Appendix B, BRAC EE, Fort Devens, Massachusetts, Arthur D. Little, Inc., (June 17, 1994). Filed in Group AREE.

Reports

1. Final Master Environmental Plan for Fort Devens, Argonne National Laboratory, (April, 1992). Filed in Group 1A.
2. Preliminary Zone II Analysis for the Production Wells at Fort Devens, MA, Draft Report, Engineering Technologies Associates, Inc., (January, 1994). Filed in Group 1A.
3. Final Maintenance and Waste Accumulation Areas (AREE 61) Report, Base Realignment and Closure Environmental Evaluation, Fort Devens, Massachusetts, Volume I and II, Arthur D. Little, Inc., (June, 1995). Filed in Group AREE.
4. Final Previously Removed Underground Storage Tank (AREE 63) Report, Base Realignment and Closure Environmental Evaluation (BRAC EE), Fort Devens, Massachusetts, Volume I and II, Arthur D. Little, Inc., (June, 1995). Filed in Group AREE.
5. Final Previously Removed Underground Storage Tank (AREE 63) Report, Base Realignment and Closure Environmental Evaluation (BRAC EE), Fort Devens, Massachusetts, Volume I and II, Replacement Pages, Arthur D. Little, Inc., (September, 1995). Filed in Group AREE.
6. Final Maintenance and Waste Accumulation Areas (AREE 61) Report, Base Realignment and Closure Environmental Evaluation, Fort Devens, Massachusetts, Volume I and II, Replacement Pages, Arthur D. Little, Inc., (September, 1995). Filed in Group AREE.

Comments

1. Comments dated May, 1992 from Walter Rolf, Montachusett Regional Planning Commission on the April, 1992 "Final Master Environmental Plan for Fort Devens," Argonne National Laboratory. Filed in Group 1A.

2. Comments dated May 7, 1992 from James P. Byrne, USEPA Region I on the April, 1992 "Final Master Environmental Plan for Fort Devens," Argonne National Laboratory. Filed in Group 1A.
3. Comments dated November 23, 1993 from Molly J. Elder, MADEP on the October 8, 1993 "Draft Underground Storage Tank (AREE 63) Memorandum Work Plan, Base Realignment and Closure Environmental Evaluation (BRAC EE), Fort Devens, Massachusetts," Arthur D. Little, Inc. Filed in Group AREE.
4. Comments dated December 28, 1993 from James P. Byrne, USEPA Region I on the November 15, 1993 "Previously Removed Underground Storage Tank (AREE 63) Draft Report, Base Realignment and Closure Environmental Evaluation (BRAC EE), Fort Devens, Massachusetts," Arthur D. Little, Inc. Filed in Group AREE.
5. Comments dated December 28, 1993 from James P. Byrne, USEPA Region I on the February 15, 1993 "Draft Maintenance and Waste Accumulation Areas (AREE 61) Report, Base Realignment and Closure Environmental Evaluation, Fort Devens, Massachusetts," Arthur D. Little, Inc. Filed in Group AREE.
6. Comments dated December 28, 1993 from James P. Byrne, USEPA Region I on the April 30, 1993 "Draft Supplemental Work Plan BRAC EE, AREEs 61, 63, 66, 69 Fort Devens, Massachusetts," Arthur D. Little, Inc. Filed in Group AREE.
7. Comments dated December 30, 1993 from Molly J. Elder, MADEP on the December 30, 1993 "Comments on the November 1993 Draft Maintenance and Waste Accumulation Report, Draft Work Plan, Draft Protocol Data Sheet and Data Base, Fort Devens, Massachusetts," Molly J. Elder, MADEP. Filed in Group AREE.
8. Comments dated January 6, 1994 from Molly J. Elder, MADEP on the November 15, 1993 "Previously Removed Underground Storage Tank (AREE 63) Draft Report, Base Realignment and Closure Environmental Evaluation (BRAC EE), Fort Devens, Massachusetts," Arthur D. Little, Inc. Filed in Group AREE.
9. Comments dated May 6, 1994 from D. Lynne Welsh, MADEP on the February 17, 1994 "Underground Storage Tank (AREE 63) Memorandum Work Plan Base Realignment and Closure Environmental Evaluation (BRAC EE), Fort Devens, Massachusetts," Arthur D. Little, Inc. Filed in Group AREE.
10. Comments dated May 23, 1994 from D. Lynne Welsh, MADEP on the January, 1994 "Preliminary Zone II Analysis for the Production Wells at Fort Devens, MA, Draft Report," Engineering Technologies Associates, Inc. Filed in Group 1A.

11. Comments dated September 18, 1995 from D. Lynne Welsh, MADEP on the June, 1995 "Final Maintenance and Waste Accumulation Areas (AREE 61) Report, Base Realignment and Closure Environmental Evaluation, Fort Devens, Massachusetts, Volume I and II," Arthur D. Little, Inc. Filed in Group AREE.
12. Comments dated October 20, 1995 from D. Lynne Welsh, MADEP on the June, 1995 "Final Previously Removed Underground Storage Tank (AREE 63) Report, Base Realignment and Closure Environmental Evaluation (BRAC EE), Fort Devens, Massachusetts, Volume I and II," Arthur D. Little, Inc. Filed in Group AREE.

Responses to Comments

1. Responses dated June 29, 1992 from Carrol J. Howard, Fort Devens to the comments on the April, 1992 "Final Master Environmental Plan for Fort Devens," Argonne National Laboratory. Filed in Group 1A.
2. Meeting Notes and Responses dated January 13, 1994 from Arthur D. Little to the comments on the "Draft Maintenance and Waste Accumulation Areas Report AREE 61 (BRAC EE)", Arthur D. Little, Inc. Filed in Group AREE.
3. Responses dated January 21, 1994 from Arthur D. Little, Inc. to the comments on the October 8, 1993 "Draft Underground Storage Tank (AREE 63) Memorandum Work Plan, Base Realignment and Closure Environmental Evaluation (BRAC EE), Fort Devens, Massachusetts," Arthur D. Little, Inc. Filed in Group AREE.

1.3 Site Inspection

Work Plans

1. Final Task Order (Site Investigations) Work Plan - Historic Gas Stations, ABB Environmental Services, Inc., (December, 1992). Filed in Group 2&7.
2. Work Plan - Maintenance and Waste Accumulation Areas (AREE 61) Base Realignment and Closure Environmental Evaluation (BRAC EE), Fort Devens, Massachusetts, Arthur D. Little, Inc., (February 17, 1994). Filed in Group AREE.

Reports

1. Final SI Report, Groups 2 & 7 and Historic Gas Stations, Volume I - IV, ABB Environmental Services, Inc., (May, 1993). Filed in Group 2&7.
2. Underground Storage Tanks (AREE 63) Supplemental Site Evaluation Data Package Base Realignment and Closure Environmental Evaluation (BRAC EE), Fort Devens, Massachusetts, Arthur D. Little, Inc., (October, 1994). Filed in Group AREE.
3. Maintenance and Waste Accumulation Areas (AREE 61) Supplemental Site Evaluation Data Package Base Realignment and Closure Environmental Evaluation (BRAC EE), Fort Devens, Massachusetts, Arthur D. Little, Inc., (October, 1994). Filed in Group AREE.

4. Revised Final Site Investigation Report, Groups 2 & 7 and Historic Gas Stations, Volumes I, II, III and IV, ABB Environmental Services, Inc., (October, 1995). Filed in Group 2&7.

Comments

1. Comments dated January 12, 1993 from James P. Byrne, USEPA Region I on the December, 1992 "Final Task Order (Site Investigations) Work Plan - Historic Gas Stations," ABB Environmental Services, Inc. Filed in Group 2&7.
2. Comments dated January 11, 1993 from D. Lynne Chappell, MADEP on the December, 1992 "Final Task Order (Site Investigations) Work Plan - Historic Gas Stations," ABB Environmental Services, Inc. Filed in Group 2&7.
3. Comments dated July 9, 1993 from D. Lynne Chappell, MADEP on the May, 1993 "Final SI Report, Groups 2 & 7 and Historic Gas Stations, Volume I - IV," ABB Environmental Services, Inc. Filed in Group 2&7.
4. Comments dated July 15, 1993 from James P. Byrne, USEPA Region I on the May, 1993 "Final SI Report, Groups 2 & 7 and Historic Gas Stations, Volume I - IV," ABB Environmental Services, Inc. Filed in Group 2&7.
5. USEPA Comments on the AREE 61 Work Plan, AREE 63 Memorandum Work Plan and AREE 69 Work Plan, Arthur D. Little, Inc. Filed in Group AREE.
6. Comments dated April 4, 1994 from Molly J. Elder, MADEP on the February 17, 1994 "Work Plan - Maintenance and Waste Accumulation Areas (AREE 61) Base Realignment and Closure Environmental Evaluation (BRAC EE), Fort Devens, Massachusetts," Arthur D. Little, Inc. Filed in Group AREE.
7. Comments dated December 9, 1994 from D. Lynne Welsh, MADEP on the October, 1994 "Maintenance and Waste Accumulation Areas (AREE 61) Supplemental Site Evaluation Data Package Base Realignment and Closure Environmental Evaluation (BRAC EE), Fort Devens, Massachusetts," Arthur D. Little, Inc. Filed in Group AREE.

Responses to Comments

1. Responses dated September, 1993 from U.S. Army Environmental Center to the comments on the May, 1993 "Final SI Report, Groups 2 & 7 and Historic Gas Stations, Volume I - IV," ABB Environmental Services, Inc. Filed in Group 2&7.
2. Responses on the Final Work Plan (AREE 61), Final Memorandum Work Plan (AREE 63) and Final Work Plan (AREE 69). Filed in Group AREE.
3. Responses on the Supplemental Site Evaluations (SSE) Data Packages for AREE 61, AREE 63, AREE 66, and AREE 69 (Arthur D. Little, Inc.). Filed in Group AREE.

Comments on Responses to Comments

1. MADEP Rebuttals on the Comment Response Package of the Final Work Plan for AREE 61, 63 and 69. Filed in Group AREE.

3.0 Remedial Investigation (RI)

3.4 Interim Deliverables

Work Plans

1. Final Projects Operations Plan - Volume I - III, ABB Environmental Services, Inc., (December, 1992). Filed in Group 1A.
2. Final (Revised) Project Operations Plan, Fort Devens, Massachusetts, Data Item A004/A006, Volumes I-III, ABB Environmental Services, Inc., (May, 1995). Filed in Group 1A.

Reports

1. Final Ground Water Flow Model at Fort Devens, Engineering Technologies Associates, Inc., (May 24, 1993). Filed in Group 1A.
2. Risk Assessment Approach Plan, Remedial Investigation Reports, AOCs 57 and 63AX, Fort Devens, MA, ABB Environmental Services, Inc., (March 12, 1996). Filed in Group 2&7.

Comments

1. Comments dated January 12, 1993 from James P. Byrne, USEPA Region I on the December, 1992 "Final Projects Operations Plan - Volume I - III," ABB Environmental Services, Inc. Filed in Group 1A.
2. Comments Dated February 1, 1993 from James P. Byrne, USEPA Region I and D. Lynne Chappell, Commonwealth of Massachusetts Department of Environmental Protection on the October 30, 1992 "Draft Final Ground Water Flow Model at Fort Devens,". Filed in Group 1A.
3. Comments dated February 17, 1993 from D. Lynne Chappell, MADEP on the December, 1992 "Final Projects Operations Plan - Volume I - III," ABB Environmental Services, Inc. Filed in Group 1A.
4. Comments dated April 15, 1996 from James P. Byrne, USEPA Region I on the March 12, 1996 "Risk Assessment Approach Plan, Remedial Investigation Reports, AOCs 57 and 63AX, Fort Devens, MA," ABB Environmental Services, Inc. Filed in Group 2&7.
5. Comments dated April 23, 1996 from Christopher J. Knuth, MADEP on the March 12, 1996 "Risk Assessment Approach Plan, Remedial Investigation Reports, AOCs 57 and 63AX, Fort Devens, MA," ABB Environmental Services, Inc. Filed in Group 2&7.

3.5 Applicable or Relevant and Appropriate Requirements (ARARs)

Reports

1. Draft Applicable or Relevant and Appropriate Requirements (ARARs) for CERCLA Remedial Actions, U.S. Army Toxic and Hazardous Materials Agency, (May 21, 1992). Filed in Group 3,5 and 6.

3.6 Remedial Investigation (RI) Reports

Reports

1. Final Remedial Investigation Report for Area Of Contamination (AOC) 63AX, ABB Environmental Services, Inc., (February, 1997). Filed in Group AREE.

Comments

1. Comments dated October 8, 1996 from Christopher J. Knuth, MADEP on the August, 1996 "Draft Remedial Investigation Report for Area Of Contamination (AOC) 63AX," ABB Environmental Services, Inc. Filed in Group AREE.
2. Comments dated November 7, 1996 from Jerome C. Keefe, USEPA Region I on the August, 1996 "Draft Remedial Investigation Report for Area Of Contamination (AOC) 63AX," ABB Environmental Services, Inc. Filed in Group AREE.

Responses to Comments

1. Responses dated February, 1997 from ABB Environmental Services, Inc. to the comments on the August, 1996 "Draft Remedial Investigation Report for Area Of Contamination (AOC) 63AX," ABB Environmental Services, Inc. Filed in Group AREE.

3.7 Work Plans and Progress Reports

Work Plans

1. Final Task Order Work Plan, AOCs 57, 63AX and 69W, Data Item A002, ABB Environmental Services, Inc., (January, 1996). Filed in Group 2&7.

Comments

1. Comments dated August 18, 1995 from Jerome C. Keefe, USEPA Region I on the July, 1995 "Draft Task Order Work Plan, AOCs 57, 63AX and 69W, Data Item A002," ABB Environmental Services, Inc. Filed in Group 2&7.
2. Comments dated September 15, 1995 from D. Lynne Welsh, MADEP on the July, 1995 "Draft Task Order Work Plan, AOCs 57, 63AX and 69W, Data Item A002," ABB Environmental Services, Inc. Filed in Group 2&7.
3. Comments dated February 27, 1996 from Christopher J. Knuth, MADEP on the January, 1996 "Final Task Order Work Plan, AOCs 57, 63AX and 69W, Data Item A002," ABB Environmental Services, Inc. Filed in Group 2&7.

4. Comments dated February 27, 1996 from Jerome C. Keefe, USEPA Region I on the January, 1996 "Final Task Order Work Plan, AOCs 57, 63AX and 69W, Data Item A002," ABB Environmental Services, Inc. Filed in Group 2&7.

Responses to Comments

1. Responses dated January, 1996 from ABB Environmental Services, Inc. to the comments on the July, 1995 "Draft Task Order Work Plan, AOCs 57, 63AX and 69W, Data Item A002," ABB Environmental Services, Inc. Filed in Group 2&7.

Comments on Responses to Comments

1. Comments dated February 27, 1996 from Christopher J. Knuth, MADEP on the responses on the July, 1995 "Draft Task Order Work Plan, AOCs 57, 63AX and 69W, Data Item A002," ABB Environmental Services, Inc. Filed in Group 2&7.

4.0 Feasibility Study (FS)

4.9 Proposed Plans for Selected Remedial Action

Reports

1. Proposed Plan for AOC 63AX, ABB Environmental Services, Inc., (June, 1997). Filed in Group AREE.

Comments

1. Comments dated May 9, 1997 from James P. Byrne, USEPA Region I on the April, 1997 "Draft Proposed Plan for AOC 63 AX," ABB Environmental Services, Inc. Filed in Group AREE.
2. Comments dated May 12, 1997 from Christopher J. Knuth, MADEP on the April, 1997 "Draft Proposed Plan for AOC 63 AX," ABB Environmental Services, Inc. Filed in Group AREE.

Responses to Comments

1. Responses dated June, 1997 from ABB Environmental Services, Inc. to the comments on the April, 1997 "Draft Proposed Plan for AOC 63 AX," ABB Environmental Services, Inc. Filed in Group AREE.

5.0 Record of Decision (ROD)

5.4 Record of Decision (ROD)

Reports

1. No Further Action Decision Document Under CERCLA, Fort Devens Study Area 43C,E,F,,K,L,M,P,Q,R, and S, ABB Environmental Services, Inc., (January, 1994). Filed in Group 2&7.
2. No Further Action Decision Under CERCLA, Study Area 43K, Historic Gas Station Sites, Fort Devens, Massachusetts, ABB Environmental Services, Inc., (January, 1995). Filed in Group 2&7.

3. Final No Further Action Decision Under CERCLA, AREE 61, 63 and 69 Sites, Fort Devens, Massachusetts, Arthur D. Little, Inc., (November, 1995). Filed in Group AREE.
4. Final Record of Decision for AOC 63AX, ABB Environmental Services, Inc., (September, 1997). Filed in Group AREE.

Comments

1. Comments dated November 3, 1993 from D. Lynne Welsh, MADEP on the September, 1993 "Draft No Further Action Decision Document Under CERCLA, Fort Devens Study Area 43C,E,F,,K,L,M,P,Q,R, and S," ABB Environmental Services, Inc. Filed in Group 2&7.
2. Comments dated November 17, 1993 from James P. Byrne, USEPA Region I on the September, 1993 "Draft No Further Action Decision Document Under CERCLA, Fort Devens Study Area 43C,E,F,,K,L,M,P,Q,R, and S," ABB Environmental Services, Inc. Filed in Group 2&7.
3. Comments dated July 16, 1997 from Christopher J. Knuth, MADEP on the June, 1997 "Draft Record of Decision for AOC 63AX," ABB Environmental Services, Inc. Filed in Group AREE.
4. Comments dated July 17, 1997 from Jerome C. Keefe, USEPA Region I on the June, 1997 "Draft Record of Decision for AOC 63AX," ABB Environmental Services, Inc. Filed in Group AREE.
5. Comments dated August 22, 1997 from David M. Salvadore, MADEP on the June, 1997 "Draft Record of Decision for AOC 63AX," ABB Environmental Services, Inc. Filed in Group AREE.

Responses to Comments

1. Responses dated January, 1995 from U.S. Army Environmental Center to the comments on the September, 1993 "Draft No Further Action Decision Document Under CERCLA, Fort Devens Study Area 43C,E,F,,K,L,M,P,Q,R, and S," ABB Environmental Services, Inc. Filed in Group 2&7.

10.0 Enforcement

10.16 Federal Facility Agreements

1. Final Federal Facility Agreement Under CERCLA Section 120, EPA Region I and U.S. Department of the Army with attached map. Filed in Group 1A.

13.0 Community Relations

13.2 Community Relations Plans

1. Final Community Relations Plan, Ecology and Environment, Inc., (February, 1992). Filed in Group 1A.

Reports

1. Fort Devens Community Relations Plan for Environmental Restoration, 1995 Update, ABB Environmental Services, Inc., (May, 1995). Filed in Group 1A.

Comments

1. Comments dated March 19, 1992 from James P. Byrne, USEPA Region I on the February, 1992 "Final Community Relations Plan," Ecology and Environment, Inc. Filed in Group 1B.

APPENDIX E - DECLARATION OF STATE CONCURRENCE

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
CENTRAL REGIONAL OFFICE

ARGEO PAUL CELLUCCI
Governor

TRUDY COXE
Secretary

DAVID B. STRUHS
Commissioner

September 26, 1997

Mr. Harley F. Laing, Director
U.S. Environmental Protection Agency
Region I
JFK Federal Building
Boston, MA 02203

RE: Record of Decision for Area for Contamination 63AX, Devens, Massachusetts

Dear Mr. Laing:

The Massachusetts Department of Environmental Protection (MADEP) has reviewed the Record of Decision (ROD) proposed by the United States Army and the U.S. Environmental Protection Agency (EPA) for the Area of Contamination (AOC) 63AX and concurs with the proposed remedy.

The MADEP has evaluated this no action ROD for consistency with M.G.L. c. 21E (21E) and the Massachusetts Contingency Plan (MCP).

The MADEP's concurrence is based upon the documented site remediation and assessment conducted by the Army in the immediate location of Buildings #2514 and #2517. These actions include the removal of a waste oil underground storage tank (UST) and 100 cubic yards of impacted soil in 1989, the removal of a gasoline UST and an additional 140 tons of impacted soil in 1992.

Along with these remedial activities, a Site Investigation was conducted in 1992 and a more complete Remedial Investigation (RI) report was initiated in 1995. The purpose of the RI was to determine the nature and extent of contamination at AOC 63AX and assess the human health and ecological risks.

The RI concluded that AOC 63AX did not present unacceptable risks to human health or the environment and that a feasibility study to evaluate remedial actions alternatives was not needed.

627 Main Street • Worcester, Massachusetts 01608 • Telephone (508) 792-7692

Fax (508)792-7621
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TTD #(508)767-2788

The MADEP concurs with the ROD for AOC 63AX and would like to thank the US Army, particularly Jim Chambers BRAC Environmental Coordinator, and Jerry Keefe, EPA, the Fort Devens Remedial Project Manager, for their efforts to ensure that the requirements of the MADEP were met. We look forward to continuing to work with the EPA at other sites at Devens.

If you have any questions, please contact Lynne Welsh at (508) 792-7653, ext. 3851.

Sincerely,

Ted Willard for

E. Gail Suchman
Regional Director

p:\DSAL\AOC43AX\ROD

CC: Edward Kunce, MADEP
Jay Naparstek, MADEP
Informational Repositories
Fort Devens Mailing List (Cover Letter Only)
Ron Ostrowski, DCC
Jim Byrne, EPA
Jeff Waugh, AEC
Patricia Momm, ABB
Mark Applebee, ACOE

APPENDIX F - GLOSSARY OF ACRONYMS AND ABBREVIATIONS

AOC	Area of Contamination
AREE	Area Requiring Environmental Evaluation
bgs	below ground surface
BRAC	Base Realignment and Closure
BTEX	benzene, ethylbenzene, toluene, and xylenes
CAC	Citizen's Advisory Committee
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CMR	Code of Massachusetts Regulations
HI	hazard index
MADEP	Massachusetts Department of Environmental Protection
MCL	Maximum Contaminant Level
MCP	Massachusetts Contingency Plan
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
PAL	Project Analyte List
PCB	polychlorinated biphenyl
RAB	Restoration Advisory Board
RfD	reference dose
RI	remedial investigation
RFTA	Reserve Forces Training Area
SA	Study Area
SARA	Superfund Amendments and Reauthorization Act
SI	site investigation
SVOC	semivolatile organic compound
TPHC	total petroleum hydrocarbon compounds
TRC	Technical Review Committee