



**U.S. Army
Environmental
Center**

VERSION 2

Base Realignment and Closure (BRAC) Cleanup Plan

Umatilla Depot Activity Hermiston, Oregon

Prepared for:

**U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND 21010**

Prepared by:

**EARTH TECH
1420 KING STREET, SUITE 600
ALEXANDRIA, VIRGINIA 22314**

Requests for this document must be referred to:
**Commander, Umatilla Depot Activity
Hermiston, Oregon 97838**

JANUARY 1995

19950417 101

VERSION 2

Base Realignment and Closure (BRAC) Cleanup Plan

Umatilla Depot Activity Hermiston, Oregon

Prepared for:

U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND 21010

Prepared by:

EARTH TECH
1420 KING STREET, SUITE 600
ALEXANDRIA, VIRGINIA 22314

Requests for this document must be referred to:
Commander, Umatilla Depot Activity
Hermiston, Oregon 97838

JANUARY 1995

Accession For	
NTIS	CRA&I ☒
DTIC	TAB ☐
Unannounced	☐
Justification	
By	
Distribution /	
Availability Codes	
Dist A-1	Avail and/or Special

This page intentionally left blank.

TABLE OF CONTENTS

Section	Page No.
Executive Summary	ES-1
Chapter 1: Introduction and Summary	1-1
1.1 Environmental Response Objectives	1-2
1.2 BCP Purpose, Updates, and Distribution	1-3
1.3 BCT/Project Team	1-4
1.4 Installation Description and History	1-5
1.4.1 General Property Description	1-5
1.4.2 History of Installation	1-5
1.5 Environmental Setting	1-12
1.6 Hazardous Substances and Waste Management Practices	1-14
1.7 Off-Post Property/Tenants	1-14
1.8 Tenant Units	1-23
Chapter 2: Property Disposal and Reuse Plan	2-1
2.1 Status of Disposal Planning Process	2-1
2.2 Relationship to Environmental Programs	2-17
2.3 Property Transfer Methods	2-19
2.3.1 Federal Transfer of Property	2-19
2.3.2 No-Cost Public Benefit Conveyance	2-19
2.3.3 Negotiated Sale	2-19
2.3.4 Competitive Public Sale	2-20
2.3.5 Widening of Public Highways	2-20
2.3.6 Donated Property	2-20
2.3.7 Interim Leases	2-20
2.3.8 Other Property Transfer Methods	2-20
Chapter 3: Installation-wide Environmental Program Status	3-1
3.1 Environmental Program Status	3-1
3.1.1 Restoration Sites	3-2
3.1.2 Installation-Wide Source Discovery and Assessment Status	3-27
3.2 Compliance Program Status	3-27
3.2.1 Storage Tanks	3-30
3.2.1.1 USTs	3-30
3.2.1.2 ASTs	3-30
3.2.2 Hazardous Substance Management	3-30
3.2.3 Hazardous Waste Management	3-41
3.2.4 Solid Waste Management	3-42
3.2.5 Polychlorinated Biphenyls (PCBs)	3-42
3.2.6 Asbestos	3-43
3.2.7 Radon	3-43

TABLE OF CONTENTS

Continued

Section	Page No.
3.2.8 RCRA Facilities (SWMUs)	3-44
3.2.9 Wastewater Discharges	3-44
3.2.10 Oil/Water Separators	3-45
3.2.11 Pollution Prevention	3-45
3.2.12 NRC Licensing	3-45
3.2.13 Mixed Waste	3-45
3.2.14 Radiation	3-45
3.2.15 Lead-based Paint	3-45
3.2.16 Medical Waste	3-46
3.2.17 Unexploded Ordnance (UXO)	3-46
3.2.18 NEPA	3-46
3.2.19 Air Emissions	3-46
3.3 Status of Natural and Cultural Resource Programs	3-46
3.3.1 Vegetation	3-47
3.3.2 Wildlife	3-47
3.3.3 Wetlands and Floodplains	3-48
3.3.4 Designated Preservation Areas	3-48
3.3.5 Rare, Threatened and Endangered Species	3-48
3.3.6 Cultural Resources	3-48
3.3.6.1 Historical Resources	3-49
3.3.6.2 Archeological Resources	3-49
3.3.7 Other Resources	3-49
3.4 Environmental Condition of Property	3-50
3.4.1 CERFA Parcels	3-55
3.4.2 CERFA Parcels with Qualifiers	3-55
3.4.3 CERFA Disqualified Parcels	3-55
3.4.4 CERFA Excluded Parcels	3-55
3.4.5 Suitability of Installation Property for Transfer by Deed	3-55
3.5 Status of Community Involvement	3-56
Chapter 4: Installation-wide Strategy for Environmental Restoration	4-1
4.1 OU Designation and Strategy	4-2
4.1.1 Zone Designations	4-2
4.1.2 OU Designations	4-2
4.1.3 Sequence of OUs	4-4
4.1.3.1 Sequencing Strategy	4-4
4.1.3.2 Remediation Timelines and Documents	4-7
4.1.4 Environmental Restoration Early Actions Strategy	4-15
4.1.5 Remedy Selection Approach	4-16
4.2 Compliance Strategy	4-16

TABLE OF CONTENTS

Continued

Section	Page No.
4.2.1 Storage Tanks	4-17
4.2.1.1 USTs.	4-17
4.2.1.2 ASTs.	4-17
4.2.2 Hazardous Substance Management	4-17
4.2.3 Hazardous Waste Management	4-19
4.2.4 Solid Waste Management	4-19
4.2.5 Polychlorinated Biphenyls (PCBs)	4-19
4.2.6 Asbestos	4-19
4.2.7 Radon	4-19
4.2.8 RCRA Facilities (SWMUs)	4-20
4.2.9 Wastewater Discharges	4-20
4.2.10 Oil/Water Separators	4-20
4.2.11 Pollution Prevention	4-20
4.2.12 NRC Licensing	4-20
4.2.13 Mixed Wastes	4-20
4.2.14 Radiation	4-21
4.2.15 Lead-Based Paint	4-21
4.2.16 Medical Waste	4-21
4.2.17 Unexploded Ordnance	4-21
4.2.18 National Environmental Policy Act	4-21
4.2.19 Air Emissions	4-21
4.3 Natural and Cultural Resources Strategies	4-22
4.3.1 Vegetation	4-22
4.3.2 Wildlife	4-22
4.3.3 Wetlands	4-22
4.3.4 Designated Preservation Areas	4-22
4.3.5 Rare, Threatened and Endangered Species	4-22
4.3.6 Cultural Resources	4-23
4.3.7 Other Resources	4-23
4.4 Community Involvement/Strategy	4-23
Chapter 5: Environmental Program Master Schedules	5-1
5.1 Environmental Restoration Program	5-1
5.1.1 Response Schedules	5-1
5.1.2 Requirements by Fiscal Year	5-1
5.2 Compliance Programs	5-1
5.2.1 Master Compliance Schedules	5-9
5.2.2 Requirements by Fiscal Year	5-9
5.3 Natural and Cultural Resources	5-9

TABLE OF CONTENTS

Continued

Section	Page No.
5.3.1 Natural and Cultural Resources Schedule(s)	5-9
5.3.2 Requirements by Fiscal Year	5-9
5.4 Meeting Schedule	5-9
Chapter 6: Technical and Other Issues to be Resolved	6-1
6.1 Information Management	6-1
6.1.1 BCT Action Items	6-1
6.1.2 Rationale	6-2
6.1.3 Status/Strategy	6-2
6.2 Data Usability	6-2
6.2.1 BCT Action Items	6-2
6.2.2 Rationale	6-2
6.2.3 Status/Strategy	6-3
6.3 Data Gaps	6-3
6.3.1 BCT Action Items	6-3
6.3.2 Rationale	6-3
6.3.3 Status/Strategy	6-3
6.4 Background Levels	6-3
6.4.1 BCT Action Items	6-3
6.4.2 Rationale	6-3
6.4.3 Status/Strategy	6-4
6.5 Risk Assessments	6-4
6.5.1 BCT Action Items	6-4
6.5.2 Rationale	6-4
6.5.3 Status/Strategy	6-4
6.6 Installation-Wide Remedial Action Strategy	6-4
6.6.1 BCT Action Items	6-4
6.6.2 Rationale	6-4
6.6.3 Status/Strategy	6-6
6.7 Interim Monitoring of Groundwater and Surface Water	6-6
6.7.1 BCT Action Items	6-6
6.7.2 Rationale	6-6
6.7.3 Status/Strategy	6-6
6.8 Excavation of Contaminated Materials	6-6
6.8.1 BCT Action Items	6-6
6.8.2 Rationale	6-7
6.8.3 Status/Strategy	6-7
6.9 Protocols for Remedial Design Reviews	6-7
6.9.1 BCT Action Items	6-7
6.9.2 Rationale	6-7

TABLE OF CONTENTS

Continued

Section	Page No.
6.9.3 Status/Strategy	6-7
6.10 Conceptual Models	6-7
6.10.1 BCT Action Items	6-8
6.10.2 Rationale	6-8
6.10.3 Status/Strategy	6-8
6.11 Cleanup Standards	6-8
6.11.1 BCT Action Items	6-8
6.11.2 Rationale	6-8
6.11.3 Status/Strategy	6-8
6.12 Initiatives for Accelerating Cleanup	6-9
6.12.1 BCT Action Items	6-9
6.12.2 Rationale	6-9
6.12.3 Status/Strategy	6-9
6.13 Remedial Action	6-9
6.13.1 BCT Action Items	6-9
6.13.2 Rationale	6-10
6.13.3 Status/Strategy	6-10
6.14 Review of Selected Technologies for Application of Expedited Solutions	6-10
6.14.1 BCT Action Items	6-10
6.14.2 Rationale	6-10
6.14.3 Status/Strategy	6-10
6.15 Hot Spot Removals	6-11
6.15.1 BCT Action Items	6-11
6.15.2 Rationale	6-11
6.15.3 Status/Strategy	6-11
6.16 Identification of Clean Properties	6-11
6.16.1 BCT Action Items	6-11
6.16.2 Rationale	6-11
6.16.3 Status/Strategy	6-12
6.17 Overlapping Phases of the Cleanup Process	6-12
6.17.1 BCT Action Items	6-13
6.17.2 Rationale	6-13
6.17.3 Status/Strategy	6-13
6.18 Improved Contracting Procedures	6-13
6.18.1 BCT Action Items	6-14
6.18.2 Rationale	6-14
6.18.3 Status/Strategy	6-14
6.19 Interfacing with the Community Reuse Plan	6-14
6.19.1 BCT Action Items	6-14
6.19.2 Rationale	6-15

TABLE OF CONTENTS

Continued

Section	Page No.
6.19.3 Status/Strategy	6-15
6.20 Bias for Cleanup Instead of Studies	6-15
6.20.1 BCT Action Items	6-15
6.20.2 Rationale	6-15
6.20.3 Status/Strategy	6-15
6.21 Expert Input on Contamination and Potential Remedial Actions	6-15
6.21.1 BCT Action Items	6-16
6.21.2 Rationale	6-16
6.21.3 Status/Strategy	6-16
6.22 Generic Remedies	6-16
6.22.1 BCT Action Items	6-16
6.22.2 Rationale	6-16
6.22.3 Status/Strategy	6-16
6.23 Partnering (using innovative management, coordination, and communication techniques)	6-17
6.23.1 BCT Action Items	6-17
6.23.2 Rationale	6-17
6.23.3 Status/Strategy	6-17
6.24 Updating the CERFA Report and Natural/Cultural Resources Documentation	6-17
6.24.1 BCT Action Items	6-17
6.24.2 Rationale	6-17
6.24.3 Status/Strategy	6-17
6.25 Implementing the Policy for On-site Decision Making	6-18
6.25.1 BCT Action Items	6-18
6.25.2 Rationale	6-18
6.25.3 Status/Strategy	6-18
6.26 Structural and Infrastructural Constraints to Reuse	6-18
6.26.1 BCT Action Items	6-18
6.26.2 Rationale	6-19
6.26.3 Status/Strategy	6-19
6.27 Other Technical Issues to be Resolved	6-19
Chapter 7: Primary References	7-1
Appendix A: Fiscal Year Funding Requirements/Costs	
Appendix B: Installation Environmental Restoration Documents Summary Tables	
Appendix C: Decision Document/ROD Summaries	
Appendix D: No Further Response Action Planned (NFRAP) Summaries	
Appendix E: Conceptual Site Model Data Summaries	
Appendix F: Ancillary BCP Materials	

TABLE OF CONTENTS

Continued

List of Figures

Figure		Page No.
Figure 1-1	General Location of Umatilla Depot Activity	1-7
Figure 1-2	Surrounding Off-Post Land Use	1-9
Figure 1-3A	Location of Past Hazardous Substance Activities	1-15
Figure 1-3B	Location of Past Hazardous Substance Activities	1-17
Figure 1-4	Off-Post Parcels	1-21
Figure 2-1A	Army Realignment Footprint	2-9
Figure 2-1B	Army Realignment Footprint for the Administration Area	2-11
Figure 2-1C	Disposal and Reuse Parcels	2-13
Figure 2-1D	Disposal and Reuse Parcels in the Administration Area	2-15
Figure 3-1A	Sites and OUs Currently Under Investigation	3-19
Figure 3-1B	Sites and OUs Currently Under Investigation in the Administration Area	3-21
Figure 3-1C	Sites and OUs Currently Under Investigation in the OU 1 Area	3-23
Figure 3-1D	Sites and OUs Currently Under Investigation in the OU 3 Area	3-25
Figure 3-2A	Environmental Condition of Property	3-51
Figure 3-2B	Environmental Condition of Property in the Administration Area	3-53
Figure 3-3	Suitable Property for Transfer	F-11
Figure 4-1	Sequence and Primary Document Timeline for OUs	4-9
Figure 5-1	Projected Master Restoration Schedule	5-3
Figure 5-2	Mission/Operations Compliance	5-11
Figure 5-3	Closure Compliance	5-13
Figure 5-4	Projected Schedule for Natural and Cultural Resources Activities	5-15
Figure A-1	Past Restoration Schedule	A-3

List of Tables

Table		Page No.
Table ES-1	BCT/Project Team Action Items	ES-5
Table 1-1	Current BCT/Project Team Members	1-4
Table 1-2	Property Acquisition Summary	1-11
Table 1-3	History of Installation Operations	1-12
Table 1-4	Hazardous Substance Activities at UMDA	1-14
Table 1-5	Hazardous Waste Generating Activities	1-19
Table 1-6	Off-Post Properties	1-19
Table 1-7	On-Post Tenant Units	1-23

TABLE OF CONTENTS

Continued

List of Tables (Continued)

Table		Page No.
Table 2-1	Reuse Parcel Data Summary	2-6
Table 2-2	Existing Legal Agreements/Interim Leases	2-20
Table 3-1	Preliminary Location Summary	3-3
Table 3-2	Environmental Restoration Site/Study Area Summary	3-14
Table 3-3	Mission/Operational-Related Compliance Projects	3-28
Table 3-4	Closure-Related Compliance Projects	3-28
Table 3-5	Compliance Early Action Status	3-29
Table 3-6	Environmental Compliance Permits, Licenses, Notifications and Registrations	3-31
Table 3-7	Underground Storage Tank Inventory	3-32
Table 3-8	Aboveground Storage Tank Inventory	3-39
Table 4-1	Relationship Between Restoration Sites, OUs, and Parcels	4-5
Table 4-2	Cleanup Sequence	4-7
Table 4-3	Environmental Restoration Planned Early Actions	4-15
Table 4-4	Environmental Compliance Planned Early Actions	4-18
Table 5-1	BCT Meeting Schedule	5-17
Table 6-1	Future Land Use Risk Assessment for Development of Remedy Selections	6-5
Table A-1	Total Environmental Program Summary	A-1
Table A-2	Historical Environmental Program Expenditures Summary	A-1
Table B-1	Project Deliverables	B-1
Table B-2	Site Deliverables	B-1
Table B-3	Technical Documents/Data Loading Status Summary	B-3
Table D-1	No Further Response Action Planned (NFRAP) Summaries	D-2
Table F-1	BCP Distribution List	F-3

LIST OF ACRONYMS

ACM	Asbestos-Containing Material
ADA	Ammunition Demolition Area
AOC	Areas of Concern
AR	Army Regulation
ARAR	Applicable or Relevant and Appropriate Requirements
AREE	Areas Requiring Environmental Evaluation
AST	Aboveground Storage Tank
BCP	BRAC Cleanup Plan
BCT	BRAC Cleanup Team
BEC	BRAC Environmental Coordinator
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA	Comprehensive Environmental Response Facilitation Act
CFR	Code of Federal Regulations
CRP	Community Relations Plan
DERA	Defense Environmental Restoration Account
DLA	Defense Logistics Agency
DoD	Department of Defense
EIS	Environmental Impact Statement
EnPA	Enhanced Preliminary Assessment
FFA	Federal Facility Agreement
FS	Feasibility Study
IIA	Initial Installation Assessment
IRDMIS	Installation Restoration Data Management Information System
IRP	Installation Restoration Program
ISA	Initial Screening of Alternatives
NEPA	National Environmental Policy Act
NFRAP	No Further Action Planned
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRC	Nuclear Regulatory Commission
ODEQ	Oregon Department of Environmental Quality
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PA	Preliminary Assessment
PCB	Polychlorinated Biphenyl
PIRP	Public Involvement and Response Plan
POL	Petroleum, Oils, and Lubricants
PP	Proposed Plan
ppm	Parts Per Million

LIST OF ACRONYMS

Continued

RA	Remedial Action
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI/FS	Remedial Investigation/Feasibility Study
RMIS	Restoration Management Information System
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SI	Site Investigation
SRI	Supplemental Remedial Investigation
STP	Sewage Treatment Plant
SWMU	Solid Waste Management Unit
TRC	Technical Review Committee
TSCA	Toxic Substances Control Act
UMDA	Umatilla Depot Activity
USACE	U.S. Army Corps of Engineers
USAEC	U.S. Army Environmental Center
USATHAMA	U.S. Army Toxic and Hazardous Materials Agency
USEPA	U.S. Environmental Protection Agency
UST	Underground Storage Tank
UXO	Unexploded Ordnance

BCP GLOSSARY OF TERMS

Applicable or Relevant and Appropriate Requirement (ARAR). ARARs are cleanup standards, standards of control, and other environmental protection requirements, criteria, or limitations promulgated in federal or state regulations that define remedial action requirements at CERCLA sites.

Area Requiring Environmental Evaluation (AREE). An AREE is an individual site, multiple sites or program area identified through an environmental assessment or site investigation as a potential threat to human health or the environment which requires further investigation. An AREE is roughly synonymous with an Area of Concern (AOC).

BRAC Cleanup Team (BCT). The BCT is formed to manage environmental programs for BRAC installations consisting of a U.S. Army installation representative, USEPA region representative, and state environmental agency representative.

BRAC Environmental Coordinator (BEC). The BEC is the U.S. Army representative of the BCT.

Base Closure and Realignment Act (BRAC Act). The Base Closure and Realignment Act of 1988 (P.L. 100-526, 102 Stat. 2623) (BRAC 88 or BRAC I) and the Defense Base Closure and Realignment Act of 1990 (P.L. 101-0510, 104 Stat. 1808) (BRAC 91, 93, 95) legislated the closure or realignment of military bases.

Base Transition Coordinator (BTC). The BTC is the DoD representative who serves as the primary point of contact for the public at a BRAC installation and assists in disposal and reuse planning and coordination for the property.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (1980). This Act is otherwise known as Superfund; it provides for liability, compensation, cleanup and emergency response for hazardous substances released to the environment. It was amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). Section 120 of CERCLA specifically addresses procedures to be followed for federal facilities investigation and cleanup including BRAC installations. Section 120(h) was amended by the Community Environmental Response Facilitation Act of 1992 (CERFA).

Community Environmental Response Facilitation Act (CERFA). This Act is an amendment to CERCLA which established new procedures for contamination assessment, remediation (cleanup), and regulatory agency notification and concurrence for federal facility closures. CERFA requires the U.S. Army to identify uncontaminated property; its primary goal is to accelerate the transfer of property that can be immediately reused and redeveloped. The USAEC prepared CERFA reports for all U.S. Army BRAC installations. Included in the report is an environmental condition of property map which classifies property in four categories, CERFA clean, excluded, qualified and disqualified.

BCP GLOSSARY OF TERMS

Continued

Community Relations Plan (CRP). The CRP is a formal plan for community relations activities at an NPL site (see Public Involvement and Response Plan).

Corrective Measure Study (CMS). The CMS is the third phase of the RCRA corrective action program for a facility consisting of the identification of corrective action requirements and the evaluation and selection of appropriate remedies for these problems identified in the RFI. The CMA roughly equates to the FS and PP prepared for sites being investigated under CERCLA.

Decision Document (DD). The DD which formalizes the selection of remedial actions which are to be implemented at the installation. DDs are prepared for installations not on the National Priorities List. The DD corresponds roughly to a Record of Decision (ROD) for an NPL site.

Defense Environmental Restoration Account (DERA). The DERA is the Defense Appropriations Act funding mechanism for the DERP IRP (except the BRAC IRP).

Defense Environmental Restoration Program (DERP). The DERP is the program established in 1984 to promote and coordinate efforts for the evaluation and cleanup of contamination at Department of Defense (DoD) installations. The program currently includes: the Installation Restoration Program (IRP), under which DoD installation investigations and site cleanups are conducted; and Other Hazardous Waste (OWH) Operations, through which research, development and demonstration programs aimed at improving remediation technology and reducing DoD waste generation rates are conducted. DERP is managed centrally by the Office of the Secretary of Defense. SARA provides continuing authority for the Secretary of Defense to carry out this program in consultation with the USEPA and in compliance with CERCLA and SARA guidelines.

Early Action. Also called interim actions, early actions are remedial actions taken to respond to an immediate site threat or take advantage of an opportunity to significantly reduce risk quickly. These actions are typically limited in scope and are followed by other OU actions that complete site restoration for the long-term. Examples of early or interim actions are construction of a temporary landfill cap, and removal of contaminated soil to prohibit contamination of groundwater.

Environmental Assessment (EA). An EA is a document prepared to evaluate the environmental impacts of a federal action in compliance with NEPA when an EIS may not be necessary. If the EA indicates that there may be negative impacts to the environment from the proposed action, an EIS is required. If no significant impact is identified in the EA, a Finding of No Significant Impact (FONSI) is documented and no further evaluation under NEPA is required.

BCP GLOSSARY OF TERMS

Continued

Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA). This Act is Title III of SARA which requires certain facilities to coordinate emergency planning with local and regional authorities and prepare hazardous material inventory and release data (Tier I and II and Toxic Release Inventory Reports). Executive Order 12856, signed August 3, 1993, requires that federal facilities comply with EPCRA.

Environmental Impact Statement (EIS). An EIS is required by the NEPA which examines major federal actions to determine their impact on the environment. Installation disposal and reuse actions require the preparation of NEPA documentation.

Environmental Investigation/Alternatives Analysis (EI/AA). The EI/AA describes RI/FS studies conducted at U.S. Army installations which are not on the NPL.

Explanation of Significant Difference (ESD). An ESD is a document which identifies significant changes that are being made to a component of the remedial action remedy in a ROD or DD. If fundamental changes are made to the overall remedy they are documented in a ROD or DD amendment and not an ESD.

Feasibility Study (FS). An FS is a CERCLA environmental restoration study undertaken to develop and evaluate options for remedial action. Generally performed concurrently with and using data gathered during the RI. The FS evaluates remedial action alternatives based on technical feasibility and cost effectiveness, regulatory requirements, public health effects, and environmental impact.

Federal Facility Agreement (FFA). The FFA is a binding agreement between the party responsible for cleanup of an NPL site and the USEPA which formalizes the CERCLA procedures and schedules to be followed for the site.

Federal Facility Site Restoration Agreement (FFSRA). This is a binding agreement between the party responsible for cleanup of a non-NPL site and the lead state environmental agency which formalizes the CERCLA procedures and schedules to be followed for the site. The FFSRA equates to a FFA for an NPL site.

Hazard Ranking System (HRS). This is a system established by the USEPA for evaluating contaminated sites based on the potential hazard posed to public health and the environment. The system uses PA/SI data to generate a score ranging from 0 to 100 for each installation or individual site evaluated. Installations with a score above 28.5 may be included on the NPL.

Installation Restoration Data Management Information System (IRDMIS). IRDMIS is a database developed by the U.S. Army and maintained by the USAEC to manage sampling and analysis data generated at U.S. Army installations undergoing environmental investigation and restoration.

BCP GLOSSARY OF TERMS

Continued

Installation Restoration Program (IRP). This is a program implemented under the DERP to investigate and remediate DoD installations. The IRP conforms with the NCP and CERCLA and applies guidelines promulgated by the USEPA. The IRP for active installations is funded by the DERA, the IRP for BRAC installations is funded through the Military Construction Act.

National Hazardous Substances Pollution Contingency Plan (NCP). This plan provides the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances in accordance with CERCLA and the Clean Water Act (CWA). These procedures include the completion of a Preliminary Assessment, Remedial Investigation/Feasibility Study, Proposed Plan, Remedial Design and Remedial Action.

National Environmental Policy Act (NEPA). This Act was passed in 1970 to encourage the assessment of environmental impact in federal decision making processes. The Act requires the preparation of an EIS/EA for significant federal actions.

National Pollution Discharge Elimination System (NPDES). USEPA administered program authorized by the Clean Water Act (CWA) to monitor wastewater discharges to surface and groundwaters. NPDES elements include industrial and sanitary wastewater discharge permitting programs and storm water permitting programs.

National Priority List (NPL). The NPL is a listing of CERCLA hazardous substance release sites scoring 28.5 or higher under the USEPA Hazard Ranking System. Such sites are first proposed for NPL listing. Following a public comment period, proposed NPL sites may be listed on the NPL or may be deleted from consideration for placement on the list. Regulatory oversight for CERCLA site restoration actions at NPL installations is provided by the USEPA. Such installations are required to enter into an FFA.

No Further Response Action Planned (NFRAP). NFRAP is the designation given to an AREE or IRP site when investigation (SI or RI/FS) results indicate site does not require remedial action or, after adequate remedial actions have been completed. NFRAP is synonymous with no further action (NFA).

Operable Unit (OU). An OU is an environmental restoration unit identified as part of the CERCLA environmental restoration process to aid in the development of a remedial action strategy for the installation. Operable units may address geographical portions of an installation, specific installation problems, initial phases of an action, sets of actions performed over time or concurrent actions located in different portions of the installation.

Preliminary Assessment (PA). The PA is the first phase of investigation in the CERCLA environmental restoration process. The PA consists of a review of existing information and site reconnaissance if appropriate, to determine AREEs.

BCP GLOSSARY OF TERMS

Continued

Proposed Plan (PP). The PP is a document which identifies the preferred remedial action alternative for a site and which provides a brief summary of all of the alternatives studied in the detailed analysis phase of the RI/FS.

Public Involvement and Response Plan (PIRP). The PIRP is a U.S. Army document which outlines the program established to inform the community of the IRP at an installation and provides for community involvement in the cleanup process. The PIRP is synonymous with the Community Relations Plan (CRP). A PIRP or CRP is required for NPL sites and may also be prepared for U.S. Army installations which are not on the NPL but are undergoing investigation under the active installation or BRAC IRP.

RCRA Facility Assessment (RFA). An RFA is the first phase of the RCRA corrective action program for a facility consisting of a records review and site inspection to gather information on releases at the facility. The RFA process includes an evaluation of SWMUs as well as preliminary determinations regarding the need for further investigation. The RFA roughly equates to the PA conducted under the CERCLA environmental program.

RCRA Facility Investigation (RFI). An RFI is the second phase of the RCRA corrective action program for a facility conducted at installations where the RFA identified the need for further evaluation. The RFI consists of multimedia investigations conducted to characterize the extent of releases at the RCRA facility. The RFI roughly equates to the RI conducted under the CERCLA environmental restoration process.

Record of Decision (ROD). This document formalizes the selection of remedial actions which are to be implemented at an NPL site. The ROD certifies that the remedy selection process was carried out in accordance with CERCLA and with the NCP. It describes the treatment, engineering, and institutional components of the remedial action and remediation goals. The ROD roughly equates to a DD for a non-NPL site.

Remedial Action (RA). RA is the final phase of the CERCLA environmental restoration process during which the actual construction of the remedy or implementation phase of site cleanup occurs. When all phases of the remedial activity at the site have been completed in compliance with the terms of the ROD or DD the site can be designated NFRAP.

Remedial Design (RD). RD is the engineering phase of the CERCLA environmental restoration process during which technical drawings and specifications are developed for the subsequent Remedial Action. These specifications are based upon the detailed description of the remedy and the cleanup criteria provided in the ROD or DD.

BCP GLOSSARY OF TERMS

Continued

Remedial Investigation (RI). The RI is the CERCLA environmental restoration process phase undertaken to determine the nature and extent of the problem represented by a release of CERCLA hazardous substances. The RI includes multimedia sampling, field studies, monitoring, data analysis and completion of a baseline risk assessment and ecological evaluation to determine the nature, extent, and impacts to the human health and environment from contaminants present at the site if no remedial action is taken.

Resource Conservation and Recovery Act (RCRA). This Act is federal law introduced in 1976 as an amendment to the Solid Waste Disposal Act. RCRA consists of 9 subtitles including subtitles C, D, and I which outline management requirements for hazardous waste, solid waste and underground storage tanks containing petroleum products, respectively.

Restoration Advisory Board (RAB). The RAB acts as a forum for discussion and exchange of cleanup information between the DoD installation representatives and the public at BRAC installations where property will be available for transfer. The RAB consists of a DoD component, USEPA, state environmental agency, and local community representatives, and is jointly chaired by the BEC and a local community member.

Site Inspection (SI). The SI is a CERCLA investigation conducted if a Preliminary Assessment indicates the need for further investigation. SIs routinely involve visual inspections and the collection and analysis of multimedia samples to evaluate the extent of the problem and to determine whether a more detailed study such as an RI/FS is necessary.

Solid Waste Management Unit (SWMU). A SWMU is a solid waste management unit at a RCRA facility from which hazardous constituents might migrate. SWMUs may include containers, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators and recycling units, and wastewater treatment units.

Spill Prevention Control and Countermeasures (SPCC). These are actions taken by an installation to address potential releases of hazardous substances or petroleum products. An SPCC Plan which documents procedures established by an installation to effect these response actions may be required for an installation pursuant to the Clean Water Act, RCRA, or SARA.

Superfund Amendments and Reauthorization Act (SARA). SARA is the law and amendments to CERCLA which address liability, compensation, cleanup and emergency response for hazardous substance releases. Title III of SARA established the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA).

Zone. A zone is a geographically contiguous area amenable to investigation in an SI or RI as a single unit identified to organize installation field efforts, group data from multiple investigations, facilitate the development of conceptual site models, prepare detailed maps and otherwise manage investigation activities. Zones are different than OU response actions.

EXECUTIVE SUMMARY

Introduction

This Version 2 Base Realignment and Closure (BRAC) Cleanup Plan (BCP) describes the status, management and response strategy, and action items related to Umatilla Depot Activity (UMDA) ongoing environmental restoration and associated compliance programs. These programs support restoration of the installation property, which is necessary to meet the requirements for property disposal and reuse activities associated with the realignment and eventual closure of the installation.

The scope of the BCP is based on requirements derived from the following laws: BRAC Act; National Environmental Policy Act (NEPA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Community Environmental Response Facilitation Act (CERFA); Resource Conservation and Recovery Act (RCRA); and other applicable laws.

The UMDA BCP is intended to be a dynamic planning document which was developed by a BRAC Cleanup Team (BCT) consisting of U.S. Army, U.S. Environmental Protection Agency (USEPA) Region X, and State of Oregon Department of Environmental Quality (ODEQ) representatives. It was necessary to make certain assumptions and interpretations to develop the schedule and cost estimates provided in this plan. The BCP will be updated regularly to reflect the current status and strategies for remedial actions, compliance programs and disposal and reuse planning. This document is the second in a series of updates/modifications and represents conditions and strategies as of January 1995.

Status of Disposal, Reuse, and Interim Lease Process

The Commission on Base Closures recommended UMDA for realignment in 1988. Realignment at UMDA officially began on September 30, 1991 and ended on September 30, 1994. The realignment included the shifting of the conventional ordnance mission from UMDA to the Hawthorne Army Ammunition Plant in Nevada, and the destruction of conventional ordnance that could not be transferred safely. UMDA's current, realigned mission is the ongoing static storage of chemical munitions. UMDA's mission will change when a planned chemical agent deactivation incinerator is constructed on the property. The incinerator will be used to dispose of the chemical munitions currently stored at the installation. The chemical stockpile disposal program (Chem Demil) is expected to take approximately five years. Following Chem Demil, the incinerator will be disassembled and disposed. Closure of UMDA is expected to take place following disassembly of the chemical agent deactivation incinerator.

The disposal planning process associated with the realignment and eventual closure of UMDA is ongoing and involves three interrelated activities: the NEPA Environmental Impact Statement (EIS) process, development of a property disposal plan, and development of a community reuse plan. The first two items are the responsibility of the U.S. Army. The third is the responsibility of the Umatilla Depot Reuse Task Force, a committee created by the State of Oregon for the purpose of developing a plan for reuse and redevelopment of the installation. The Task Force is assisted by the Oregon Economic Development Department. These three disposal planning activities are in progress at UMDA.

The U.S. Army Corps of Engineers, Fort Worth District, prepared an EIS for Base Realignment and Closure for four installations, including Fort Wingate Depot Activity, Navajo Depot Activity, Umatilla Depot Activity, and Hawthorne Army Ammunition Plant in August 1991. A Disposal and Reuse EIS will be prepared as soon as the U.S. Army has identified the UMDA property it will retain to site a chemical agent deactivation incinerator. This Disposal and Reuse EIS is currently scheduled to be completed in Fiscal Year 1995, to take advantage of BRAC funds which will not be available after that time.

A disposal strategy has been developed for UMDA. The strategy incorporates planning elements related to supporting the installation's current and future mission, the U.S. Army BRAC disposal hierarchy, and community reuse planning goals. To date, the U.S. Army has not issued a Report of Excess for property at UMDA. The U.S. Army is in the process of identifying the property it will retain to site a chemical agent deactivation incinerator and the property necessary to support associated construction activities. Currently, the property which has been identified for this purpose encompasses approximately three-fourths of the installation and includes the Administration Area and the Ammunition Demolition Activity Area. Once the property necessary for the chemical munitions destruction mission is identified, the remaining property at the installation will be declared excess and will be disposed following the U.S. Army BRAC disposal process.

The U.S. Army has no plans to retain any portion of UMDA, following destruction of the chemical agents currently stored at the Depot. The destruction of the chemical agents is scheduled to be completed by September 2006. UMDA is scheduled to close following disassembly of the chemical agent deactivation incinerator. Property that has not been identified for transfer to another federal entity, such as the Bureau of Indian Affairs (BIA) or Bureau of Land Management (BLM), will be declared surplus at that time.

The BIA has the potential to acquire Depot property through the Department of the Interior for the Confederated Tribes of the Umatilla Indian Reservation, as the property was once hunting grounds for the tribes of the Umatilla Indians. The BLM also has the potential to acquire 8,439.86 acres of the installation that were formerly public domain lands. The property that BLM wants to acquire as public domain lands is located on the Depot in one square mile tracts that are in a "checker board" pattern. These one square mile tracts are part of the 1785 U.S. Public Land Survey. Every other square mile tract was granted to the BLM and the Northern Pacific Railway Company which created the checkerboard pattern.

The Umatilla Depot Task Force and Oregon Economic Development Department have prepared a reuse plan that describes redevelopment of the installation as a multiple use area which would include areas for agriculture, commercial/industrial, education, and wildlife management. This plan was taken into account during the generation of the U.S. Army disposal strategy. Following the Depot's closure in 2006, property transfer to other federal entities may occur. Property that is not transferred at the time of the Depot's closure will be developed as outlined in the community reuse plan.

Status of Environmental Restoration Program

The environmental restoration effort at UMDA was initiated in 1979 when an Initial Installation Assessment (IIA) was conducted and has continued to the present. The Depot is being investigated under CERCLA and RCRA programs. In 1987, a RCRA Facility Assessment identified 30 Solid Waste Management Units (SWMUs). UMDA was placed on the National Priorities List (NPL) in July of the same year, based on the Hazard Ranking System (HRS) site score for one of the sites at the installation, the Explosives Washout Lagoons. This designation brought UMDA under the federal facilities provisions of Section 120 of CERCLA. As such, the installation was required to enter into a Federal Facility Agreement (FFA) with the USEPA. An FFA was signed in October 1989 between the U.S. Army, USEPA Region X, and the ODEQ. The FFA outlined the investigations that have been conducted under UMDA's Installation Restoration Program (IRP), and stated the reporting requirements and schedules.

In accordance with U.S. Army BRAC IRP and conditions in the FFA, an Enhanced Preliminary Assessment (EnPA) was conducted at UMDA in 1990. Eighty-two sites were identified. These 82 sites encompassed the 30 SWMUs identified in the 1987 RFA and 52 additional sites. A Remedial Investigation (RI), completed in 1992, studied 58 sites identified during the EnPA.

A Supplementary Remedial Investigation (SRI) was also conducted in 1992 to study 12 EnPA sites (that were not studied during the RI), additional areas of Site 12, one new site, and various polychlorinated biphenyl (PCB) transformer locations. Investigations at five of the 82 sites within the EnPA were not continued, as information was sufficient to conclude that sites were not contaminated. Four of the EnPA's original sites were studied in an Underground Storage Tank (UST) survey. Of the 83 sites and six PCB transformer locations where PCBs were detected, only 10 sites were determined to require Remedial Action (RA).

During the Remedial Investigation/Feasibility Study (RI/FS) the sites were grouped into ten Operable Units (OUs). The sites were subsequently regrouped into nine OUs to more effectively address restoration of the property. Records of Decision (RODs) have been signed for eight of the OUs and a Decision Document (DD) has been signed between the U.S. Army and the State of Oregon for one OU. Two RODs specified "No Action" remedies. The DD is also considered a No Action Alternative (although it does state there will be three minor removals, two of soil and one of transite siding). The remaining RODs require that six OUs undergo RA. The remedial activities at one OU have been completed and remedial activities are underway at a second OU. The remaining four OUs are in the remedial design (RD) stage.

Restoration-related compliance activities currently underway at UMDA include UST compliance, asbestos abatement, and radon venting. A lead-based paint survey is scheduled to be conducted in Fiscal Year 1995.

Key Restoration and Transferability Strategies and Schedules

UMDA has shifted its focus from the activities of its old mission to the activities of its new realigned mission, in addition to compliance and restoration for eventual disposal and reuse of the property. The BCP programs currently being implemented focus on restoration activities with the goal of restoration sufficient for final transfer of installation property, which is expected to occur following Chem Demil activities. Strategies for determining the most effective response mechanisms for contaminant sources and contaminated areas during the early stages of the restoration process at the installation have been performed on a case-by-case basis by the BRAC Cleanup Team (BCT)/Project Team. A comprehensive strategy to identify regulatory programs applicable to the areas of contamination discovered during the restoration program has been developed.

Strategy elements currently focus on securing contracts for RD and RA activities, and ensuring that these activities are completed within the ROD and FFA schedules. The BCT is working to expedite the implementation of these RAs by accelerating schedules, overlapping remedial design phases, and other innovative actions in order to restore UMDA property.

Summary of Current BCP Action Items

Table ES-1 provides a listing of recommendations and issues associated with environmental restoration, compliance, and technical/management action items that require further evaluation and implementation by the BCT/Project Team. Bottom Up review program numbers specified in the Department of Defense BCP Guidebook which relate to each action item are identified in the table. The status of each of these actions items is also identified.

TABLE ES-1. BCT/PROJECT TEAM ACTION ITEMS

Action Item	Status			
	Program Review Item	In Progress	To Be Performed	Completed
COMPLIANCE ACTIVITIES				
UST Removal/Compliance - Depot-wide tank removal or upgrading	7	x		
Hazardous Materials Waste Management	7		x	
Close RCRA permitted storage area	7		x	
Lead-based Paint Survey	7		x	
Radon Venting Program	7		x	
CERCLA 120(H)(3) CONSIDERATIONS				
Environmental Condition of Property - Action items to determine environmental condition	7		x	
Suitability for Property Transfer - Update environmental condition maps as RA is complete	28	x		
Monitor RDX/Trinitrotoluene groundwater plume	32		x	
COMMUNITY RELATIONS				
Update community reuse plan	14		x	
Maintain Restoration Advisory Board	14		x	
MANAGEMENT AND ADMINISTRATIVE SUPPORT ACTIVITIES				
Utilize DENIX for information management and transfer	21		x	

This page intentionally left blank.

CHAPTER 1

► INTRODUCTION AND SUMMARY ◀

The purpose of this Base Realignment and Closure (BRAC) Cleanup Plan (BCP) is to summarize the current status of the Umatilla Depot Activity (UMDA) environmental restoration and associated environmental compliance programs. The BCP also presents a comprehensive strategy for implementing response actions at the Depot which are necessary to protect human health and the environment. This implementation strategy integrates activities being performed under the BRAC Installation Restoration Program (IRP) and installation environmental compliance programs to support full restoration of UMDA.

This BCP is a planning document. It was necessary to make certain assumptions and interpretations to develop the schedule and cost estimates provided. As additional data become available, implementation strategies and cost estimates could be altered. Such changes would then be reflected in future updates to the BCP. However, dramatic modifications are not expected because of the advanced stages of the restoration process at UMDA. This version of the BCP was prepared with information available as of January 1995.

Chapter 1 of the BCP describes the objectives of the environmental restoration program, explains the purpose of the BCP, introduces the Project Team formed to review the program, and provides a brief description and history of the installation.

Chapter 2 summarizes the current status of the UMDA property disposal planning process and describes the relationship of the disposal process to other environmental programs.

Chapter 3 summarizes the current status and past history of the UMDA IRP and associated environmental compliance programs, community relations activities that have occurred to date, and the environmental condition of installation property.

Chapter 4 describes the installation-wide strategy for environmental restoration, including the strategies for dealing with each operable unit (OU) on the installation. This chapter also includes plans for managing installation compliance programs, natural resources programs, and community relations activities.

Chapter 5 provides master schedules of planned and anticipated activities to be performed throughout the duration of the environmental restoration program, including associated compliance activities.

Chapter 6 describes specific technical and/or administrative issues to be resolved and presents a strategy for resolving these issues.

Chapter 7 provides a list of primary references utilized in the preparation of the BCP.

The following appendices are included in this document:

- ▶ Appendix A presents summary tables of past, current, and projected costs for the environmental restoration program at the installation.
- ▶ Appendix B presents technical documents, data loading summary, and listings of previous environmental restoration program deliverables by program and by site.
- ▶ Appendix C presents summaries of Decision Documents (DDs) for each site or OU for which a remedial action (RA) was selected.
- ▶ Appendix D presents summaries of the DD for each site or OU for which a no further action (NFA) decision has been made.
- ▶ Appendix E is provided to include working conceptual site models for OUs as they become available.
- ▶ Appendix F presents other ancillary materials relevant to the BCP including a BCP distribution list and a summary of issues related to environmental justice at UMDA.

1.1 Environmental Response Objectives

The UMDA Environmental Office is responsible for the management and overall implementation of environmental programs at the Depot. The U.S. Army Environmental Center (USAEC) has conducted Enhanced Preliminary Assessment (EnPA) and Remedial Investigation/Feasibility Study (RI/FS) investigations at the installation. Other environmental investigation, remedial design (RD), RA and compliance program support is provided by the U.S. Army Corps of Engineers (USACE), Seattle District.

The BRAC Cleanup Team (BCT), UMDA, USAEC, and other supporting U.S. Army agencies combined objectives for the environmental restoration and compliance program at UMDA are as follows:

- ▶ Protect human health and the environment;
- ▶ Strive to meet reuse goals established by the U.S. Army and the community, consistent with legislation relevant to UMDA realignment (and ultimately closure);
- ▶ Comply with existing statutes and regulations;
- ▶ Conduct all environmental restoration activities in a manner consistent with Section 120 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), Resource Conservation and Recovery Act (RCRA), and other applicable State of Oregon regulations;

- ▶ Meet Federal Facility Agreement (FFA) and Record of Decision (ROD) deadlines as detailed in Chapter 5 of this BCP;
- ▶ Continue efforts to identify all potentially-contaminated areas, and incorporate any new sites into the BCP process, as appropriate;
- ▶ Incorporate any new sites into the FFA as appropriate;
- ▶ Establish priorities for environmental restoration and restoration-related compliance activities based on mission requirements, U.S. Army disposal protocols and the community reuse plan so that property disposal and reuse goals can be met;
- ▶ Initiate selected removal actions to control, eliminate, or reduce risks to manageable levels;
- ▶ Continue to identify and map the environmental condition of installation property with the intent of identifying areas suitable for transfer by deed;
- ▶ Complete the environmental restoration process as soon as practicable for each source area, zone, or OU;
- ▶ Commence RAs for (1) environmental and (2) property disposal and reuse priority areas as soon as practicable;
- ▶ Continue RD for four of the OUs;
- ▶ Advise the real estate arm of the USACE of property that is deemed suitable for transfer and properties that are not suitable for transfer because they are either not properly evaluated or pose an unacceptable human health or environmental risk;
- ▶ Conduct long-term RAs for groundwater and any necessary 5-year reviews for wastes left on site; and
- ▶ Establish interim and long-term monitoring plans for RAs as appropriate.

1.2 BCP Purpose, Updates, and Distribution

This BCP presents, in summary fashion, the status of UMDA's environmental restoration and compliance programs and the comprehensive strategy for environmental restoration and restoration-related compliance activities. It lays out the response action approach being implemented at the installation to support realignment/closure. In addition, it defines the status of efforts to resolve technical issues so that continued progress and implementation of scheduled activities can occur. The UMDA BCP strategy and schedule is designed to streamline and expedite the necessary response actions associated with identification of clean property in order to facilitate the earliest possible disposal and reuse activities.

This BCP is a "living document" and will be updated annually, or more frequently if determined to be necessary. Updates of the BCP will be distributed to each member of UMDA Project Team, as well as to additional individuals and addresses identified in the distribution list provided in Appendix F as Table F-1.

1.3 BCT/Project Team

The UMDA BCT has been established and is led by Mark Daugherty who is the BRAC Environmental Coordinator (BEC). Mr. Daugherty represents the Depot Commander. The two other BCT members are Remedial Project Managers from the U.S. Environmental Protection Agency (USEPA), Region X (Harry Craig) and the Oregon Department of Environmental Quality (ODEQ) (Bill Dana).

The UMDA Project Team consists of the BCT and additional individuals whom the BCT selects to assist in the environmental restoration process at UMDA, including the Base Transition Coordinator, representatives from the USAEC, USACE, and others. The Project Team is led by the BEC. Project Team meetings are held regularly for the purpose of conducting periodic program reviews and reaching consensus on decisions with the USEPA and the ODEQ.

Table 1-1 lists the current Project Team members, and specifies individual roles and responsibilities. Other support staff who contribute in the areas of toxicology and risk assessment, legal, Resource Conservation and Recovery Act (RCRA) compliance, fate and transport, field support, ecological, etc. are not all listed. BCT and Project Team members may consult/coordinate with additional staff on an as-needed basis.

TABLE 1-1. CURRENT BCT/PROJECT TEAM MEMBERS

Name	Title	Phone	Role/Responsibility
BCT MEMBERS			
Mark Daugherty	BEC/Remedial Project Manager	(503) 564-5294	UMDA Project Manager
Harry Craig	BCT USEPA Representative	(503) 326-3689	USEPA Project Manager
Bill Dana	BCT ODEQ Representative	(503) 229-6530	ODEQ Project Manager
OTHER KEY PARTICIPANTS			
Chuck Lechner	USAEC Technical Project Manager	(410) 671-1605	Technical Oversight
Clayton Kim	USAEC Technical Project Manager	(410) 671-1604	Technical Oversight
Jeff Rodin	USEPA Remedial Project Manager	(206) 553-4497	USEPA Project Manager
Mike Nelson	USACE Technical Project Manager	(206) 764-3458	RD/RA
Alan Coburn	USACE Project Manager	(206) 764-6849	RD/RA
Fred McLaren	DoD Base Transition Coordinator	(801) 833-3040	Liaison with Community
Larry Anderson	USACE Program Manager	(503) 326-3854	RD/RA
James Kluge	USACE BCP Document Coordinator	(206) 764-3320	BCP Writer/Editor
CONTRACTORS			
EARTH TECH	USACE Contractor	(703) 549-8728	BCP
Woodward-Clyde	USACE Contractor	(206) 343-7933	Technical Support

1.4 Installation Description and History

This section provides a general description and historical summary of UMDA.

1.4.1 General Property Description

UMDA is located in northwest Oregon, almost equally divided between Morrow and Umatilla counties. UMDA is 17,054 acres in size and has an additional 2,674 acres of restrictive easements surrounding the north and east Depot perimeter. The terms of the easements grant perpetual rights to the U.S. Government. Union Pacific Railroad tracks run adjacent to the installation's southern boundary. Interstate 84 runs east-west just south of the Depot and Interstate 82 runs north-south just east of the Depot. The Columbia River which separates the State of Washington from the State of Oregon, is located three miles north of the Depot. The majority of the land adjacent to UMDA is agricultural. Figure 1-1 shows the general location of the installation. Figure 1-2 shows land use surrounding the installation.

The installation consists of eight major areas: the Administration Area, Ammunition Demolition Area (ADA), Warehouse Area, Explosives Washout Plant, QA Function Range, Drill and Transfer Area, 11 Igloo Blocks, and a Magazine Area. Specific land use and acreage on UMDA is as follows: ammunition storage (5,933 acres), open space buffer (4,851 acres), ammunition demolition (1,716 acres), chemical storage (646 acres), former firing range (621 acres), airfield (293 acres), standard magazines (140 acres), administrative (136 acres), facilities maintenance (40 acres), spoil areas (32 acres), abandoned landfills (20 acres), housing (15 acres), landfill (15 acres), utilities service area (7 acres), and Union Pacific Railroad leased land (140 acres).

1.4.2 History of Installation

The land currently occupied by the UMDA was originally farmed or idle. The federal government first purchased parcels of land that is now UMDA in 1941 from various owners including Umatilla and Morrow Counties, the Northern Pacific Railroad, and private owners. Parcels were also transferred from the Department of Interior (DOI), Bureau of Land Management (BLM) to the U.S. Army. The construction of 1,001 ammunition storage igloos began in February 1941. By the end of 1941, the Depot began functioning as an ammunition storage facility.

In 1945, ammunition demolition began at the Depot and in 1947, an ammunition renovation complex was constructed. Two ammunition maintenance buildings were added in 1955 and 1958. Chemical agent-filled munitions and one-ton containers of chemical agents have been stored in the K block igloos and Building 659 at UMDA since 1962. No chemical weapons have been used, manufactured, or tested at the Depot. In addition to the chemical munitions, conventional munitions are stored in 14 magazines and the igloos in A-J blocks. Missiles and missile fuel components were stored at the Depot from the mid-1950s to the early 1960s.

No manufacturing operations have been conducted at UMDA. However, munitions testing, rework, demolition, and disassembly operations have been performed in several areas throughout the Depot. The Explosives Washout Plant area, located in the central portion of UMDA and the ADA Area located along the western boundary of UMDA, are the most noteworthy of these areas.

This page intentionally left blank.

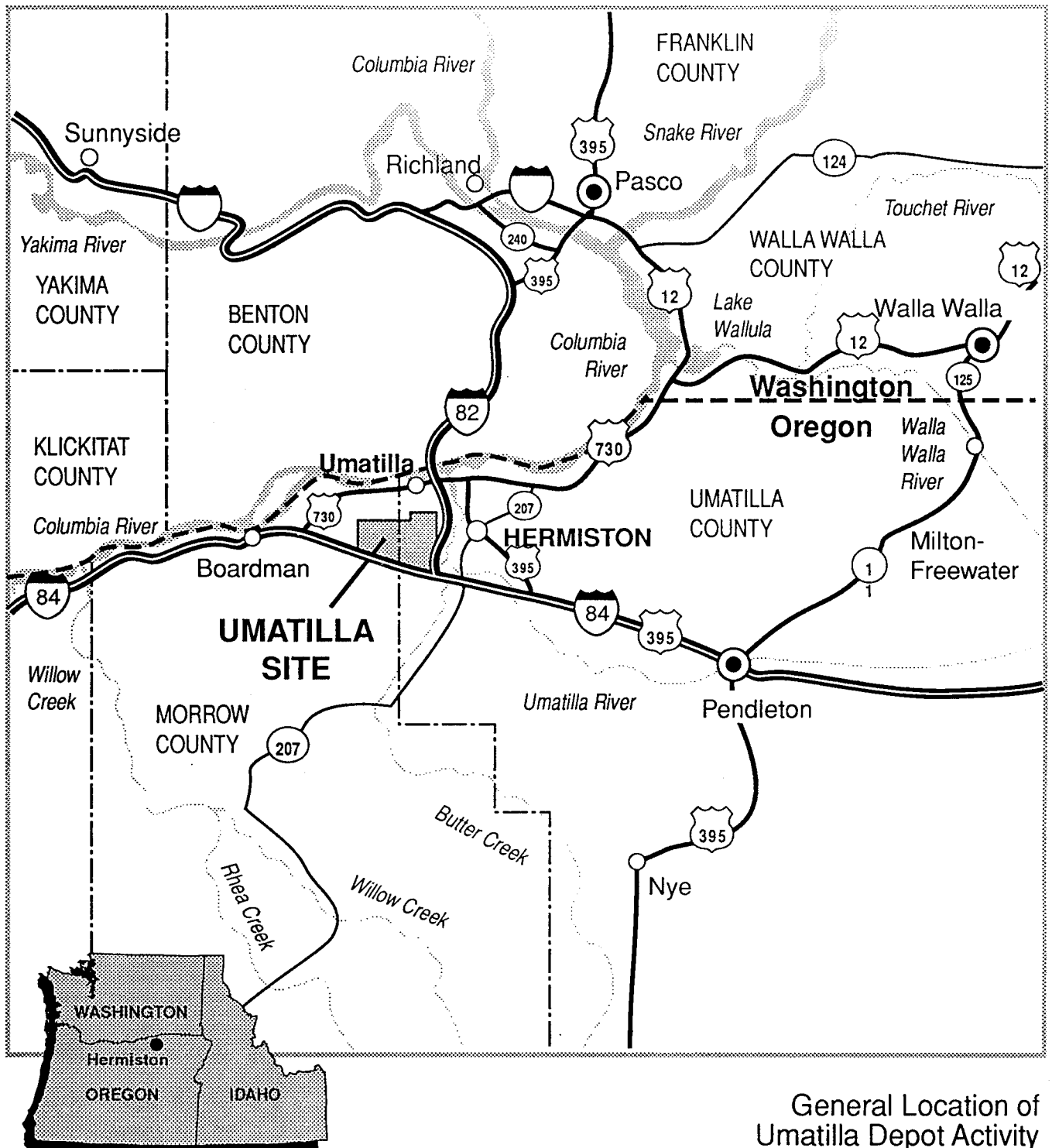
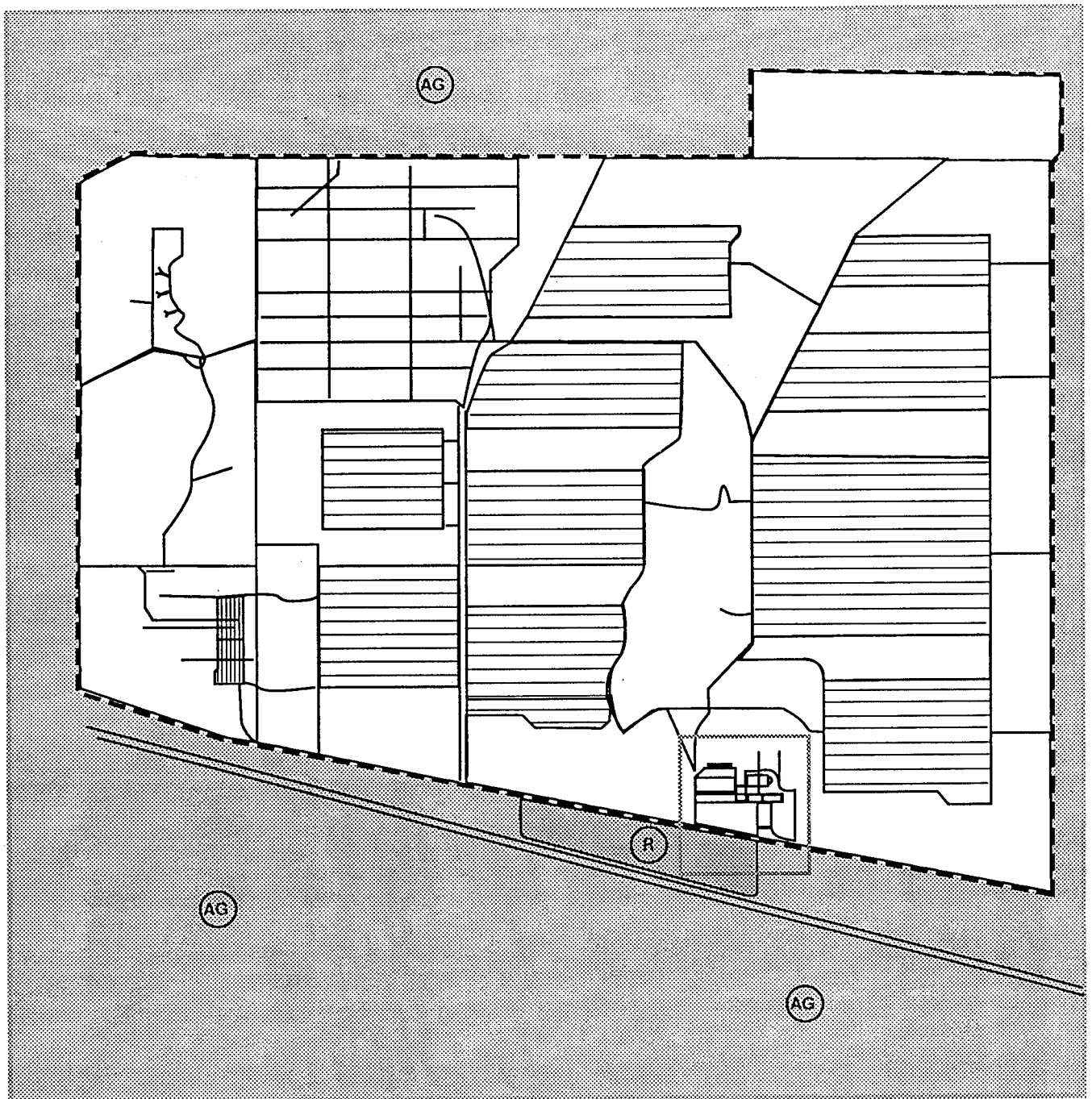


Figure 1-1

This page intentionally left blank.



EXPLANATION

- R Residential
- AG Agricultural
- — — Installation Boundary

Surrounding
Off-Post
Land Use

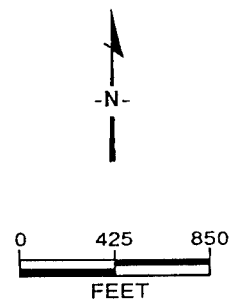


Figure 1-2

This page intentionally left blank.

In August 1973, the installation was redesignated as an "Activity" by the U.S. Army Materiel Command. The installation was designated for realignment in 1988. The realignment consisted of shifting the conventional ordnance mission from UMDA to the Hawthorne Army Ammunition Plant and the destruction of conventional ordnance that could not be transferred safely. UMDA's current, realigned mission is the ongoing static storage of chemical munitions. Realignment at UMDA officially began on September 30, 1991 and ended on September 30, 1994.

A historical property acquisition summary is provided in Table 1-2. The tract designations were taken from the Final Project Ownership Map, Drawing SE-RE-720, Real Estate, U.S. Army UMDA. Historical activities conducted at the installation are summarized by time period in Table 1-3.

TABLE 1-2. PROPERTY ACQUISITION SUMMARY

Tract Number	Previous Land Owner	Acreage			
		Fee Land	Transfer Land	Easement Land	Acquisition Date
A	DOI, BLM		6,999.86		June 14, 1941
B	DOI, BLM		160.00		December 26, 1941
C	DOI, BLM		1,280.00		February 10, 1959
1	Umatilla County	323.55			January 10, 1941
2	Umatilla County	320.00			January 10, 1941
20	Umatilla County	160.00			October 24, 1941
4	Morrow County	664.44			January 10, 1941
5	Morrow County	640.00			January 10, 1941
7	Morrow County	560.00			January 10, 1941
8	Morrow County	640.00			January 10, 1941
10	Morrow County	319.95			January 10, 1941
11	Morrow County	320.00			January 10, 1941
13	Northern Pacific Railway Company	667.20			October 4, 1941
14	Northern Pacific Railway Company	640.00			October 4, 1941
15	Northern Pacific Railway Company	640.00			October 4, 1941
16	Northern Pacific Railway Company	367.19			October 4, 1941
17	Northern Pacific Railway Company	640.00			October 4, 1941
18	Northern Pacific Railway Company	83.02			October 24, 1941
19	Northern Pacific Railway Company	320.00			October 24, 1941
3	Western Irrigation Company	135.06			January 10, 1941
6	Marie Alice Hanson	80			January 10, 1941
23E	D.J. Phillips, et ux.			41.32	December 13, 1956
24E	Lawrence P. Doherty			424.25	February 20, 1957
25E	J.A. Robbins, et ux.			640.00	February 20, 1957
26E	Henry C. Vogler, Jr. et ux.			320.00	February 20, 1957
27E	Benjamin E. Conner et ux.			800.00	February 20, 1957
28E	Roger J. Bounds et ux.			143.12	February 20, 1957
29E	Deloss M. Webb et ux.			280.00	May 1, 1958
130E	Lamb-Weston, Inc.			120.00	February 7, 1974
131E	Ronald R. Baker et ux.			40.00	September 6, 1977

TABLE 1-3. HISTORY OF INSTALLATION OPERATIONS

Period	Type of Operation	Weapon System	Hazardous Substance Activities	Map Reference (see Figure 1-3)
Pre-1941	Private, county, and BLM Land	None	None	--
1941-1945	Conventional ordnance storage	None	Ordnance storage area; vehicle maintenance; fuel/oil storage; landfills	1, 2, 3, 4
1945-1947	Conventional ordnance storage/demolition	None	Ordnance storage; vehicle maintenance; fuel/oil storage; landfills; ordnance demolition areas	1, 2, 3, 4, 5
1947-1962	Conventional ordnance storage/demolition/renovation/maintenance	None	Ordnance storage areas; vehicle maintenance; fuel/oil storage; landfills; ordnance demolition areas; ordnance renovation areas; ordnance maintenance areas; machine shop	1, 2, 3, 4, 5, 6, 7, 8,
1962-1994	Conventional ordnance storage/demolition and chemical munitions storage/maintenance	None	Ordnance storage areas; vehicle maintenance; fuel/oil storage; landfills; ordnance demolition; chemical munitions storage areas	1, 2, 3, 4, 5, 9
Present	Depot realigned. Static storage of chemical munitions only	None	Vehicle maintenance; fuel/oil storage; chemical munitions storage	2, 3, 9

1.5 Environmental Setting

This section describes the environmental setting of UMDA including topography, geology, hydrogeology, and surface hydrology.

Topography. The portion of Oregon within an approximate 50-mile radius of UMDA includes parts of two geomorphic regions, the Deschutes-Umatilla Plateau and the Blue Mountains. The Deschutes-Umatilla Plateau is of relatively low relief. It gradually rises southward from elevations near 260 feet at the Columbia River to approximately 800 feet at the base of the Blue Mountains. The edge of the Blue Mountains lies approximately 40 miles south and southeast of UMDA. The Blue Mountains reach elevations ranging from 3,500 to 6,000 feet. The mountains are considerably dissected by streams that have eroded many steep-walled canyons.

Elevations on the Depot range from 400 to 677 feet above sea level. Coyote Coulee, the most prominent surface feature on the Depot, is a valley that cuts across the facility along a north 30° east axis. The western edge of Coyote Coulee slopes at 5 to 10 percent. The eastern edge is an escarpment that rises 60 to 90 feet at a 30 to 45 percent slope. West of Coyote Coulee, the land surface consists largely of rolling hills. East of Coyote Coulee the land slopes gently to the east. The coulee appears to be a large relict sand wave. Its exceptional size is likely due to extraordinary river discharge during prehistoric catastrophic floods.

Geology. Near-surface deposits underlying the bedrock consist primarily of Miocene basalt flows, basalt debris and silts deposited as alluvial fans, Quaternary silts and clays, and Quaternary alluvial gravel and sand deposited by catastrophic flooding of the Columbia River. These catastrophic flood gravels form the surface in a band about 10 miles wide south of the Columbia River including the UMDA property. The flood gravels consist of angular, poorly sorted gravel ranging in size up to large boulders, with coarse sand partly filling the openings between clasts. The gravels have previously been mapped as glaciofluvial or glaciofluvial and in the vicinity of UMDA are as much as 200 feet thick. They pinch out to the south near an elevation of 750 feet, thin northward from UMDA, and are a few tens of feet thick at places near the Columbia River. These deposits tend to become finer grained with depth, typically grading to sandy or clayey silts near the bottom of the deposits.

Hydrogeology. The flood gravels are the most important aquifer in the lowlands near UMDA. Groundwater is usually unconfined within the gravels. Under such conditions, the upper limit of groundwater is the water table. The water table is free to move up and down in response to changes in recharge and discharge, unlike a confined aquifer whose upper limit is a confining bed with a fixed position. Locally, clay beds may confine groundwater in the gravels. Such confined conditions occur within small areas and restricted vertical intervals. The unconfined aquifer is bounded below by bedrock. The upper part of the bedrock may be fractured and weathered, and thus may be capable of transmitting groundwater. The saturated thickness of the gravel varies according to the elevation of the bedrock surface and the availability of water. Saturated thickness in the area near UMDA ranges from 25 to 100 feet.

Groundwater levels in the flood gravels have been strongly influenced by pumping and other artificial causes. Levels were relatively stable until about 1965, then declined by an average of 16 feet between 1965 and 1973 as irrigation pumping increased. Levels were stable until 1977, and then recovered by about 10 feet between 1977 and 1984. The recovery is apparently in response to reduced pumping and increased natural and artificial recharge.

The direction of groundwater flow in the flood gravels outside UMDA is uncertain. This is in part due to low water-table gradients and a lack of surveyed elevations for wells in the area surrounding UMDA. Interpretation of water levels is greatly complicated by large-scale pumping from, and artificial recharge to, the flood gravels. Some hydrogeologists in the area consider groundwater flow near UMDA to be generally to the northwest.

Potable water for the Depot is supplied by seven U.S. Army-owned wells on the UMDA property. According to well logs, all seven wells are deep wells, installed in the basalt aquifers. The medium depth to groundwater in the basalt aquifer wells is 104 feet.

Surface Hydrology. There are no surface water bodies on UMDA and no surface runoff from the Depot drains to nearby surface water sources. The closest surface water sources are the Columbia River, located 3 miles north of the Depot and the Umatilla River located approximately 4 miles to the northeast.

1.6 Hazardous Substances and Waste Management Practices

A variety of activities involving the handling of hazardous substances and generation of listed hazardous wastes have occurred at UMDA through its history. These activities include fuel oil storage and distribution, motor pool and service station operations, munitions renovation and ammunition maintenance. These activities generated waste petroleum, oil, and lubricants (POL), battery acid, solvents, paints, and pesticides. Renovation of conventional munitions also generated the following hazardous wastes: red fuming nitric acid, aniline, explosive contaminated rinsewater, and solvents. Other hazardous wastes generated at the installation include expired ordnance, and ordnance propellant.

Recognized past waste disposal practices at UMDA have included the disposal of red fuming nitric acid, aniline, and pesticides into pits, burning of ordnance propellant in burning pans; and demolition of expired ordnance in covered pits. In the Explosives Washout Plant Area, explosive contaminated rinsewater was allowed to evaporate in unlined lagoons. These activities were conducted in the Ammunition Demolition Activity Area. In addition, landfilling of solid waste has occurred in several locations at UMDA. There are five small inactive landfills at the Depot and the active landfill no longer accepts solid waste. At this time, the active landfill accepts only solidified soil from the remediation activities on the Depot. Releases to the environment which have occurred as a result of these various historical disposal activities are being addressed under the ongoing BRAC environmental restoration program.

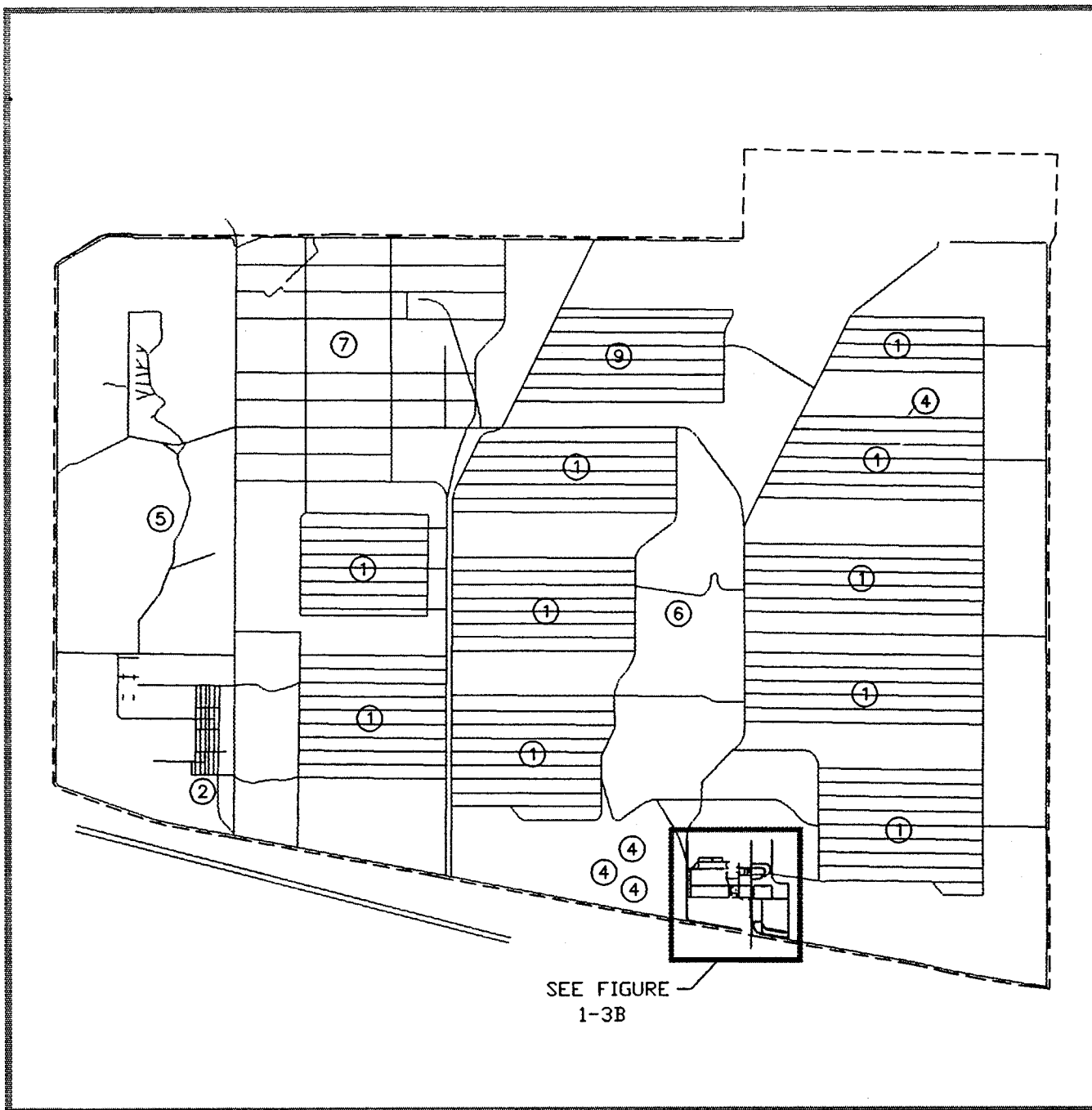
Table 1-4 identifies the hazardous substance activities conducted at UMDA. Figures 1-3A and 1-3B show the location of these past hazardous substance activities. Table 1-5 outlines the current hazardous waste generating activities at UMDA.

TABLE 1-4. HAZARDOUS SUBSTANCE ACTIVITIES AT UMDA

Hazardous Substance Activity	Map Reference (see Figure 1-5)
Ordnance Storage	1
Vehicle Maintenance	2
Fuel/Oil Storage	3
Landfilling	4
Ordnance Demolition	5
Ordnance Renovation	6
Ordnance Maintenance	7
Machine Shop Operation	8
Chemical Munitions Storage	9

1.7 Off-Post Property/Tenants

Off-Post Properties. There are no off-post properties currently owned by UMDA nor are there any anticipated in the future. In the unlikely event that off-post properties are acquired by UMDA in the future, these properties will be identified in Table 1-6 and Figure 1-4.



EXPLANATION

- ① Designation of Activity Location*
- Installation Boundary

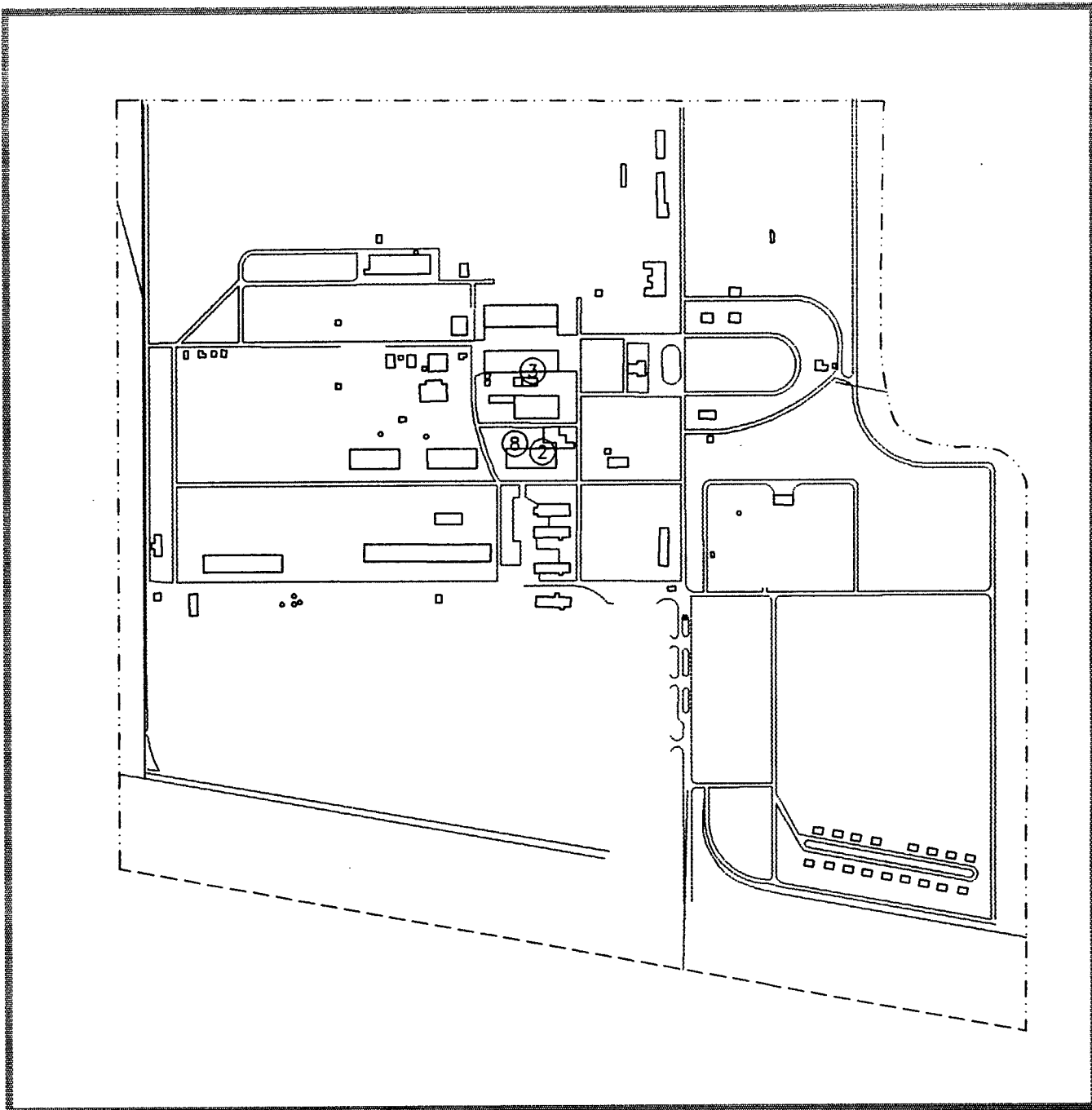
Location of Past
Hazardous
Substance
Activities

0 2500 5000
FEET

* See Table 1-3 for activity number designations

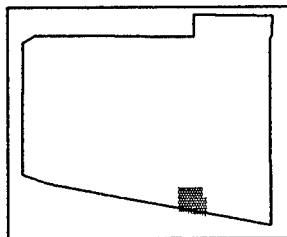
Figure 1-3A

This page intentionally left blank.



EXPLANATION

- ① Designation of Activity Location*
- Installation Boundary
- - - Administration Area Boundary



Location of Past
Hazardous
Substance
Activities
in
Administration
Area

0 300 600
FEET

Figure 1-3B

* See Table 1-3 for Activity Number Designations

This page intentionally left blank.

TABLE 1-5. HAZARDOUS WASTE GENERATING ACTIVITIES

Facility	Unit	Activity	Name of Waste Material	Generation Rate	Disposition
Vehicle Maintenance Garage, Building 5	GOCO	G, AS	Paint waste/thinner	650 lbs/yr	DRMO
Carpenter Shop, Building 7	UMDA	G, AS	Paint waste/thinners	900 lbs/yr	DRMO
Chemical Laboratory, Building 656	UMDA	G, AS	Chemical Agent related wastes	Unknown	Storage in J-Block

Key: G = Generator
AS = Satellite Accumulation
DRMO = Defense Reutilization Marketing Office
GOCO = Government-owned, Contractor-operated
ST = Short Tons

TABLE 1-6. OFF-POST PROPERTIES

Description	Acreage	Date of Acquisition	Environmental Status	Location	Remarks
	There are currently no off-post properties associated with UMDA. Future changes will be reflected here.				

This page intentionally left blank.

**There are currently no Off-Post
Properties associated with Umatilla
Depot Activity. Future changes will be
reflected here.**

Off-Post Properties

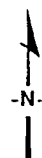


Figure 1-4

This page intentionally left blank.

1.8 Tenant Units

Table 1-7 lists the significant tenant organizations on the installation that were identified from installation real property records and tract maps. The Medical Detachment (headquartered at Fort Lewis, WA), Defense Logistics Agency, the Federal Contracting Corporation, and the U.S. West Communications, Inc. provide support to the Depot. The Oregon National Guard leases a space for equipment storage and motor pool facilities and the Union Pacific Railroad leases the railroad tracks on the Depot for railroad car storage. None of the tenant units have conducted significant industrial operations at UMDA.

TABLE 1-7. ON-POST TENANT UNITS

Tenant	Building
Oregon National Guard	115 and part of 52
Defense Logistics Agency	42 and part of 18
Union Pacific Railroad	Railroad tracks in southern portion of Depot
U.S. West Communications, Inc.	2
Federal Contracting Corporation	5
Medical Detachment (out of Fort Lewis, WA)	11

This page intentionally left blank.

CHAPTER 2

► PROPERTY DISPOSAL AND REUSE PLAN ◀

This chapter describes the status of the disposal planning process at UMDA and the relationship between the disposal process and environmental programs at the installation. It also identifies property transfer methods being utilized or considered in the disposal process.

2.1 Status of Disposal Planning Process

BRAC I, enacted in 1988, identified UMDA for realignment. Realignment began September 30, 1991 and was completed by September 30, 1994. The realignment involved the transfer of the conventional ordnance stored at UMDA to Hawthorne Army Ammunition Plant in Nevada and the on-site destruction of any conventional ordnance that could not be transferred safely. The new mission at UMDA is the ongoing static storage of the chemical munitions. The U.S. Army has plans to site a chemical agent deactivation incinerator at UMDA, to be utilized for the destruction of the chemical munitions. When the incinerator is completed, UMDA's mission will change from storage of chemical munitions to destruction of chemical munitions.

The U.S. Army has initiated the property disposal process for the installation. This process has two elements: identification and disposal of property unnecessary for the current and future storage/demil mission of the installation; and disposal of all remaining installation property following the completion of the demil mission and disassembly of the incinerator in approximately 2006. This disposal process involves three interrelated activities: the National Environmental Protection Act (NEPA) process, development of a disposal plan and development of a community reuse plan. The process is designed to integrate goals of both the U.S. Army and the Counties of Umatilla and Morrow in order to provide for the efficient transfer of the UMDA mission within the U.S. Army and minimize the impact of closure on the community. Each of these activities is outlined below.

National Environmental Protection Act (NEPA) Documentation. NEPA documentation is required for significant federal actions, including installation closure/realignment and disposal/reuse planning. The Final Environmental Impact Statement (EIS) for BRAC actions at Fort Wingate Depot Activity, Navajo Depot Activity, Umatilla Depot Activity and Hawthorne Army Ammunition Plant was completed in August 1991. The goal of the realignment/closure EIS was to assess the impacts of the proposed realignment (and/or closure) of the four installations on environmental factors such as land use, socioeconomic environment, utilities, hazardous materials and waste management, and natural and cultural resources.

A Disposal and Reuse EIS for the UMDA is to be prepared in Fiscal Year 1995, by the USACE, Seattle District. This document will specifically address the impacts of the U.S. Army disposal of UMDA and the proposed reuse of the property. The scope of the EIS is to be determined. The document may assess the entire Depot or only property that is not necessary for the Chem Demil operation.

In addition to the Disposal and Reuse EIS, the U.S. Army will issue a Report of Excess for the Depot property deemed unnecessary for the continued operation of the U.S. Army mission. A Report of Excess has not been issued to date for UMDA.

Disposal Plan. A disposal plan has been developed for UMDA. The disposal plan provides for the identification and excess of UMDA property unnecessary for its new realigned mission and U.S. Army property unnecessary for the mission of the installation following disassembly of the deactivation incinerator in the year 2006. The plan fully considers the reuse planning goals of the local community and incorporates U.S. Army BRAC disposal hierarchy requirements established by Public Law 100-526 and the Federal Property and Administration Services Act. This hierarchy includes the following in the sequence provided: (1) Offer facility to Department of Defense (DoD) agencies for use; (2) Offer facility to other federal agencies; (3) Offer facility under Section 501 of the McKinney Act, (excluding property taken by DoD agencies), to sponsoring organizations for the homeless; (4) Offer facility to state and local government agencies; and (5) Offer the property through competitive bid to the private sector. The Pryor Act Amendment amended this process as it pertains to the identification of facilities for use by providers for the homeless. Rather than mandating a disposal screening outside of the community reuse planning process, a program has been introduced that provides for the identification of reuse opportunities by homeless providers through the cooperative effort of the reuse planning authority and representatives of local homeless providers.

Reuse Plan. The Umatilla Depot Reuse Task Force is a group of volunteers that was appointed by the Governor of Oregon in 1990. At this time, the Task Force is functioning as the Umatilla Depot redevelopment authority. In February 1995, a permanent redevelopment authority, the Umatilla Depot Reuse Authority, will be formed by an intergovernmental agreement between the counties of Morrow and Umatilla and the Ports of Morrow and Umatilla.

The goal of the reuse Task Force is to plan and implement reuse of UMDA in a manner that mitigates the negative impacts of the Depot's closure and meets communities long-term goals. To accomplish this, the Task Force was given the specific responsibilities of developing a Reuse Plan for the site and serving as an ongoing liaison with the U.S. Army and all other federal and state agencies concerning the installation realignment/eventual closure and subsequent restoration and disposal.

The Reuse Task Force determined that the reuse plan for the UMDA must help to achieve ten specific objectives:

- ▶ Create as much employment as possible;
- ▶ Maximize the long-term potential for reuse by carefully evaluating shorter term proposals for reuse;
- ▶ Ensure that Morrow and Umatilla counties share in the benefit of reuse;
- ▶ Identify a clear understanding of the location and condition of the existing infrastructure;

- ▶ Create a "vision" for the future;
- ▶ Ensure, to the extent possible, the economic viability of the plan;
- ▶ Ensure the implementability of the reuse strategy;
- ▶ Communicate the plan as a positive long-term opportunity for the region;
- ▶ Encourage interim or phased reuse of the Depot properties; and
- ▶ Ensure that reuse proposals for the Depot are responsive to the regional resource base.

To accomplish these goals, the Task Force, working in conjunction with the Oregon Economic Development Department, directed the preparation of a Comprehensive Long-term Development Plan (henceforth the Reuse Plan) for UMDA in December 1992. The Task Force also developed a program that would enable the residents of nearby communities, local governments and special districts to participate in the formulation of the Depot reuse strategy. All meetings have been open to the public and the committee has attempted to maximize public input and encourage public participation from all community constituents.

The UMDA Reuse Plan developed by the Task Force addressed two operating scenarios for the Depot: Phasing Plan A and Phasing Plan B. Each plan involves a total of five five-year phases, for a total of 25 years. The 25 years indicate the time period necessary to implement the plan, and is not intended to indicate the number of years needed for transition. Phasing Plan A assumes the chemical ordnance stored at the Depot will be incinerated on-site and Phasing Plan B assumes the chemical ordnance will be transported off-site for demilitarization. Based on current plans to construct the chemical agent deactivation incinerator, Phasing Plan A is the most likely scenario for the installation, therefore only Plan A is described in this section.

Phasing Plan A is a mixed-use alternative plan, developed to allow for interim use while the U.S. Army continues its new mission. The Plan has been specifically crafted to achieve the initial objectives set by the Reuse Task Force or set the framework for their fulfillment in the future. It provides for the transition of UMDA from the U.S. Army's defense-related use to civilian use. The plan provides for the following potential uses for the UMDA:

- ▶ ***Agriculture (2,600 acres).*** The current buffer zones located along the north and east perimeter of the Depot would become an extension of neighboring farmland and be utilized for crop production.
- ▶ ***Police and Fire Training Center.*** The area designated for Police and Fire Training would be utilized for both indoor and outdoor facilities for the training of police and fire units in the region.
- ▶ ***Oregon National Guard Training.*** The Oregon National Guard would use some surplus property parcels for tank maneuvers, and the ADA Area would be utilized

for a small arms live fire training area. No tank training maneuvers would take place in the ADA area.

- ▶ ***Industrial Short-term (700 acres).*** Two areas would be designated for short term industrial use: the standards warehouses and the small arms ammunition magazines. The short-term designation means that there are buildings and land currently available for that use. The standards warehouses section is located in the southeastern area and the magazines are located north of the Administration Area. There are approximately 160,000 square feet of space in the standards warehouses.
- ▶ ***Education, Training and Research (80 acres).*** The Administration Area located in the southeastern section contains many structures in a campus-like setting which would be used immediately or with minor improvements for education or administrative purposes.
- ▶ ***Heavy and Light Industrial Uses (960 acres).*** Located along the southern perimeter of the Depot, this area would be reserved for later development, with the possible exception of utilizing several of the bunkers.
- ▶ ***Commercial/Recreation Uses - Short-term and Long-term (540 acres).*** Three areas in the southeastern corner would be used for commercial/recreational uses. Two of the areas are adjacent to Interstate 82, and the other is adjacent to the education, training, and research area at the main entrance.
- ▶ ***Highway-related Retail (90 acres).*** Located in the southeastern corner of the Depot at the intersection of the two interstate highways, this section would be utilized as a site for retail opportunities, such as motels, service stations, and restaurants. These uses would be supportive of other businesses and complement the rest of the Depot.
- ▶ ***Highway-related Commercial and Industrial (210 acres).*** This area is located along the southern boundary. Future commercial and industrial businesses which require easy highway access and visibility would be sited here.
- ▶ ***Wildlife Reserve (2,500 acres).*** Two large portions of land are planned to be set aside as Wildlife Reserves. This designation would create large tract areas which would be retained as habitat for native plants and animals. The two areas designated as Wildlife Reserves include the 1,700-acre Coyote Coulee area and the 800-acre area to the west of K block.
- ▶ ***Agriculture/Wildlife Management (4,700 acres).*** A large portion of the land is planned to be set aside for agriculture/wildlife habitat uses.

- ▶ ***Agriculture (2,600 acres).*** The current buffer zones located along the north and east perimeter of the Depot would become an extension of neighboring farmland and be utilized for crop production.
- ▶ ***Regional Interpretive Center (20 acres).*** An interpretive center would be established on the eastern edge of the Depot. The center would provide interpretive information to individuals and school groups in both the natural history and ecology of the region as well as the significance of the bunkers. Staging areas would be established for parking vehicles and organizing tours.
- ▶ ***Depot Visitor's Bureau and Military Interpretive Center (Building 2, north end).*** A visitor's bureau and interpretive center would also be established in the combined Commercial/Recreation and Education, Training and Research areas. The Military Interpretive Center would illustrate the Depot's historical role in the manufacture, storage, and distribution of ordnance to support the DoD's weapon programs.
- ▶ ***Land Bank (500 acres).*** A small part of the southeastern section, including Block A bunkers, would be reserved as a land bank. This would preserve future bunkers for possible commercial development and/or allow for expansion of commercial and recreation uses.
- ▶ ***Roadways and Miscellaneous Areas (1,520 acres).*** Included within the overall acreage of the Depot are numerous roadways and rail spurs which will remain as part of future planning improvements. In many cases, additional roadway areas will need to be widened and upgraded for any increased traffic and landscape improvements.

The plan calls for the implementation of these land uses in 25 reuse parcels. Table 2-1 presents summary information on each of the UMDA reuse parcels and an approximate timetable for transfer for each parcel. The size, reuse priority, description, proposed reuse, known IRP sites, projected transfer date, transfer mechanism and recipient of each of the parcels is provided in the table.

Figures 2-1A and 2-1B graphically portray the latest version of the U.S. Army realignment footprint. Parcels outside the realignment footprint may be declared excess and be available for disposal and development in accordance with the disposal plan in the near future. Parcels inside the realignment footprint will not be available for disposal until U.S. Army determines that it is no longer necessary to support the UMDA mission. Figures 2-1C and 2-1D graphically portray the planned disposal and reuse parcels at the time of the Depot's closure in approximately 2006.

TABLE 2-1. REUSE PARCEL DATA SUMMARY

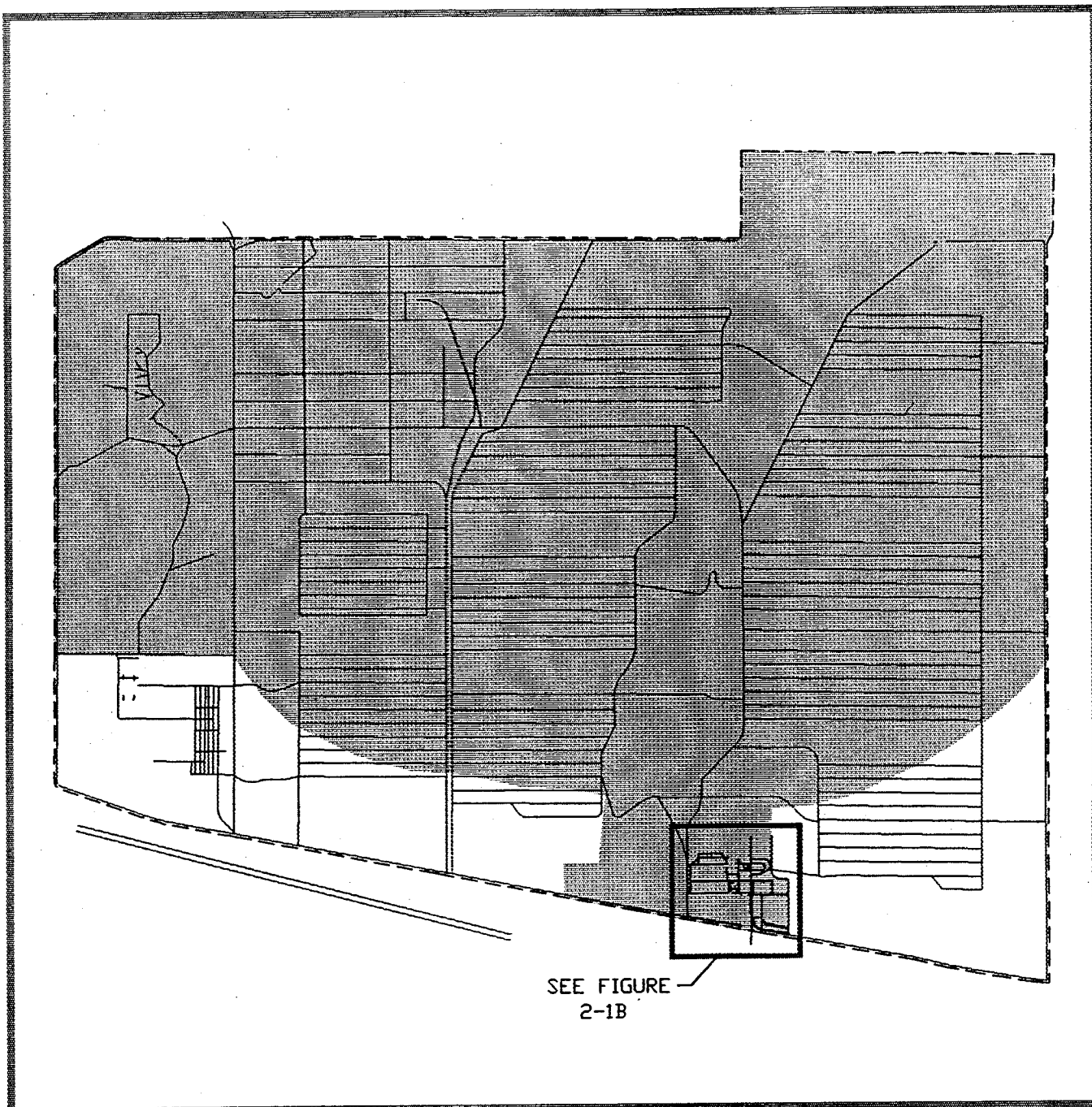
Reuse Parcel (See Figure 2-1C)	Acres (approx)	Priority	Description and Proposed Reuse	Known Sites or OUs	Projected Transfer Date	Transfer Mechanism	Recipient
A	1,790	Undetermined	ADA Area: Oregon National Guard Impact Area Leased through Redevelopment Authority	OU 4	5 to 10 years	TBD	TBD
B	735	Undetermined	Warehouse Area: Short-term Industrial	OU 1, Sites 3, 25, 26, 35, 37, 44, 46, 80, 81 (two of three parts of Location I)	0 to 5 years	TBD	TBD
C	138	Undetermined	Open Area: Police and Fire Training	Site 69	10 to 15 years	TBD	TBD
D	1,056	Undetermined	Railroad Yards and Parts of Igloo Blocks F&H: Heavy/Light Industrial	Sites 6, 30, 48, 64, 66, 81 (one part of 81-1 and 81-2)	>25 years	TBD	TBD
E	2,766	Undetermined	Igloo Blocks G, I, the western half of Igloo Block H, and the eastern half of Igloo Blocks F&J: Agricultural/Wildlife Management	Sites 25 (II), 34 and 82	>25 years	TBD	TBD
F	603	Undetermined	Open Area: Agriculture	Site 9	10 to 15 years	TBD	TBD
G	440	Undetermined	Open Area and west half of J Block: Wildlife Reserve	None	20 to 25 years	TBD	TBD
H	662	Undetermined	Igloo Block K: Oregon National Guard	None	>25 years	TBD	TBD
I	1,238	Undetermined	Area North of Igloo Block K and western half of QA Function Range: Agriculture	Sites 10, 45, 49, 63 and 65	10 to 15 years	TBD	TBD
J	543	Undetermined	Eastern half of QA Function Range and Open Area Northwest of Igloo Block E: Wildlife Reserve	Site 39	5 to 10 years	TBD	TBD
K	751	Undetermined	Open Areas North of Igloo Block E and East of Igloo Blocks C, D, E	None	0 to 15 years	TBD	TBD
L	2,261	Undetermined	Igloo Blocks B, C, D and E: Agriculture/Wildlife Management	Sites 11 and 53	5 to 25 years	TBD	TBD
M	1,271	Undetermined	Open Area within Coyote Coulee and Explosives Washout Plant Area: Wildlife Reserve	Sites 4, 5, 12 (1&3), 36, 43, 50, 51, 53, 62, 67	20 to 25 years	TBD	TBD
N	114	Undetermined	Open Storage and Inactive Landfill Area: Heavy/Light Industrial	Sites 12 B, D, E	>25 years	TBD	TBD
O	113	Undetermined	Western half of Administrative Area: Industrial, Warehouse, Storage Maintenance	Sites 22, 27, 42, 44, 70, 74, 75, 76, 77	20 to 25 years	TBD	TBD
P	220	Undetermined	Open Area North and Northeast of Administration Area: Commercial/Recreational	None	15 to 20 years	TBD	TBD

TABLE 2-1. REUSE PARCEL DATA SUMMARY
Continued

Reuse Parcel (See Figure 2-1C)	Acres (approx)	Priority	Description and Proposed Reuse	Known Sites or OUs	Projected Transfer Date	Transfer Mechanism	Recipient
Q	340	Undetermined	Magazine Area: Short-term Industrial	None	15 to 20 years	TBD	TBD
R	40	Undetermined	Eastern half of Administrative Area: Short-term Industrial, Commercial/Recreational, Education/Training/Research, Visitors Bureau/Military Interpretive Center	Site 71	15 to 20 years	TBD	TBD
S	5	Undetermined	U.S. Army Headquarters Building: Visitors Bureau/Military Interpretive Center	None	15 to 20 years	TBD	TBD
T	340	Undetermined	Open Area South of Igloo Block A: Highway Related Commercial/Industrial	None	15 to 20 years	TBD	TBD
U	142	Undetermined	Open Area in Southeast corner and Airfield: Highway Retail	None	0 to 5 years	TBD	TBD
V	196	Undetermined	Open Area East of Igloo Block A: Commercial/Recreation	None	10 to 15 years	TBD	TBD
W	463	Undetermined	Igloo Block A: Land Bank	None	>25 years	TBD	TBD
X	66	Undetermined	Open Area Southeast of Igloo Block B: Regional Interpretive Center	None	10 to 15 years	TBD	TBD
Y	202	Undetermined	Open Area East of Igloo Block B: Commercial/Recreational Long-Term	None	20 to 25 years	TBD	TBD

TBD = To be determined

This page intentionally left blank.



EXPLANATION

-  Army Realignment Property
-  Installation Boundary

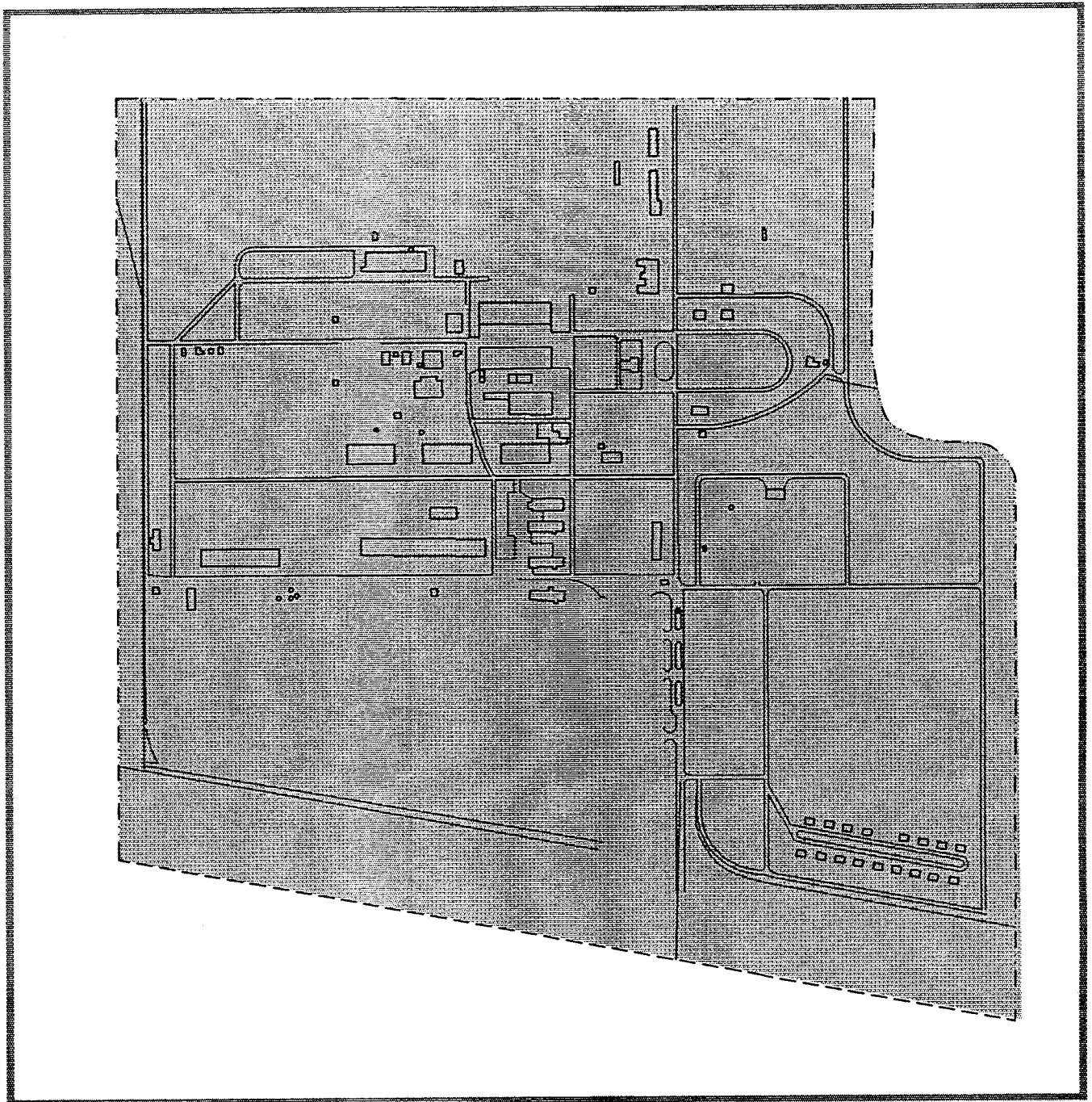
Army
Realignment
Footprint



0 2500 5000
FEET

Figure 2-1A

This page intentionally left blank.



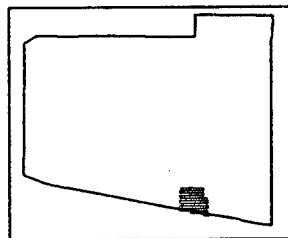
EXPLANATION



Army Realignment Property

--- Installation Boundary

-.-.- Administration Area Boundary

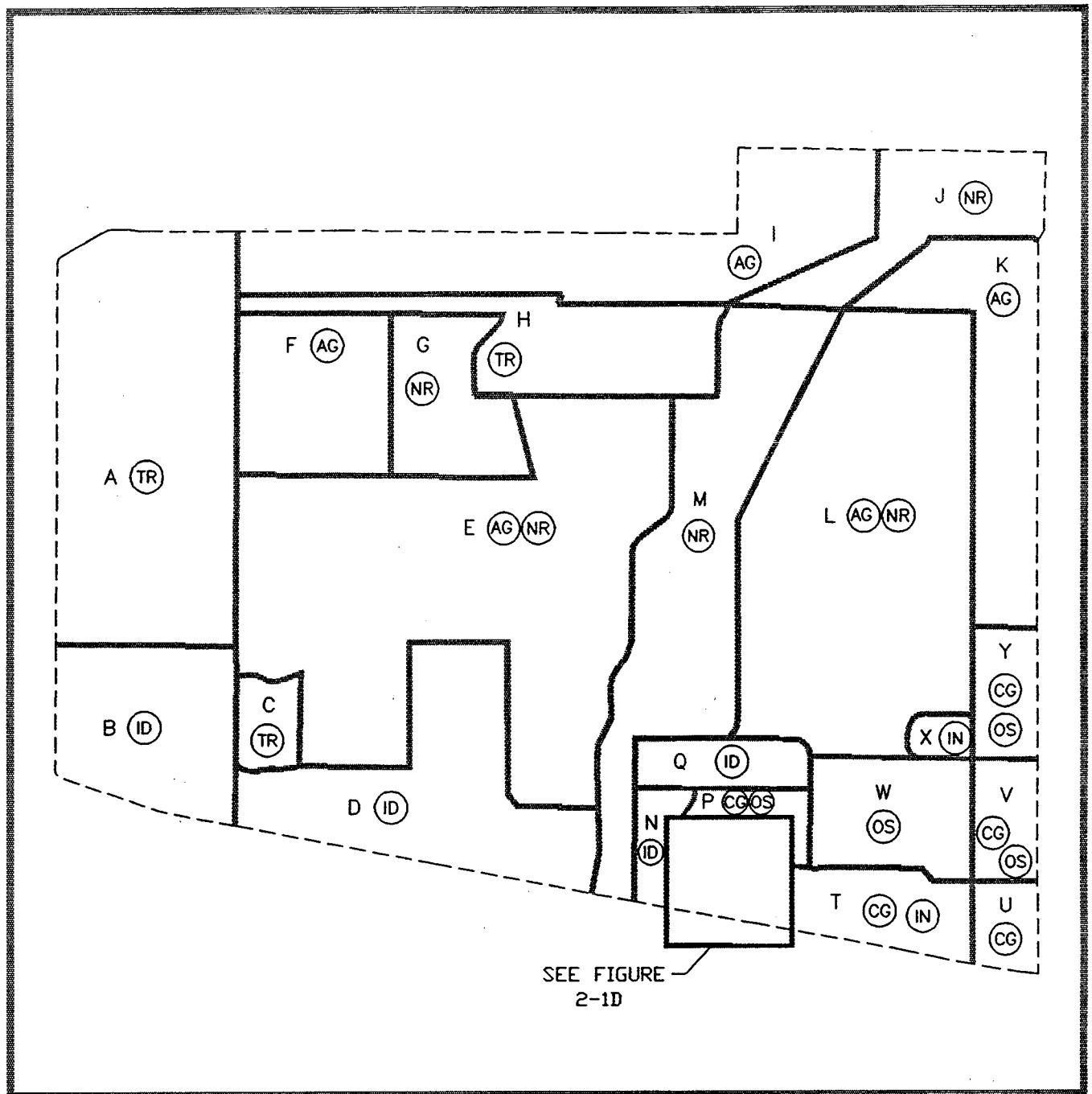


0 300 600
FEET

Army
Realignment
Footprint
for the
Administration
Area

Figure 2-1B

This page intentionally left blank.



EXPLANATION

(OS)	Public Open Space and Recreation	(TR)	Training
(AG)	Agricultural	(UT)	Utilities and Services
(CG)	Commercial General	---	Installation Boundary
(NR)	Natural Resources Conservation	A	Parcel Designation
(IN)	Institutional		
(ID)	Industrial		

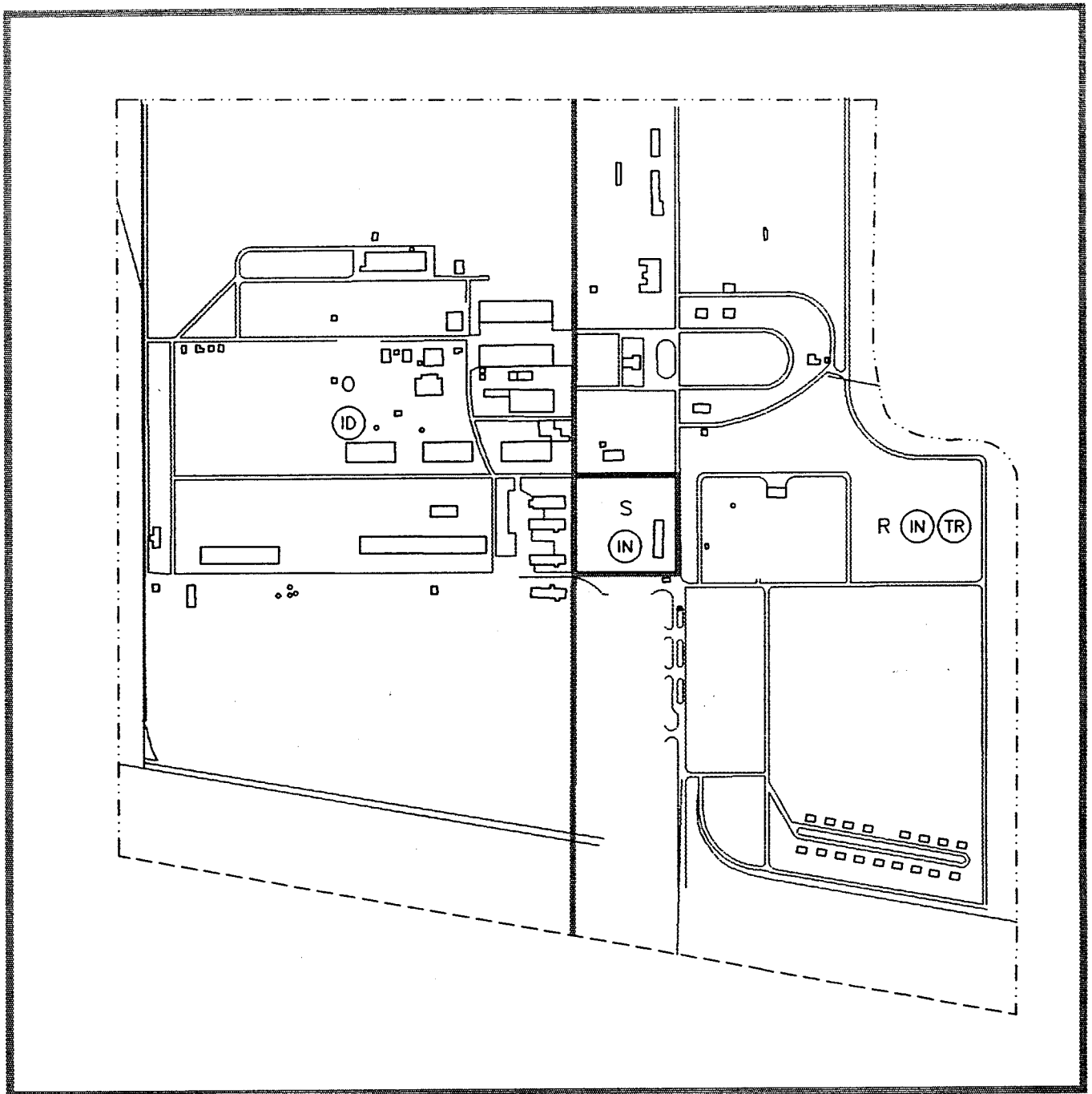
* See Table 2-1

Disposal
and
Reuse
Parcels*

0 2500 5000
FEET

Figure 2-1C

This page intentionally left blank.



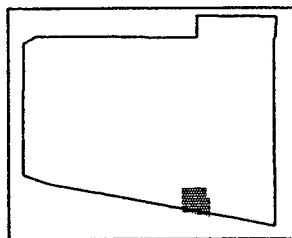
EXPLANATION

- (OS) Public Open Space and Recreation
- (IN) Institutional
- (ID) Industrial
- (TR) Training

A Parcel Designation

--- Installation Boundary

--- Administration Area Boundary



0 300 600
FEET

Disposal
and
Reuse
Parcels
in the
Administration
Area

Figure 2-1D

This page intentionally left blank.

Key factors necessary for implementation of the Reuse Plan include:

- ▶ Consensus between community planning representatives and the U.S. Army on time frames for excess and disposal/reuse goals and environmental restoration schedules and cleanup goals;
- ▶ Property conveyance in compliance with the Federal Property Act and other regulations;
- ▶ Environmental cleanup of the property, guided by the types of uses which the community has identified;
- ▶ Institution of an interim maintenance agreement (caretaker) and interim leases to ensure property upkeep and expedite reuse of unused property;
- ▶ Formation of an appropriate management structure to carry out the reuse plan over a period of time with certain legal capabilities, i.e., Redevelopment Authority;
- ▶ Implementation of an orchestrated and aggressive marketing program;
- ▶ Pursuit of the federal grants and assistance by the community to help facilitate the process; and
- ▶ Assignment of County Comprehensive Plan and Zoning Designations for any property transferred to a civilian entity.

The Task Force, the U.S. Army, and the local community are working closely together to ensure that each of these factors are considered in the planning process so that the disposal and reuse of UMDA can occur.

2.2 Relationship to Environmental Programs

Disposal and reuse activities at UMDA are intimately linked to environmental investigations, restoration, and compliance activities for two basic reasons:

- ▶ Federal property transfers to nonfederal parties are governed by CERCLA Section 120(h)(3)(B)(i).
- ▶ Residual contamination may remain on certain properties after RAs have been completed or put into place, thereby restricting the future use of those properties.

CERCLA Section 120(h)(3)(B)(i) requires deeds for federal transfer of previously contaminated property to contain a covenant that all RA necessary to protect human health and the environment have been taken. All RA has been taken if the construction and installation of an approved RD has been completed, and the remedy has been demonstrated to the Administrator

of the USEPA to be operating properly and successfully. It further states that the carrying out of long-term pumping and treating, or operation and maintenance, after the remedy has been demonstrated to be operating properly and successfully, does not preclude the transfer of the property. This deed requirement applies only to property on which a hazardous substance was stored for one year or more, or is known to have been disposed or released. CERCLA also requires that deeds for property on which a hazardous substance was stored, for more than one year, released or disposed, include information on the type, quantity, and the time at which the storage, release, or disposal occurred.

The requirement for complying with CERCLA 120(h), the possibility of residual contamination at the Depot, and the remediation of the site based on future land use are factored into the property disposal and reuse process at UMDA in the following manner:

- ▶ UMDA is subject to the Defense Environmental Restoration Program (DERP) and the USEPA CERCLA "Superfund" Program for National Priority List (NPL) sites.
- ▶ The USEPA has an established protocol for the investigation and remediation of NPL sites. These protocols include the RI/FS process. The baseline risk assessment which was completed as part of the RI includes an evaluation of current human health and ecological impacts at the site and the surrounding area as well as future impacts based on reasonable reuse scenarios. The FS evaluates the effectiveness of various RA alternatives in mitigating risk for these reasonable reuse scenarios based on factors such as regulatory compliance, effectiveness, implementability, and cost. The FS also evaluates the human health and ecological impacts of the actual RA to onsite and surrounding area populations. The FS alternatives chosen for site implementation are recorded in the RODs for UMDA.

The UMDA environmental restoration strategy and schedule is designed not only to remediate sites in a manner consistent with reuse goals but also to streamline and expedite the necessary response actions associated with the 25 reuse parcels designated for the Depot in order to facilitate the earliest possible disposal. Because of the need to delineate between areas suitable for transfer and those which are not, the UMDA BCT has developed an environmental condition of property map and a suitable property for transfer map for UMDA (see text and figures in Chapter 3.4) using, in part, data from the Comprehensive Environmental Response Facilitation Act (CERFA) and RI/FS investigations of the Depot.

The environmental condition of property map allows the visualization of potentially contaminated areas and areas of no suspected contamination, and the relationship of these areas to disposal and reuse parcels. The suitable property for transfer map further defines those properties which have had no hazardous substance releases or which have had releases that have been remediated or have a remedy in place and are therefore available for transfer under CERCLA. The BCT will continue to update and refine the environmental condition of property and property suitable for transfer maps for UMDA as data become available and as site restorations are completed.

2.3 Property Transfer Methods

The various property transfer methods being utilized or considered in the disposal process at UMDA are described in this section. These transfer methods were identified based on U.S. Army disposal protocols established by Public Law 100-56 and the Federal Property and Administration Services Act. These methods consider the transfer of property determined to be excess to the future Chem Demil as well as the transfer of property after the completion of the future mission. Transfer methods which are not currently applicable, but which may be considered in future planning actions at the installation have also been identified.

The Secretary of Defense and the Secretary of the Army are committed to carrying out the intent of the President's Five Step Plan to economically revitalize communities affected by BRAC. Therefore, to the greatest extent possible, DoD and federal interest in property will be weighed against the economic needs and desires of the community, and as much as possible, community goals will be integrated into the installation disposal plan. The disposal and reuse of each parcel is ultimately based on environmental condition, market demand, as well as the reuse goals of the community as presented by the UMDA Comprehensive Plan.

2.3.1 *Federal Transfer of Property*

At this time, the federal screening process has not commenced, because excess property has not been identified. Upon identification of excess property, federal screening will take place. Following federal screening, local homeless organizations have the opportunity to express their property needs to the local redevelopment authority under the Pryor Amendment.

The BIA has inquired about turning the property (the entire 17,054 acres) over to the Confederated Tribes of the Umatilla Indian Reservation. The BLM is interested in reacquiring 8,440 acres of UMDA property that was formerly public domain land. These two requests are being reviewed by the U.S. Army with consideration of mission-related property requirements, statutory transfer requirements, environmental restoration requirements, and reuse goals identified in the Reuse Plan.

2.3.2 *No-Cost Public Benefit Conveyance*

There is no indication at this time that a no-cost public benefit conveyance would take place at UMDA.

2.3.3 *Negotiated Sale*

It is assumed that property not transferred via federal transfer will be conveyed to private ownership through a negotiated sale or lease in accordance with current regulations and the new procedures and regulations contained in Title XXIX and the Interim Rule (32 CFR Parts 90 and 91).

2.3.4 Competitive Public Sale

There is no indication at this time that a competitive public sale would take place at UMDA.

2.3.5 Widening of Public Highways

The U.S. Army has granted the State of Oregon Department of Transportation (DOT) an easement at the southeast corner of the Depot for Interstate 82 which passes just inside the Depot's eastern boundary. At this time, according to the USACE, Seattle District, there are no plans to transfer this property to the State of Oregon DOT. Disposal documentation for the property will include stipulations that the easement will continue to be granted by the next owner of the Depot property.

2.3.6 Donated Property

There is no indication at this time that any property at UMDA will be donated.

2.3.7 Interim Leases

The American Red Cross is in the process of applying for a lease to utilize some igloos, excess to the Depots current mission, for disaster relief storage. Such interim leasing for reuse will be relied upon heavily until property can be excessed and found suitable for transfer. Many other parts of the Depot will be available for civilian use, but the procedures for interim leases including issues such as the maintenance of Depot security, remain uncertain. Procedures for simplifying interim leases and transfer of parts of the Depot to civilian use need to be amended in order to capture the opportunities that already exist for new business development on the Depot.

Interim leases that may occur at the installation in the future, including the Red Cross lease, will be identified in Table 2-2.

TABLE 2-2. EXISTING LEGAL AGREEMENTS/INTERIM LEASES

Title Interim Lease/Legal Agreement	Building No./Areas	Date of Agreement	Reuse Parcel
	There are currently no legal agreements or interim leases associated with UMDA. Future changes will be reflected here.		

2.3.8 Other Property Transfer Methods

There is no indication at this time that any other property transfer methods will be employed at UMDA. However, economic development conveyance (in accordance with Title XXIX and the Interim Rule) is an additional property transfer method which is available and could be used in the future at UMDA, through no initial cost, or at less than fair market value.

CHAPTER 3

► INSTALLATION-WIDE ENVIRONMENTAL PROGRAM STATUS ◀

This chapter provides a summary of the current status of environmental restoration projects, installation-wide source discovery and assessment activities, and ongoing compliance activities at UMDA. It also summarizes the status of the cultural and natural resource program, and community involvement to date, and describes the environmental condition and suitability for transfer of the installation property.

3.1 Environmental Program Status

The UMDA Environmental Office is responsible for establishing and maintaining all environmental programs, compliance matters, and remediation efforts at UMDA. Two principal U.S. Army components assist the installation's efforts. The USAEC is conducting BRAC site investigation activities at the installation. The USACE Seattle District provides support in areas including RD and RA.

Environmental restoration programs at UMDA are conducted under the DERP in compliance with applicable U.S. Army, DoD, regulations, state and federal statutes and regulations, particularly CERCLA. UMDA was listed on the NPL in July 1987. The lead regulatory oversight agency at the installation is currently the USEPA, Region X. Environmental compliance programs at UMDA are conducted in compliance with applicable U.S. Army, DoD, regulations, state and federal regulatory programs including those administered under the Clean Air Act (CAA), Clean Water Act, and Safe Drinking Water Act, RCRA, Toxic Substance Control Act (TSCA), and SARA.

An environmental restoration program has been in place at UMDA for approximately seven years. A summary of some of the major milestones in the IRP and compliance programs at the installation is provided below.

- A RCRA Facility Assessment (RFA), an Enhanced Preliminary Assessment, a Remedial Investigation/Feasibility Study, a Human Health Baseline Risk Assessment, a Supplemental Remedial Investigation, and a CERFA investigation have been completed.
- Eight RODs and one Decision Document have been signed for the nine OUs at UMDA. Two of the RODs and the Decision Document have "No Action" remedies.
- Remediation has been completed at one OU, and remedial activities have been started at two other OUs. The remaining four OUs are in the remedial design stage.

- ▶ Twenty-nine USTs have been removed as early actions. Petroleum-contaminated soils associated with several of these USTs have also been removed as early actions.
- ▶ All PCB-containing transformers have been removed.
- ▶ An installation-wide asbestos survey and remediation of friable asbestos have been completed.
- ▶ An installation-wide lead-based paint survey is scheduled for Fiscal Year 1995.
- ▶ A radon venting system is scheduled to be completed in Fiscal Year 1995.

Table 3-1 lists the nine OUs which have been identified at UMDA and the associated sites within each OU. The IRP environmental investigation status, a summary of investigation findings and a final determination for each of the sites are included in the following sections.

3.1.1 Restoration Sites

The restoration effort at UMDA was initiated in October 1978 when the Depot was included in the U.S. Army's IRP. As a result, an Initial Installation Assessment (IIA) was performed in December 1978 to evaluate environmental quality at the Depot with regard to the use, storage, treatment, and disposal of toxic and hazardous materials. Findings of the IIA reported by U.S. Army Toxic and Hazardous Material Agency (USATHAMA) in May 1979 concluded that contamination from explosives existed in certain areas of the Depot as a result of previous demilitarization and disposal operations, but that no evidence was uncovered to indicate actual migration of contaminants from UMDA. The report recommended that a preliminary survey be conducted.

In 1985, the U.S. Army submitted a RCRA Part B permit application to the USEPA to construct and operate an incinerator facility for demilitarizing various chemical munitions in storage at the Depot. This action was in response to the Congressional directive that all of the U.S. Army's chemical stockpile must be disposed of before 1995.

To qualify for the RCRA permit, the 1984 Hazardous and Solid Waste Amendments (HSWA) specify a facility must first implement a corrective action program for past releases of hazardous wastes and constituents. Therefore, USEPA Region X conducted a RFA to identify past, present, or potential sources for contaminant releases from various solid waste management units (SWMUs) or spill sites. The USEPA identified 30 SWMUs at UMDA and determined from its studies that additional investigations were required to identify appropriate corrective measures for several SWMUs. Sites recommended for further evaluation included the ADA Area, which included multiple waste management units; the Explosives Washout Lagoons Area, comprised of two infiltration ponds and a depression thought to have been used as an overflow pond; five

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Restoration Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
OU 1 - DEACTIVATION FURNACE SOILS							
Site 1	Deactivation Furnace Soils	✓	✓	✓	✓	Heavy metals with lead as primary contaminant	Contaminated soil will be excavated and disposed as per ROD.
OU 2 - EXPLOSIVES WASHOUT LAGOONS SOILS							
Site 4	Explosives Washout Lagoons Soils	✓	✓	✓	✓	Lagoon soils contaminated with explosives	Contaminated soil will be excavated and disposed as per ROD.
OU 3 - EXPLOSIVES WASHOUT LAGOONS GROUNDWATER							
Site 4	Explosives Washout Lagoons Groundwater		✓	✓	✓	Groundwater beneath lagoons contaminated with explosives	ROD signed in September 1994. Groundwater will be remediated according to signed ROD
OU 4 - AMMUNITION DEMOLITION ACTIVITY AREA OU							
Site 7	Aniline Pit	✓	✓	✓	✓	No contamination identified	No further action as per ROD.
Site 8	Acid Pit	✓	✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 13	Smoke Canister Disposal Area	✓	✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 14	Flare and Fuse Disposal Area	✓	✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 15	TNT Sludge Burial and Burn Area	✓	✓	✓	✓	Heavy metal contamination; estimated hazard index = 80.	Contaminated soil to be remediated as per ROD.
Site 16	Open Detonation Pits	✓	✓	✓	✓	Heavy metal contamination estimated cancer and non-cancer risks were within the acceptable range for residential use.	Phased clearance of UXO as per ROD.
Site 17	Aboveground Open Detonation Area	✓	✓	✓	✓	Lead contamination, cancer risk of 3×10^{-6} .	Contaminated soil to be remediated as per ROD.
Site 18	Dunnage Pits	✓	✓	✓	✓	Heavy metal contamination, estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 19	Open Burning Trenches/Pads	✓	✓	✓	✓	Heavy metal contamination, cancer risk 2×10^3 , non-cancer hazard index of 400.	Contaminated soil to be remediated as per ROD.
Site 21	Missile Fuel Storage Areas	✓	✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 31	Pesticide Pits		✓	✓	✓	Heavy metal contamination, cancer risk 5×10^4 , non-cancer hazard index 100.	Contaminated soil to be remediated as per ROD.
Site 32	Open Burning Trays (Locations I and II)	✓	✓	✓	✓	Lead contamination, non-cancer hazard index of 1.	Contaminated soil to be remediated as per ROD at Location II.
Site 38	Pit Field Area		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 41	Chemical Agent Decontamination Solution Burial Area		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 55	Trench/Burn Field		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 56	Munitions Crate Burn Area		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 57	Former Pit Area Locations		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 58	Borrow/Burn Disposal Area		✓	✓	✓	No contamination identified.	No further action as per ROD.
Site 59	Chemical Agent Decontamination Solution Disposal Area		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 60	Active Firing Range		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
OU 5 - MISCELLANEOUS SITES							
Site 3	Hazardous Waste Storage Facility	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 6	Sewage Treatment Plant	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 9	Remote Munitions Disassembly GB Bomb Area	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 10	Former Agent H Storage Area	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 22	DRMO Area	✓	✓	✓	✓	High lead contamination in soil.	Lead contaminated soil will be remediated as per ROD.
Site 25-I	Metal Ore Piles - Location I	✓	✓	✓	✓	Cancer risk was not calculated and there were high uncertainties in the results because, contamination was sporadic and only slightly above background levels, caused the hazard quotient to be excluded.	No further action as per ROD.
Site 25-II	Metal Ore Piles Location II	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 26	Metal Ingot Stockpiles	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 27	Pesticide Storage Building	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 29	Septic Tanks	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 30	Stormwater Discharge Area	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 33	Gravel Pit Disposal Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 34	Paint Spray and Shot Blast Areas		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 35	Malathion Storage Leak Area		✓	✓	✓	High cadmium contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 36	Building 493 Paint Sludge Discharge Area		✓	✓	✓	High cadmium contamination.	Cadmium contaminated soil will be remediated according to the ROD.
Site 37	Building 131 Paint Sludge Discharge Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 39	QA Function Range		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 44-I	Road Oil Application Disposal Sites		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 44-II	Road Oil Application Disposal Sites		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 45	Buildings 612 and 617 Boiler Discharge Areas		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 46	Railcar Unloading Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 47	Boiler/Laundry Effluent Discharge Area		✓	✓	✓	Cancer risk was not calculated and there were high uncertainties in the results because contamination was sporadic and only slightly above background levels, causing the hazard quotients to be excluded.	No further action as per ROD.
Site 48	Pipe Discharge Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 49	Drill and Transfer (DAT) Site		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 50	Railroad Landfill Areas		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 52	Coyote Coulee Discharge Gullies		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 53	Building 433 Collection Sump/Cistern and Disposal Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 67	Building 493 Brass Cleaning Operations Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 80	Disposal Pit and Graded Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 81-1	Former Raw Materials Storage		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 81-II	Former Raw Materials Storage		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 82	Former Gravel Pit/Disposal Location		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
OU 6 - EXPLOSIVE WASHOUT PLANT							
Site 5	Explosive Washout Plant	✓	✓	✓	✓	The Explosive Washout Plant, overflow trough and sump and soil surrounding the plant are contaminated with explosives.	ROD was signed in September 1994. Remediation will be as per ROD.
OU 7 - ACTIVE LANDFILL							
Site 11	Active Landfill	✓	✓	✓	✓	Landfill's current condition does not pose an unacceptable risk to human health or the environment.	ROD signed. No action was selected as the remedy.
OU 8 - INACTIVE LANDFILLS							
Site 12	Inactive Landfills	✓	✓	✓	✓	These landfills current condition does not pose an unacceptable risk to human health or the environment. Two areas within the Northern Inactive Landfill were investigated further in the SRI.	ROD signed. No action was selected as the remedy.
OU 9 - SUPPLEMENTARY REMEDIAL INVESTIGATION (SRI) STUDY SITES AND PCB TRANSFORMER LOCATIONS							
Site 12	Inactive Landfills (Two Areas Within Northern Active Landfills)			✓	✓	No contaminants of concern were identified.	Decision Document was signed in September 1994. U.S. Army and DEQ have agreed that the contaminants at the SRI Study Sites and the PCB transformer locations do not pose sufficient risk to require cleanup and recommended that no RA is necessary under CERCLA. Transiting at Site 12 will be removed and disposed of properly.
Site 68	Former Unsymmetrical Dimethyl Hydrazine Operations		✓	✓	✓	No contaminants of concern were identified.	See above
Site 69	Area Skunk Works Area		✓	✓	✓	No contaminants of concern were identified.	See above

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 64	Leaking Railcar Shipment Inspection Area		✓	✓	✓	Heavy metal soil contamination. Contaminants of concern in soil pose a risk of less than 1×10^{-6} and a hazard index of less than 1.	See above
Site 70	Wood Preserving Solution Spill Area		✓	✓	✓	Contaminants of concern were identified in groundwater; arsenic, and nitrate/nitrite.	See above
Site 75	Battery Acid Collection Sump		✓	✓	✓	Lead was identified as contaminant of concern in the soil. Contaminants of concern in soil pose a risk of less than 1×10^{-6} and a hazard index of less than 1.	Existing sump will be cleaned out and decontaminated when current operations end.
Site 76	Photographic Chemical Solution Disposal Area		✓	✓	✓	No contaminants of concern were identified.	See above
Site 77	Paint Storage and Disposal Area		✓	✓	✓	No contaminants of concern were identified.	See above
Site 83	Leaking Drum Storage Area		✓	✓	✓	No contaminants of concern were identified.	See above
Site 61	Open Paint Spray Areas		✓	✓	✓	No contaminants of concern were identified.	See above
Site 63	Paint and Solvent Disposal Area		✓	✓	✓	Copper, lead, and zinc were identified as the contaminants of concern in the soil. Contaminants of concern in soil pose a risk of less than 1×10^{-6} and a hazard index of less than 1.	See above
Site 65	Waste Paint and Solvent Disposal Area		✓	✓	✓	Mercury and zinc were identified as the contaminants of concern in the soil. Contaminants of concern in soil pose a risk of less than 1×10^{-6} and a hazard index of less than 1.	See above
Site 66	Brass, Copper, and Steel Storage Area		✓	✓	✓	No contaminants of concern were identified.	See above
Site 79	Malathion Spray Area		✓	✓	✓	No contaminants of concern were identified.	See above

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
PCB Transformer Locations	Transformer locations 162, 163, 164, 197, and 198.		✓	✓	✓	Risk of these sites is 7×10^{-6} due to PCB 1260 in soil, which is only slightly higher than the low end of the acceptable risk range, but still within the acceptable range. No hazard was calculated because no reference dose is available for PCB 1260.	See above
	Transformer location 229.		✓	✓	✓	Soil in concrete vault at this location contained 3.8 ppm PCB.	Soil in concrete vault will be cleaned out and properly disposed of as a removal action to comply with State of Oregon's background level rule.
SITES FORMERLY IN AN OU, RECOMMENDED FOR NO FURTHER ACTION							
Site 2	Storage Igloos	✓	✓			Good management practices are believed to preclude environmental concerns.	ENPA recommended no further investigation.
Site 20	Open Burning Areas	✓	✓			Exact location of these areas could not be identified and may actually be burning areas associated with other ADA sites.	ENPA recommended no further investigation.
Site 28	Missile Fuel Burning Areas	✓	✓			Burning reportedly took place in a kiln, not on bare soil, and aniline and hydrazine fuels are not persistent in the environment.	ENPA recommended no further investigation.
Site 40	Jeep Storage Areas		✓			Area is a large parking lot, minor oil leaks.	ENPA recommended no further investigation.
Site 51	Large Open Storage Areas (Vicinity of Coyote Coulee)		✓			Site reconnaissance did not reveal any significant signs of disposal activities of environmental degradation in these areas.	ENPA recommended no further investigation.
Site 54	Possible Disposal Pit Location		✓			Site was not located.	ENPA recommended no further investigation.
Site 72	Vehicle Storage Area		✓			Site is a large parking lot.	ENPA recommended no further investigation.
Site 63	Pier 386 Chemical Solution Disposal Area		✓			During SRI Work Plan preparation, site was reevaluated and it was determined no further investigation was necessary.	Determined no further investigation was necessary, following SRI Work Plan preparation.
Site 71	Possible Fire Training Pit		✓			During SRI Work Plan preparation, site was reevaluated and it was determined no further investigation was necessary.	Determined no further investigation was necessary, following SRI Work Plan preparation.

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

Restoration Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 73	Diesel Fuel Spill Location		✓			This site was evaluated in the UST survey.	See UST survey.
Site 74	Oil/Fuel Transfer Station (Building 23)		✓			This site was evaluated under the UST survey.	See UST survey.
Site 78	Building 608 and 615 Heat Exchange Systems		✓			During SRI Work Plan preparation. Site was reevaluated and it was determined no further investigation was necessary.	Determined no further investigation was necessary following SRI Work Plan preparation.
SITES THAT DO NOT FALL UNDER AN OU							
Site 23	Building 5 Waste Oil Tank		✓			This site was evaluated in the UST survey.	See UST survey.
Site 24	Building 10 Waste Oil Tank		✓			This site was evaluated in the UST survey.	This UST has been removed.
Site 42	Former UST Locations		✓			This site was evaluated in the UST survey.	No USTs were confirmed at these locations.
Site 43	Former Gas Station		✓			This was evaluated in the UST survey.	See UST survey.

inactive landfill areas; an active landfill area; septic tanks associated with several buildings; a chemical agent storage area; a deactivation furnace area; waste oil tanks, which include two 500-gallon USTs; and a tile field that is used for disposal of treated sanitary waste.

The Final RFA Report was released in July 1987. As a response to USEPA's report, a work plan was developed to investigate the SWMUs of concern identified in the RFA report.

On April 16, 1984, the USEPA released an Uncontrolled Hazardous Waste Site Hazard Ranking System score for the Explosives Washout Lagoons, which resulted in placement/ranking of the Depot site in a category for possible inclusion on the NPL. The score for the lagoons was 31.31 and the NPL cutoff score is 28.50. UMDA was added to the NPL on July 22, 1987, because of the Explosives Washout Lagoons hazardous waste ranking score.

On October 31, 1989 under CERCLA Section 120 (Administrative Docket Number 1088-06 19-120) which applies to NPL sites, a FFA was signed by representatives of the U.S. Army, UMDA, USEPA Region X, and the ODEQ. The general purposes of the agreement are to:

- ▶ Ensure that the environmental impacts associated with past and present activities at UMDA are thoroughly investigated, and appropriate removal and RAs are conducted as necessary to protect public health and welfare and the environment.
- ▶ Establish a procedural framework and schedule for developing, implementing, and monitoring appropriate response actions at UMDA in accordance with CERCLA, the National Oil Hazardous Substances Pollution Contingency Plan (NCP), RCRA, and applicable state laws.
- ▶ Facilitate cooperation, exchange of information, and participation of the parties in such action.

Since the implementation of the FFA, several investigations have been completed. An ENPA was conducted in 1990. This document addressed all documented or suspected incidents of actual or potential release of hazardous or toxic constituents to the environment. The investigation included the 30 SWMUs identified at the installation and also identified 52 additional sites which required investigation at UMDA.

As a result of the ENPA and RFA, USATHAMA contracted for completion of an RI/FS. The RI/FS investigated 58 of the sites identified in the ENPA including the 30 SWMUs. Three sites were not investigated because they were determined to require no further action. A SRI investigated the remaining 12 sites from the ENPA, in addition to PCB transformer locations, two additional areas within Site 12 (which were investigated during the RI) and a new site, Site 83, the leaking drum storage area. The RI grouped the sites into ten OUs which were regrouped during the RA recommendations into eight OUs. An additional OU was added following the SRI. The purpose was to obtain sufficient data to fully characterize contamination conditions at each study site; complete baseline risk assessments for contaminated sites and environmental media (e.g., soil, groundwater); and perform feasibility studies of, and select RA alternatives for, sites/media requiring cleanup. The ENPA did not recommend additional investigation for

seven of the 82 sites. Six ENPA sites which involved USTs were investigated under the UST survey, and three additional ENPA sites that were to be investigated under the SRI were reevaluated during the SRI work plan preparation. It was determined there was enough information on these three sites and additional investigation was not necessary.

As part of the RI/FS, a Human Health Baseline Risk Assessment was conducted. The risk assessment evaluated the potential for adverse effects to future populations at and adjacent to UMDA as a result of exposure to hazardous substances present at the installation. It also evaluated risk associated with the various RA alternatives presented in the FS.

A second phase of the RI/FS was conducted in 1992/193 for the Explosives Washout Lagoons Soils. This further investigation was completed so that additional information could be collected and used in preparation of pilot treatability studies demonstrating the effectiveness of explosives degradation via composting verses incineration as the demonstrated technology.

During the RI/FS, the sites were grouped into ten OUs. The sites were subsequently regrouped into nine OUs to more effectively address restoration of the property. Record of Decision (RODs) have been signed for eight of the OUs and a DD has been signed between the U.S. Army and the State of Oregon for one OU. Two RODs were "No Action" remedies. The DD is also considered a No Action Alternative (although it does state there will be three minor removals, two of soil and one of transite siding). The six remaining RODs require that OUs undergo RA. The remedial activities at one OU have been completed and remedial activities are underway at a second OU. The remaining four OUs are in RD stage.

Table 3-2 summarizes all the sites that have been investigated as part of the environmental restoration program at UMDA. The DoD Restoration Site Management Information System (RMIS) numbers for the sites are provided in the table where the data are available. The RMIS database tracks the status of IRP activities initially funded through the Defense Environmental Restoration Account from the identification stage to completion of RAs and development of NFRAP documentation. Table 3-2 also lists the OU designations for each site, as well as a brief description, material disposed of, date of operation for the site, restoration status, risk to human health and the environment, regulatory mechanism, and no further remedial action planned categories. The table also provides the reuse parcels/planning areas which may be cross-referenced to the reuse parcel map presented as Figure 2-1. The restoration sites or OUs at UMDA are shown in Figures 3-1A and 3-1B.

There have been no IRP early actions completed at UMDA. All IRP site restoration activities conducted at UMDA have occurred following the ROD and Decision Document process. However, a number of early or interim site restoration activities have been initiated under regulatory compliance programs. These include UST removals/site investigations, petroleum-contaminated soil removal, asbestos and lead-based paint removal, and radon mitigation. These early actions are described in detail in Chapter 3.2.

TABLE 3-2. ENVIRONMENTAL RESTORATION SITE/STUDY AREA SUMMARY

Study Area OU (Zone/Reuse Parcel)	Site No.	RMIS Site No.	Site Class	Description	Material Disposed Of	Date of Operation	Status	Risk to Human Health and the Environment	Regulatory Mechanism	CERFA Environmental Category*	DoD Environmental Category**	NFRAP
OU 1/B	1	47	OU	Deactivation Furnace Soils	Particulates, lead	1960s to 1985	ROD/RA	2×10^3	RCRA	C	4	
OU 2/M	4	23/24	OU	Explosives Washout Lagoons Soils	Explosive contaminated rinsewater	1950s to 1965	ROD/RD	4.7×10^3	RCRA	D	6	
OU 3/M&L	4	23/24	OU	Explosives Washout Lagoons Groundwater	Explosive contaminants	1950s to 1965	ROD/RD	3×10^3	RCRA	D	6	
OU 4/A	7	83	OU	Aniline Pit	Aniline	1950s to 1975	ROD/NFA	$< 1 \times 10^4$	RCRA	D	3	✓
OU 4/A	8	31	OU	Acid Pit	Red Fuming Nitrite Acids	1955 to 1962	ROD/NFA	$< 1 \times 10^4$	RCRA	D	3	✓
OU 4/A	13	84	OU	Smoke Canister Disposal Area	Smoke canisters	1970s	ROD/NFA	$< 1 \times 10^4$	RCRA	D	3	✓
OU 4/A	14	85	OU	Flare and Fuse Disposal Area	Flares and fuses	1970s	ROD/NFA	$< 1 \times 10^4$	RCRA	D	3	✓
OU 4/A	15	86	OU	TNT Sludge Burial and Burn Area	TNT Sludges	1960s to 1970s	ROD/RA	4×10^4 HQ = 200	RCRA	D	6	
OU 4/A	16	87	OU	Open Detonation Pits	Expired Ordnance	1950s to present	ROD/NFA	$< 1 \times 10^4$	RCRA	D	3	✓
OU 4/A	17	88	OU	Aboveground Open Detonation Area	Expired Ordnance	Unknown	ROD/RA	2×10^3 HQ = 10	RCRA	D	6	
OU 4/A	18	89	OU	Damage Pits	Damage	Unknown	ROD/NFA	$< 1 \times 10^4$	RCRA	D	3	✓
OU 4/A	19	90	OU	Open Burning Trenches/Pits	Waste Ordnance TNT Sludge	Unknown	ROD/RA	2×10^3 HQ = 3000	RCRA	D	6	
OU 4/A	21	92	OU	Missile Fuel Storage Areas	Missile Fuel Storage	1950s	ROD/NFA	$< 1 \times 10^4$	RCRA	D	3	✓
OU 4/A	28		OU	Missile Fuel Burning Area	Missile Fuels		ROD/NFA	$< 1 \times 10^4$	RCRA	D	3	✓
OU 4/A	31	94	OU	Pesticide Pits	Pesticides	1950s to 1960s	ROD/RA	1×10^3 HQ = 22	RCRA	D	6	
OU 4/A	32	95	OU	Open Burning Trays	Solid Propellant	Present	ROD/RA	2×10^3 HQ = 2	RCRA	D	6	
OU 4/A	38	96	OU	Pit Field Area	Unknown	Unknown	ROD/NFA	$< 1 \times 10^4$	RCRA	D	3	✓
OU 4/A	41	37	OU	Chemical Agent Decontamination Solution Burial Area	Chemical Agent Decontamination Solution	1960s	ROD/NFA	$< 1 \times 10^4$	RCRA	D	3	✓
OU 4/A	55	98	OU	Trench/Burn Field	Explosive Sludges	1950 to 1956	ROD/NFA	$< 1 \times 10^4$	RCRA	D	3	✓
OU 4/A	56	99	OU	Munitions Crate Burn Area	Munition Crate	1940 to 1965	ROD/NFA	$< 1 \times 10^4$	RCRA	D	3	✓
OU 4/A	57	100	OU	Former Pit Area Locations	Suspected Releases of Munitions	1940s to 1960s	ROD/NFA	$< 1 \times 10^4$	RCRA	D	3	✓
OU 4/A	58	101	OU	Borrow/Burn Disposal Area	Suspected Releases of Munitions Burning Activities Munitions	1950s to 1960s	ROD/NFA	$< 1 \times 10^4$	RCRA	D	3	✓

TABLE 3-2. ENVIRONMENTAL RESTORATION SITE/STUDY AREA SUMMARY

Continued

Study Area OU (Zone/Reuse Parcel)	Site No.	RMIS Site No.	Site Class	Description	Material Disposed Of	Date of Operation	Status	Risk to Human Health and the Environment	Regulatory Mechanism	CERCLA Environmental Category*	DoD Environmental Category**	NFRAP
OU 4/A	59	73	OU	Chemical Agent Decontamination Solution Disposal Area	Chemical Agent Decontamination Solution		ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓
OU 4/A	60	102	OU	Active Firing Range	Small Arms Munition	Present	ROD/NFA	<1×10 ⁻⁴	RCRA	Q	3	✓
OU 5/B	3	103	OU	Hazardous Waste Storage Facility	Storage Area for Hazardous Waste	1983 to present	ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓
OU 5/D	6	9	OU	Sewage Treatment Plant	Sanitary Waste	1941 to present	ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓
OU 5/F	9	39	OU	Remote Munitions Disassembly GB Bomb Area	Explosives, GB	1950s to 1960s	ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓
OU 5/I	10	104	OU	Former Agent H Storage Area	Agent H	1970s	ROD/NFA	C-NC H-06	RCRA	D	3	✓
OU 5/O	22	105	OU	DRMO Area	Storage Areas Heavy Metals	1960s to present	ROD	<1×10 ⁻⁴ H=1	RCRA	D	6	
OU 5/B	25-1	49	OU	Metal Ore Piles - Location I	Metal Ores	1940s to present	ROD/NFA	<1×10 ⁻⁴	RCRA	C	3	✓
OU 5/E	25-II	49	OU	Metal Ore Piles Location II	Metal Ores	1940s to present	ROD/NFA	<1×10 ⁻⁴	RCRA	C	3	✓
OU 5/B	26	48	OU	Metal Ingot Stockpiles	Metal Ingots	1980 to present	ROD/NFA	<1×10 ⁻⁴	RCRA	C	3	✓
OU 5/O	27	106	OU	Pesticide Storage Building	Storage of Pesticides	1980s to present	ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓
OU 5/Multiple Parcels	29	146	OU	Septic Tanks	Sanitary Rinsewaters	1941 to present	ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓
OU 5/D	30	107	OU	Stormwater Discharge Area	Stormwater	1941 to present	ROD/NFA	<1×10 ⁻⁴	RCRA	C	3	✓
OU 5/M	33	108	OU	Gravel Pit Disposal Area	Suspected GB/VX Disposal	Unknown	ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓
OU 5/E	34	109	OU	Paint Spray and Shot Blast Areas	Paint Overspray and Shot Blasting	1940s to 1970s	ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓
OU 5/B	35	110	OU	Malathion Storage Leak Area	Malathion	Late 1970s	ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓
OU 5/M	36	58	OU	Building 493 Paint Sludge Discharge Area	Paint Sludge	?-1970s	ROD/RA	8E-07 HQ - 9	RCRA	D	6	
OU 5/B	37	60	OU	Building 131 Paint Sludge Discharge Area	Paint Sludge	1950s to 1960s	ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓
OU 5/I	39	2	OU	QA Function Range	Small Arms, Grenades, Mines	1950s to 1980s	ROD/NFA	<1×10 ⁻⁴	RCRA	Q	3	✓
OU 5/O	44-I	114	OU	Road Oil Application Disposal Sites	Road Oil	Unknown	ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓
OU 5/B	44-II	114	OU	Road Oil Application Disposal Sites	Road Oil	Unknown	ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓
OU 5/F	45	115	OU	Buildings 612 and 617 Boiler Discharge Areas	Boiler Discharge	Present	ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓
OU 5/B	46	116	OU	Railcar Unloading Area	Spilled Materials	1940s to 1960s	ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓
OU 5/M	47	117	OU	Boiler/Laundry Effluent Discharge Area	Laundry Effluent	1940s to 1960s	ROD/NFA	<1×10 ⁻⁴	RCRA	D	3	✓

TABLE 3-2. ENVIRONMENTAL RESTORATION SITE/STUDY AREA SUMMARY

Continued

Study Area/OU (Zone/Reuse Parcel)	Site No.	RMIS Site No.	Site Class	Description	Material Disposed Of	Date of Operation	Status	Risk to Human Health and the Environment	Regulatory Mechanism	CERFA Environmental Category*	DoD Environmental Category**	NTRAP
OU 5/D	48	118	OU	Pipe Discharge Area	Sewage Refuse	1940s to 1960s	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 5/I	49	119	OU	Drill and Transfer (DAT) Site	Explosive Residues	1984	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 5/M	50	120	OU	Railroad Landfill Areas	Unknown	1940s to 1970s	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 5/M	52	122	OU	Coyote Discharge Gullies	Explosives Heavy Metals	Mid 1950s to 1965	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 5/Q	53	123	OU	Building 433 Collection Sump/Cistern and Disposal Area	Oil and Grease PCBs/BNAs (Possible) Recommend Investigation of soil for contaminants	1949 to 1988	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 5/M	67	130	OU	Building 493 Brass Cleaning Operations Area	Brass Cleaning Solutions	Mid 1960s to early 1970s	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 5/B	80	143	OU	Disposal Pit and Graded Area	Unknown, Recommend Site Survey	June 1958 to 1968	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 5/B	81-I	144	OU	Former Raw Materials Storage	Storage of Raw Materials	1940s to 1960s	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 5/D	81-II	144	OU	Former Raw Materials Storage	Storage of Raw Materials	1940s to 1960s	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 5/E	82	145	OU	Former Gravel Pit/Disposal Location	Unknown	1949 to present	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 6/M	5	22	OU	Explosive Washout Plant	Explosive Residues	1950-1965	ROD/RD	2x10 ⁻³	RCRA	D	3	✓
OU 7/L	11	34	OU	Active Landfill	Municipal Wastes	1960 to Present	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 8/M&N	12	35	OU	Inactive Landfills	Municipal Wastes	1950s to 1980s	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 9/M&N	12	35	OU	Inactive Landfills (Two Areas Within Northern Active Landfills)	Drums	1950s to 1970s	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 9/B	68	131	OU	Former Unsymmetrical Dimethyl Hydrazine Operations	Unsymmetrical Dimethyl Hydrazine	1963 to 1968	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 9/C	69	132	OU	Area Skunk Works Area	Hydrochloric Acid Cyanide Brass/Copper Cleaning Solutions	1940s to 1968	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 9/M	64	127	OU	Leaking Railcar Shipment Inspection Area	Leaking munitions, pesticides	1940s to mid 1950s	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 9/O	70	133	OU	Wood Preserving Solution Spill Area	Wood Preserving Solution	1960 to 1980	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓

TABLE 3-2. ENVIRONMENTAL RESTORATION SITE/STUDY AREA SUMMARY

Continued

Study Area OU (Zone/Reuse Parcel)	Site No.	RMIS Site No.	Site Class	Description	Material Disposed Of	Date of Operation	Status	Risk to Human Health and the Environment	Regulatory Mechanism	CERFA Environmental Category*	DoD Environmental Category**	NFRAP
OU 9/O	75	138	OU	Battery Acid Collection Sump	Neutralized Battery Acid	1950 to 1970	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 9/O	76	139	OU	Photographic Chemical Solution Disposal Area	Photographic Chemicals	1940 to early 1950s	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 9/O	77	140	OU	Paint Storage and Disposal Area	Paint Disposal	1940 to 1980s	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 9/O	83	147	OU	Leaking Drum Storage Area	MEK, MIBK	1990	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 9 /L	61	124	OU	Open Paint Spray Areas	Paint Overspray	1950 to 1970	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 9/H	62	125	OU	Paint and Solvent Disposal Area	Paint and solvent	early 1980s	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 9/I	65	128	OU	Waste Paint and Solvent Disposal Area	Paint and Solvent	1950 to early 1980s	ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓
OU 9/D	66	129	OU	Brass, Copper, and Steel Storage Area	Storage Area	1950s to 1970s	ROD/NFA	<1x10 ⁻⁴	RCRA	C	3	✓
OU 9/K	79	142	OU	Malathion Spray Area	Malathion	1980			ROD/NFA	D	3	
OU 9/Multiple Parcels	PCB Transformer Locations		OU	Transformers 162, 163, 164, 197, and 198	PCB		ROD/NFA	<1x10 ⁻⁴	RCRA	D	3	✓

Key:

ROD	=	Record of Decision
RA	=	Remedial Action
RD	=	Remedial Design
NFA	=	No Further Action
RCRA	=	Resource Conservation and Recovery Act
OU	=	Operable Unit
CERFA	=	Community Environmental Response Facilitation Act
DoD	=	Department of Defense

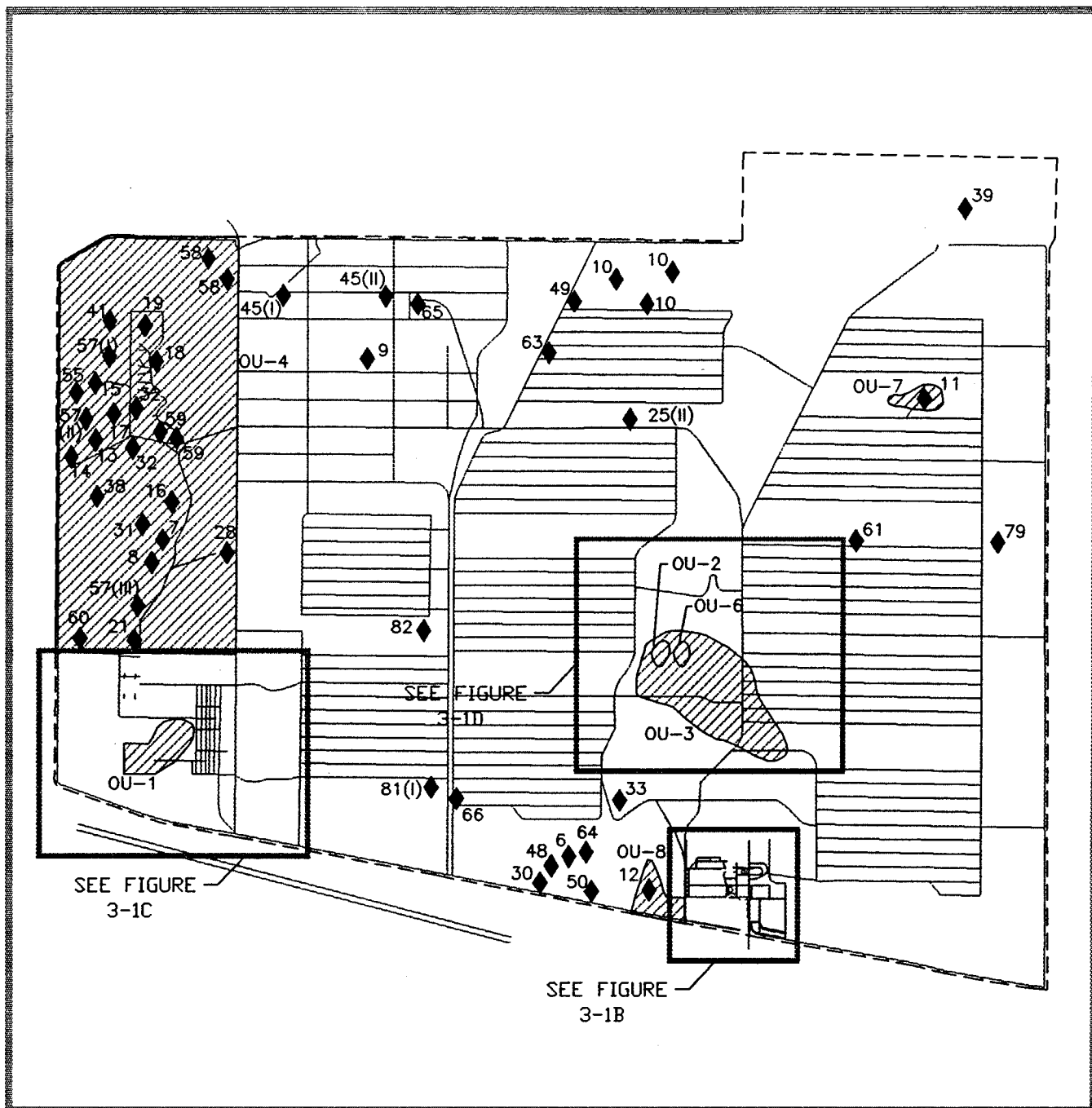
*CERFA Environmental Categories:

C	=	CERFA Clean
E	=	CERFA Excluded
Q	=	CERFA Qualified
D	=	CERFA Disqualified

See Section 3.4.4 for definitions

**See Section 3.4.5 for definitions

This page intentionally left blank.



EXPLANATION

- ◆ Site
- ▨ OUs
- ⊙ OU & Site
- Installation Boundary

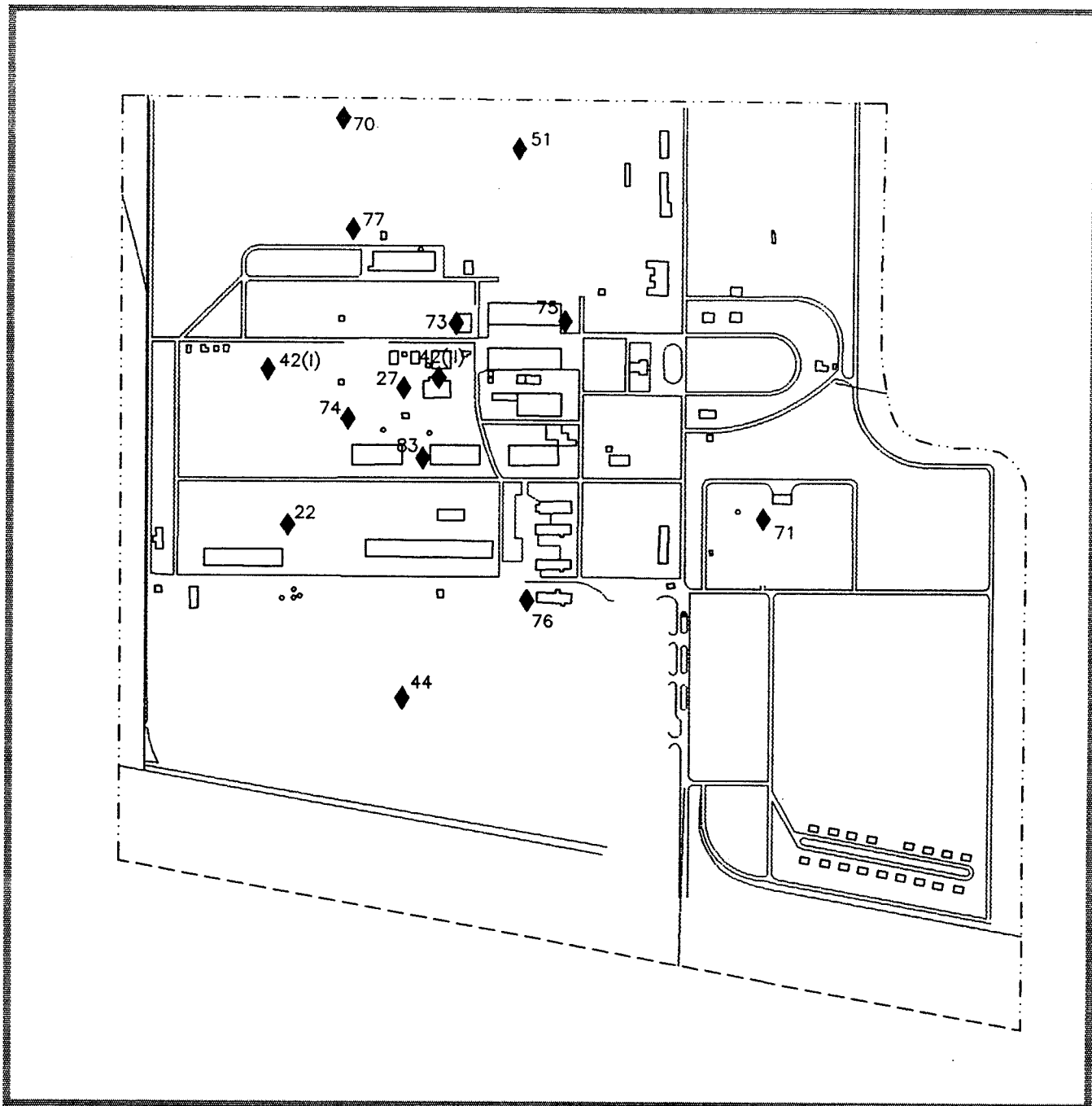
Note: The sites within OU-5 and OU-9 are located throughout the installation.

0 2500 5000
FEET

Sites
and OUs
Currently Under
Investigation

Figure 3-1A

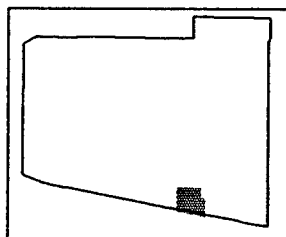
This page intentionally left blank.



EXPLANATION

- ◆ Site
- ▨ OUs
- ⊗ OU & Site
- Installation Boundary
- · - Administration Area Boundary

Note: The sites within OU-5 and OU-9 are located throughout the installation.

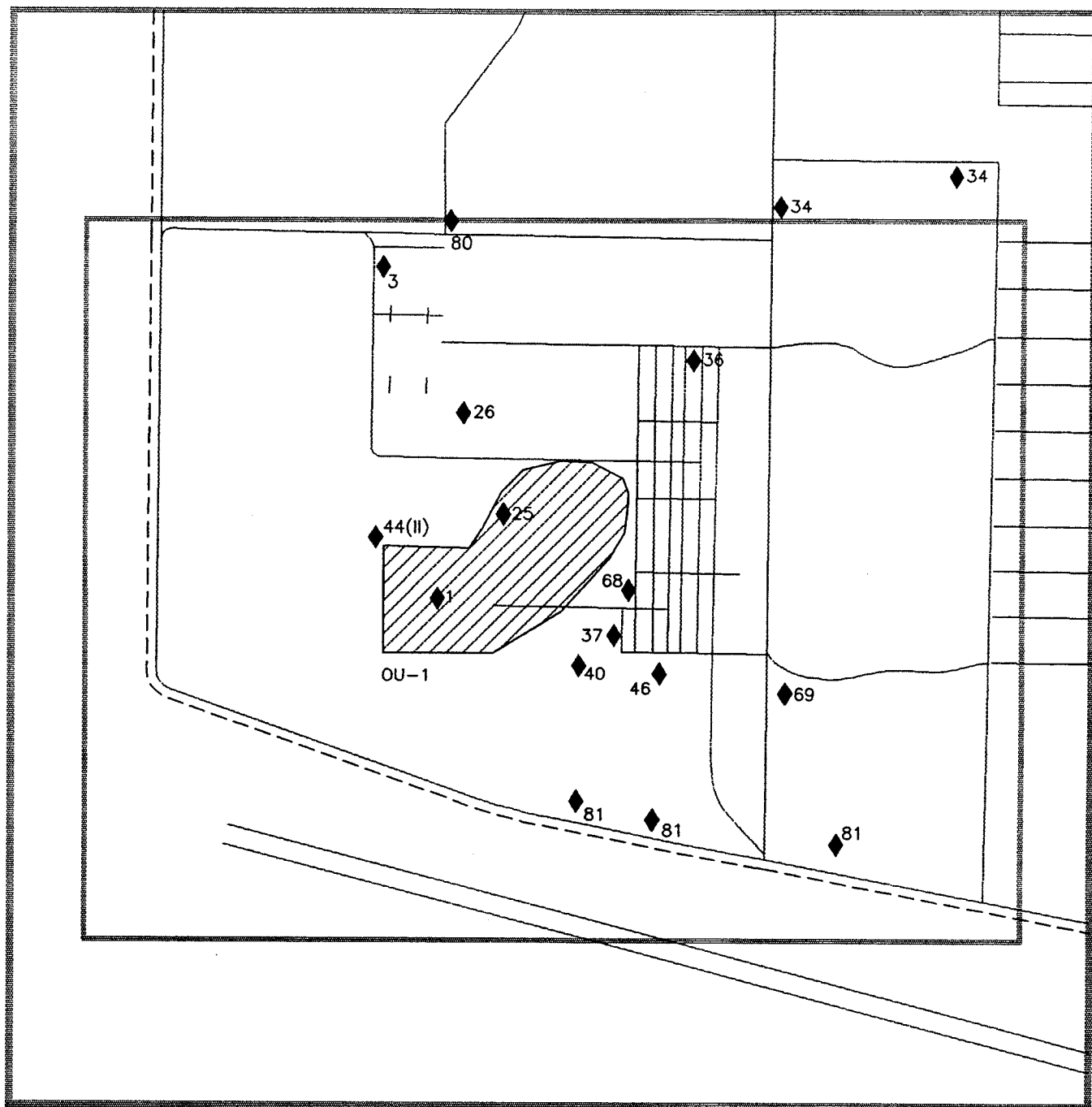


0 300 600
FEET

Sites
and OUs
Currently Under
Investigation
in the
Administration
Area

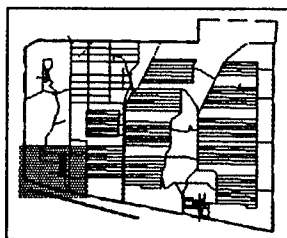
Figure 3-1B

This page intentionally left blank.



EXPLANATION

- ◆ Site
- ▨ OUs
- ◆ OUs
- — — Installation Boundary

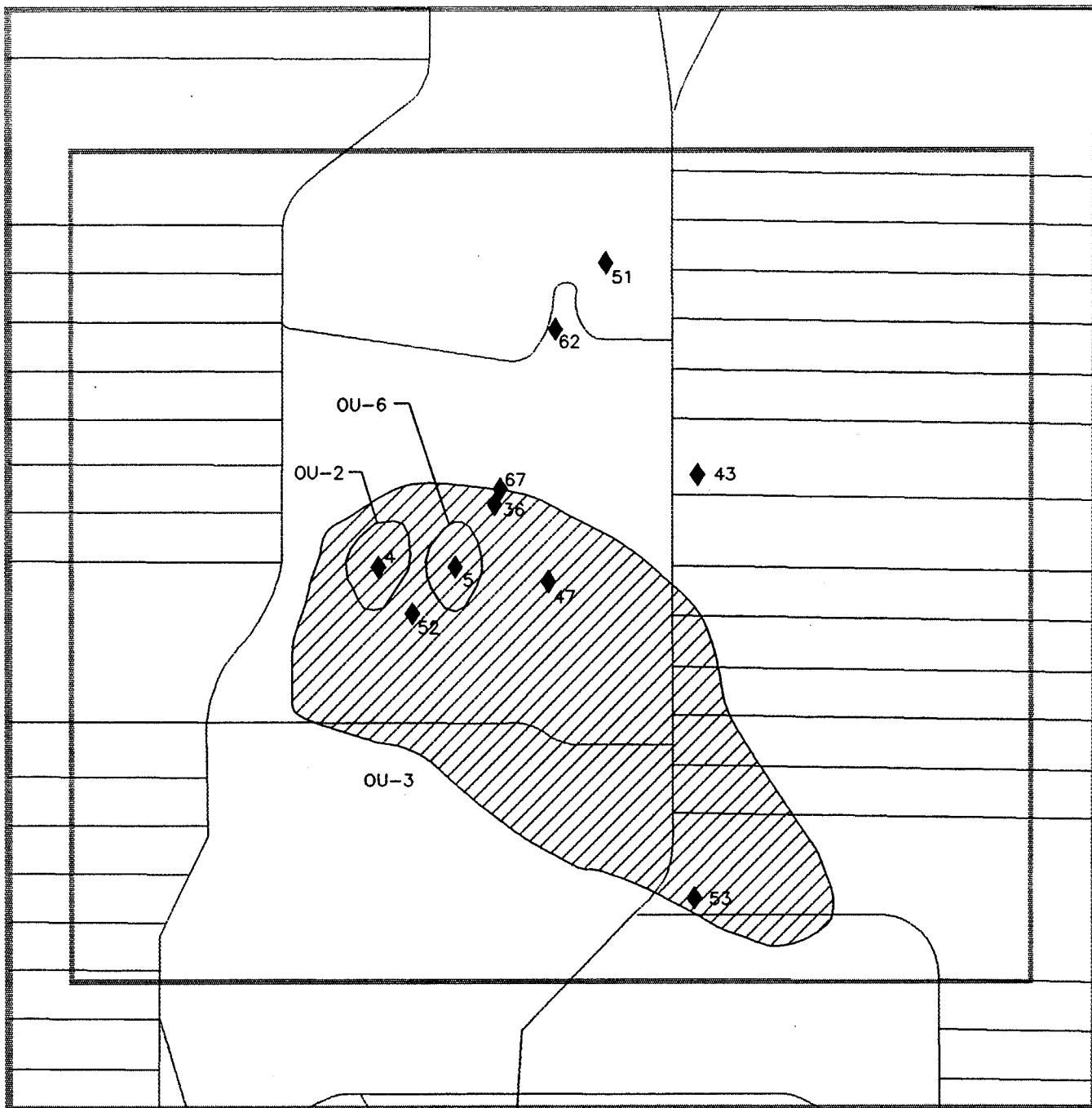


0 175 350
FEET

Sites
and OUs
Currently Under
Investigation
in the
OU 1 Area

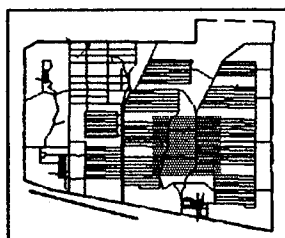
Figure 3-1C

This page intentionally left blank.



EXPLANATION

- ◆ Site
- ▨ OUs
- ◆ OUs & Site



0 700 1400
FEET

Sites
and OUs
Currently Under
Investigation
in the
OU 3 Area

Figure 3-1D

This page intentionally left blank.

3.1.2 Installation-Wide Source Discovery and Assessment Status

A number of installation-wide assessments have been conducted to identify the presence of contamination sources at UMDA. These include the IIA completed in 1978, the RFA completed in 1987, the ENPA completed in 1990, and the RI/FS SRI completed in 1992. The most recent installation-wide investigation conducted at UMDA was a CERFA investigation which was completed in April 1994. Several other installation-wide surveys which are related to environmental compliance programs have also been conducted at UMDA. These include two asbestos surveys and two radon surveys. In total, over 82 sites have been evaluated.

Bottom-up Reviews conducted by the BCT as part of the BCP preparation process have not revealed any additional areas requiring environmental evaluation (AREEs). Should any new AREEs be identified, they will be addressed according to the strategy described in Chapter 4.

3.2 Compliance Program Status

Compliance activities at UMDA are being conducted in coordination with environmental restoration activities under the IRP. General compliance activities address the management of USTs, hazardous substances, asbestos, radon and PCBs. Compliance-related RAs at UMDA include removal of USTs, removal of PCB transformers, removal of friable asbestos, and radon mitigation.

The statutory basis for IRP activities at UMDA is CERCLA. Compliance related management and restoration activities are differentiated from CERCLA actions because they are regulated primarily under other statutes. These statutes include RCRA Subtitles C, D, and I, the Clean Water Act, Clean Air Act, Toxic Substances Control Act, NEPA, and various National Regulatory Commission (NRC) laws and regulations.

Compliance actions at UMDA can be divided into two separate categories, current mission- and operational-related compliance projects, and closure-related compliance projects. Mission- and operational-related projects are those which have been or would be conducted for the normal operation of the installation and are unrelated to activities necessitated by installation realignment under BRAC. Conversely, closure-related compliance projects are those conducted specifically as a result of environmental compliance and restoration activities related to BRAC closure/realignment and property disposal. The various environmental compliance projects at UMDA are identified by mission-related and closure-related compliance categories on Tables 3-3 and 3-4, respectively.

A major element in the UMDA environmental restoration process is the execution of early actions. These early actions provide the means of removing contamination sources and reducing risks posed by releases while at the same time providing critical data for the development of comprehensive conceptual models of sources, migration pathways, and receptors. Early actions can also accelerate the availability of property for economic development. Compliance early actions at UMDA include UST, PCB transformer, and asbestos removal actions and radon screening. These actions are identified in Table 3-5. A more detailed description of the various environmental compliance programs at UMDA is provided in the subsections below.

TABLE 3-3. MISSION/OPERATIONAL-RELATED COMPLIANCE PROJECTS

Project	Status	Regulatory Program
Hazardous Waste Disposal	Ongoing as required. Hazardous materials and SPCC Plan maintained.	SARA Title III and Facilities Management Regulations
Worker Training	Training scheduled.	RCRA, SARA Title III and Facilities Management Regulations
Air Quality Permit	Facility boilers are only units currently permitted. Ammunition demolition in ADA as required under new mission will also require a permit.	State of Oregon Clean Air Quality Act Program
Solid Waste Disposal	Ongoing as required. Solid waste disposed of at offsite landfill.	State of Oregon Solid Waste Disposal Permit Program
Wastewater Discharge Management	Permit may be required for discharge from ammunition demolition in ADA Area as required under new mission.	State of Oregon Pollutant Discharge Elimination System Permit Program

TABLE 3-4. CLOSURE-RELATED COMPLIANCE PROJECTS

Project	Status	Regulatory Program
Depot-wide Asbestos Removal	Friable ACM identified in the asbestos survey removed in fall of 1994.	Clean Air Act/OSHA 29 CFR 1910.1001
Deactivation Furnace Soils OU	Remediation of lead-contaminated soil is ongoing and expected to be completed in FY 95 under IRP.	CERCLA/RCRA
Solid Waste Landfill	No longer excepting solid waste.	RCRA, Subtitle D
Lead-Based Paint	Paint survey of lead-based paint to be conducted in FY 1995.	AR 200-1 and the U.S. Army Policy Memorandum "Lead-based Paint and Asbestos in U.S. Properties affected by Base Closure and Realignment" 15 November 1993
ADA Area OU	Remediation is to begin under IRP once Draft ROD is signed.	CERCLA/RCRA
UST Management	Compliance activities are continuing.	RCRA, Subtitle I
Radon Testing	Completed.	AR 200-1, Chapter 11, U.S. Army Radon Radiation Program

TABLE 3-5. COMPLIANCE EARLY ACTION STATUS

Site	UST No.	Action	Purpose	Status
PCB Transformer Removal		All PCB regulated transformers removed and destroyed in accordance with TSCA	To remove potential PCB contamination sources	Removed and destroyed in accordance with 40 CFR 761
Asbestos Removal		All friable and damaged asbestos removed	To comply with DA Asbestos Regulations	Removed
Radon Mitigation		Conducted radon screening in accordance with the 1990 final USATHAMA SOP	To mitigate radon concentration above the USEPA radon levels in Building 1 and several igloos	Corrective action in accordance with USEPA guidance
Building 2	2	Removed	Tank Inactive	Removed
Building 18	5	Removed	Tank Inactive	Removed
Building 32	7	Removed	Tank Inactive	Removed
Building 38	34	Removed	Tank Inactive	Removed
Building 105	35	Removed	Tank Inactive	Removed
Building 106	36	Removed	Tank Inactive	Removed
Building 115	37	Removed	Tank Inactive	Removed
Building 117	38	Removed	Tank Inactive	Removed
Building 486	39	Removed	Tank Inactive	Removed
Building 130	40	Removed	Tank Inactive	Removed
Airfield	41	Removed	Tank Inactive	Removed
Site 23	44	Removed	Tank Inactive	Removed
Site 24	45	Removed	Tank Inactive	Removed
Building 24	46	Removed	Tank Inactive	Removed
Building 91	47	Removed	Tank Inactive	Removed
Building 135	48	Removed	Tank Inactive	Removed
Building 133	49	Removed	Tank Inactive	Removed
Building 133	50	Removed	Tank Inactive	Removed
Building 104	52	Removed	Tank Inactive	Removed
Building 448	53	Removed	Tank Inactive	Removed
Building 656	54	Removed	Tank Inactive	Removed
Building 617	55	Removed	Tank Inactive	Removed
Building 457	56	Removed	Tank Inactive	Removed
Building 419	57	Removed	Tank Inactive	Removed
Building 53	80	Removed	Tank Inactive	Removed
Building 52	87	Removed	Tank Inactive	Removed
Building 486	92	Removed	Tank Inactive	Removed
Airfield	96	Removed	Tank Inactive	Removed
Near Building 23	102	Removed	Tank Inactive	Removed

UMDA maintains a number of permits, licenses, notifications, and registrations with federal, state, and local agencies under the various installation environmental compliance programs. These include a permit for air emissions, a license for the use of radioactive source alarms, and notifications for UST and hazardous waste generator activities. Most of these permits, licenses, and notifications apply to mission-related operations, which will be discontinued at or before installation closure. However, several permits and licenses, such as air contaminant discharge permits for heating systems may be required by future property owners after property excess and disposal. It should be noted that, in addition to these permits, wastewater and air permits may be required for the future Chem Demil operation at the installation. The various permits and licenses held by UMDA are summarized by environmental compliance program in Table 3-6.

3.2.1 Storage Tanks

USTs and aboveground storage tanks (ASTs) have historically been utilized for the storage of petroleum products at UMDA. Compliance and environmental restoration activities related to these storage tanks are described in this section.

3.2.1.1 USTs. The USEPA has delegated the management of the UST program to the State of Oregon. The state has primary enforcement responsibility and USEPA's approval effectively suspends the applicability to certain federal regulations in favor of the state program, thereby eliminating duplicative requirements. Therefore, UST closure and investigation activities at UMDA are being conducted under the Oregon UST program.

A UST survey was conducted at UMDA in 1993. The investigation consisted of a site visit to each UST, compilation of UST data, collection of registration forms, and collection of installation data such as underground water tables, installation soils data, and UST locations.

Based on the findings of the investigation, a compliance plan was developed for each UST. This plan addresses the actions required, the costs involved, and the compliance dates required to bring each Defense Environmental Restoration Account (DERA)-eligible UST into compliance with the applicable provisions of the regulation. There are currently 36 active and inactive USTs at UMDA. At this time 29 USTs have been removed. Table 3-7 provides a current inventory of the USTs at UMDA.

3.2.1.2 ASTs. AST compliance programs at UMDA are conducted under U.S. Army Regulation (AR) 200-1, federal requirements including 40 CFR Parts 100, 112, and 116 and Oregon oil pollution prevention regulations.

There are currently 38 active ASTs at UMDA. Table 3-8 shows the location, size, and contents of these ASTs. These ASTs are managed in compliance with an installation Spill Prevention Control and Countermeasures (SPCC) Plan and applicable regulations.

3.2.2 Hazardous Substance Management

Activities at UMDA have involved the management of a variety of hazardous substances. These substances include solvents and petroleum products utilized at the motor pool and the battery

**TABLE 3-6. ENVIRONMENTAL COMPLIANCE PERMITS,
LICENSES, NOTIFICATIONS AND REGISTRATIONS**

Compliance Program	Permit/License/Notification/ Registration No.	Description	Issuing Agency	Issue Date	Expiration Date	Comments
Storage Tanks	4767 (Registration #)	Underground Storage Facility Notification for USTs	ODEQ		NA	Notification requires update after change in any UST status.
Hazardous Materials/Waste Management	OR6213820917	Notification of Hazardous Waste Activity	USEPA/ODEQ	July 7, 1980	NA	Subsequent notification required by new owner using existing site-specific USEPA ID No.
NRC Licensing	12-00722-13	For Model M43A1 Chemical Agent Detectors (Army-wide license)	NRC			License for sealed radioactive sources within Chemical Agent Detectors. License to be terminated when sources are no longer required.
Air Emissions	25-0024	Air Contaminant Discharge Permit	ODEQ	Approximately 1974	Current	Sources covered under permit include: deactivation furnace (Site 1), space heating systems, and demilitarization of unserviceable ammunition by open air detonations (Site 16 and Site 32). Furnace has been closed and dismantled and open air detonations and propellant burning activities are not conducted at this time.

Key: NA = Not Applicable
ODEQ = Oregon Department of Environmental Quality
USEPA = U.S. Environmental Protection Agency
NRC = Nuclear Regulatory Commission

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Tank No.	Site No. Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
1	S	Bldg. 1	1945	1,000	DF2	Active	None	Upgrade in FY 95
2	R	Bldg. 2	1945	1,000	DF2	Removed	None	None
3	O	Bldg. 7	1945	1,000	DF2	Active	None	Upgrade in FY 95
4	O	Bldg. 10	1945	1,000	DF2	Active	None	Upgrade in FY 95
5/83	O	Bldg. 18	1945	1,000	DF2	Removed	None	None
6	O	Bldg. 30	1945	1,000	DF2	Active	None	Upgrade in FY 95
7	R	Bldg. 32	1945	1,000	DF2	Removed	None	None
8	R	Bldg. 38	1945	1,000	DF2	Active	None	Upgrade in FY 95
9	M	Bldg. 416	1945	3,000	DF2	Active	None	Upgrade in FY 95
10	M	Bldg. 419	1945	1,002	DF2	Active	None	Removal in FY 95
11	I	Bldg. 612	1945	15,194	HTS	Active	None	Upgrade in FY 95
12	I	Bldg. 617	1945	2,500	DF2	Active	None	Removal in FY 95
13	B	Bldg. 208	1945	1,001	DF2	Active	None	Removal in FY 95
14	F	Bldg. 622	1965	1,000	DF2	Active	None	Removal in FY 95
15	H	Bldg. 654	1982	4,000	DF2	Active	None	Removal in FY 95
16	H	Bldg. 655	1982	6,000	DF2	Active	None	Upgrade in FY 95
17	H	Bldg. 660	1965	10,310	DF2	Active	None	Upgrade in FY 95
18	O	Bldg. 28	1945	15,194	HTS	Active	None	Upgrade in FY 95
19	O	Bldg. 28	1945	8,000	HTS	Active	None	Upgrade in FY 95
20	O	Bldg. 37	1945	10,529	HTS	Active	None	Upgrade in FY 95
21	O	Bldg. 31	1945	15,194	HTS	Active	None	Removal in FY 95
22	O	Bldg. 31	1945	12,088	HTS	Active	None	Removal in FY 95
23	O	Bldg. 31	1945	12,088	HTS	Active	None	Removal in FY 95
24	B	Bldg. 131	1945	15,194	HTS	Active	None	Removal in FY 95
25	L	Bldg. 433	1945	15,194	HTS	Active	None	Removal in FY 95
26	R	Bldg. 15A	1945	675	DF2	Active	None	Upgrade in FY 95
27	R	Bldg. 15B	1945	675	DF2	Active	None	Upgrade in FY 95
28	R	Bldg. 16A	1945	675	DF2	Active	None	Upgrade in FY 95
29	R	Bldg. 16B	1945	675	DF2	Active	None	Upgrade in FY 95
30	R	Bldg. 35	1945	376	DF2	Active	None	Upgrade in FY 95
31	R	Bldg. 55	1945	1,000	DF2	Active	None	Upgrade in FY 95
32	B	Bldg. 116	1945	1,000	DF2	Active	None	Removal in FY 95
33	B	Bldg. 129	1945	1,000	DF2	Active	None	Removal in FY 95
34	R	Bldg. 38	1945	1,000	DF2	Removed	None	None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Tank No.	Site No. Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
35	B	Bldg. 105	1945	1,000	DF2	Removed	None	None
36	B	Bldg. 106	1945	10,310	DF2	Removed	None	None
37	B	Bldg. 115	1945	10,310	HT5	Removed	None	None
38	B	Bldg. 117	1945	10,310	HT5	Removed	None	None
39	M	Bldg. 486	1945	25,049	HT5	Removed	None	None
40	B	Bldg. 130	1945	1,000	DF2	Removed	None	None
41	I	Airfield	1945	10,310	Gasoline	Removed	None	None
42	O	Fuel Yard	1984	50,750	Gasoline	Active	None	Upgrade as necessary
43	O	Fuel Yard	1984	50,750	DF2	Active	None	Upgrade as necessary
44	O	Bldg. 5	1948	500	Waste Oil	Removed	None	None
45	O	Bldg. 9/10	1942	500	Waste Oil	Removed	None	None
46	O	Bldg. 24	1941	140	Gasoline	Removed	None	None
47	B	Bldg. 91/160	1950	110	Gasoline	Removed	None	None
48	B	Bldg. 135	1948	110	Gasoline	Removed	None	None
49	B	Bldg. 133	1946	110	Gasoline	Removed	None	None
50	B	Bldg. 133	1943	110	Gasoline	Removed	None	None
51	O	Bldg. 51	1945	1,000	DF2	Active	None	Upgrade in FY 95
52	B	Bldg. 104	1945	1,000	DF2	Removed	None	None
53	M	Bldg. 448/Wildlife Station	1945	1,000	DF2	Removed	None	None
54	H	Bldg. 656	1984	Unknown	Chemical Decon	Removed	None	None
55	I	Bldg. 617	1985	Unknown	Gasoline or DF2	Removed	None	None
56	E	Bldg. 457	1950	Unknown	Gasoline or DF2	Removed	None	None
57	M	Bldg. 419	1945	Unknown	DF2	Removed	None	None
58/95	H	Bldg. 654	1982	Unknown	Chemical Decon	Active	None	Upgrade in FY 95
59	L	Site 43; Old Fuel Yard	1945	3,000	Gasoline or DF2	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
60	L	Site 43; Old Fuel Yard	1945	3,000	Gasoline or DF2	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Tank No.	Site No. Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
61	L	Site 43; Old Fuel Yard	1945	3,000	Gasoline or DF2	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
62	L	Site 43; Old Fuel Yard	1945	3,000	Gasoline or DF2	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
63	O	Bldg. 27	1980s	500	Battery Acid	Active	Treatment tank	None
64	O	Bldg. 84	Unknown	900	Diesel fuel	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
65	O	Site 42E; Building 6	Unknown	800	Diesel fuel	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
66	O	Site 42E; Building 6	1950s	550	Gasoline	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
67	O	Site 42E; Building 6	1950s	10,000	Gasoline	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
68	O	Site 42E; Building 6	1950s	8,000	Gasoline	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Tank No.	Site No. Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
69	O	Site 42E; Building 6	1950s	25,000	Gasoline	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
70	O	Site 42W; N of 23	1950s	26,000	DF2	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
71	O	Site 42W; N of 23	1950s	11,150	DF2	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
72	O	Site 42W; N of 23	1950s	11,275	DF2	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
73	O	Site 42W; N of 23	1950s	24,950	DF2	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
74	O	Site 42W; N of 23	1950s	5,104	Stove Oil	Inactive	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
75	O	Site 42W; N of 23	1950s	4,011	Stove Oil	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Tank No.	Site No. Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
76	O	SE of 77	1950s	600	Diesel fuel	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
77	O	SW of 77	1950s	800	Light Oil	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
78	O	Bldg. 28	1950s	500	Boiler Blowdown	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; Boiler blowdown area.	None
79	O	Bldg. 54	1950s	1,000	HTS	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
80	O	Bldg. 53	1950s	1,000	HTS	Removed	None	None
81	O	Bldg. 52	1950s	1,000	HTS	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
82	O	Bldg. 36	1950s	800	HTS	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
83	O	Bldg. 18	1950s	1,000	DF2	Not Confirmed	No such tank, according to base personnel	None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Tank No.	Site No. Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
84	O	Bldg. 5	1950s	3,000	DF2	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
85	O	Bldg. 31	1950s	Unknown	Condensation Tank	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
86	R	F24	1950s	3,000	HT5	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
87	O	52/206	1950s	1,000	DF2	Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
88	E	Supply House 3	1950s	500	DF2	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
89	E	Supply House 3	1950s	500	DF2	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
90	E	Supply House 3	1950s	500	DF2	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None

TABLE 3-7. UNDERGROUND STORAGE TANK INVENTORY

Continued

Tank No.	Site No. Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
91	M	--	1950s	250	DF2	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None
92	M	486	1950s	Unknown	Likely DF2	Removed		None
93	M	E of 486	1950s	600	Water	Inactive		Removal in FY 95
94	L	433	1950s	500	Boiler Blowdown	Inactive		Removal in FY 95
95	H	654	1960s	Unknown	Chemical Decon	Active		Upgrade in FY 95
96	I	Airfield	Unknown	Unknown	Water	Removed		None
97	L	433	Unknown	30-59	Unknown (empty)	Inactive		Removal in FY 95
98	M	486	Unknown	Unknown	Unknown (dry)	Inactive		Removal in FY 95
99	B	113	Unknown	Unknown	Unknown	Not Confirmed	No UST confirmed at this location	None
100	O	Bldg. 29	Unknown	Unknown	DF2	Not Confirmed	No UST confirmed at this location	None
101	M	Bldg. 419	Unknown	Unknown	Oil	Not Confirmed	No UST confirmed at this location	None
102	Unknown	Unknown	Unknown	12,000	DF2	Removed		None
Site 74, Oil/Fuel Transfer Station	O	Bldg. 23	Unknown	N/A	Gasoline or DF2	Unconfirmed/ Possibly Removed	No UST confirmed at this location during UST geophysical survey; UST was possibly removed.	None

Key: DF2 = Diesel Fuel #2
 HTS = Heating Oil #5
 Chemical Decon = Chemical Decontamination Solution

TABLE 3-8. ABOVEGROUND STORAGE TANK INVENTORY

Tank No.	Site No. Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
A2-1	S	Building 2		1,000	Diesel	Active	None	None
A5-1	O	Building 5		280	OE 30 Oil	Active	None	None
A5-2	O	Building 5		250	Diesel	Active	None	None
A18-1	O	Building 18		285	Diesel	Active	None	None
A18-2	O	Building 18		285	Diesel	Active	None	None
A24-1	O	Building 24		20	Gasoline	Active	None	None
A24-2	R	Building 24		50	Propane	Active	None	None
A27-1	O	Building 27		500	Propane	Active	None	None
A27-2	O	Building 27		500	Propane	Active	None	None
A28-1	O	Building 28		1,000	Propane	Active	None	None
A37-1	O	Building 37		1,000	Propane	Active	None	None
A52-1	O	Building 52		500	Propane	Active	None	None
A58-1	O	Building 58		285	Diesel	Active	None	None
A419-1	M	Building 419		1,000	Propane	Active	None	None
A422-1	M	Building 422		285	Diesel	Active	None	None
A433-1	L	Building 433		500	Propane	Active	None	None
A612-1	G	Building 612		500	Propane	Active	None	None
A621-1	A	Building 621		500	Propane	Active	None	None
A653-1	H	Building 653		285	Diesel	Active	None	None
APY-1	O	POL Yard		500	Propane	Active	None	None
APY-2	O	POL Yard		1,000	Propane	Active	None	None
A501-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A502-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A503-1	R	5th Avenue Housing		285	Diesel	Active	None	None

TABLE 3-8. ABOVEGROUND STORAGE TANK INVENTORY

Continued

Tank No.	Site No. Reuse Parcel	Location	Year Installed	Capacity (Gallons)	Substance Stored	Status	Comments	Future Actions
A504-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A505-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A506-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A507-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A508-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A509-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A510-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A511-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A512-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A513-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A514-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A515-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A516-1	R	5th Avenue Housing		285	Diesel	Active	None	None
A517-1	R	5th Avenue Housing		285	Diesel	Active	None	None

acid at the Battery Recharging Building, pesticides stored and handled around Building 8, and paints and solvents used in paint shops. Small amounts of other miscellaneous hazardous substances such as boiler treatment chemicals, groundskeeping chemicals, and janitorial supplies have also been utilized at the installation. Red fuming nitric acid, aniline, explosives, propellants, solvents and paints were also used in munitions renovation operations at the Depot.

Hazardous substances currently present at UMDA are managed in compliance with federal requirements outlined in the Emergency Planning and Community Right-to-Know Act (EPCRA), Executive Order 12385, the SPCC requirements in 40 CFR Parts 110 and 112, ODEQ regulations, AR 200-1 and other applicable federal, state, and local regulations.

Hazardous substance surveys of the installation were completed during EnPA and CERFA investigations. There are no extremely hazardous substances as specified in the SARA, Title II, Section 302 present at the installation. UMDA does not maintain or utilize sufficient quantities of hazardous chemicals to require reporting under SARA Title III, Section 312 (Tier reporting), or SARA Title III, Section 313 (Toxic Chemical Release Form R reporting). Obsolete M-55 rockets that have been declared hazardous waste by the U.S. Army. These obsolete munitions will be disposed of properly when the U.S. Army has determined the proper detonation or destruction procedures.

The installation maintains Material Safety Data Sheets (MSDSs) as required by Occupational Safety and Health Administration (OSHA) for all hazardous chemicals on the installation, and spill response equipment is present at UMDA. Hazardous substances notifications have been submitted to local emergency response agencies and spill response has been coordinated with the UMDA Fire Department located on the installation.

Pesticide storage and handling at UMDA is conducted in compliance with TSCA regulations. Storage facilities with secondary containment are utilized, and washwaters are collected and properly disposed by an off-site vendor.

Use and storage of hazardous substances has significantly decreased since munition renovation was discontinued and the Depot has undergone realignment and tenant activities have been discontinued. UMDA has an ongoing close-out survey program established for installation facilities being vacated by U.S. Army components and tenants. Hazardous substances found abandoned during these close-out surveys are identified and arrangements are made for the proper disposal of the substances in compliance with regulatory requirements.

3.2.3 Hazardous Waste Management

Hazardous waste compliance programs at UMDA are conducted under AR 200-1, the federal requirements found in 40 CFR 260 through 269, 40 CFR 117, 49 CFR 171 et seq., DOT regulations, and Oregon Administrative Rules, Chapter 340, Division 100-120.

UMDA finalized an installation Hazardous Waste Management Plan in September 1992. There are currently four hazardous waste accumulation points and one RCRA Part B permitted storage facility, which is Building 203 located at UMDA. Accumulation points at the installation consist

of 55-gallon drums used to store various associated hazardous wastes. Storage at the accumulation points is temporary and does not exceed 90 days from the time the waste begins to accumulate. Once full, the drums are transported to Building 203. Hazardous waste is transported off-site by a licensed hazardous waste hauler and disposed of in a licensed hazardous waste facility.

Routine historical operations involving the handling of hazardous substances and wastes at UMDA has resulted in some localized soil and groundwater contamination. This contamination is being fully addressed through the installation environmental restoration program. In general, waste generated from IRP associated activities and other on-site contractor operations is removed and properly disposed via the contractor's own subcontracted waste hauler. Solidified soil contaminated with heavy metals is placed in the active landfill at UMDA. This landfill no longer accepts solid waste.

3.2.4 Solid Waste Management

Solid waste management compliance programs at UMDA are conducted under AR 200-1 and 420-47, and the federal requirements found in 40 CFR 240-246 and 40 CFR 257-258, DOT regulations and State of Oregon solid waste laws and regulations.

Solid waste generated by UMDA is currently transported off-post for disposal at a local landfill. The existing Depot active landfill (Site 11) is receiving only treated soils from on-going remedial activities associated with the Deactivation Furnace Soils (OU 1). The landfill will continue to accept the treated soils until the remediation activities at the OUs are complete.

Five inactive landfills (OU 8) are located on the Depot. A "No Action" ROD has been signed for the inactive landfills OU.

3.2.5 Polychlorinated Biphenyls (PCBs)

PCB management compliance programs at UMDA are conducted under AR 200-1 and the federal requirements found in 40 CFR 761, DOT regulations, and State of Oregon PCB regulations.

All transformers and capacitors currently in service at UMDA contain less than 50 parts per million (ppm) PCBs. An installation-wide remedial program was initiated in 1989 to remove or retrofit all PCB transformers or PCB-contaminated transformers and capacitors. A total of 66 transformers have been removed and disposed of off-post in accordance with regulatory requirements. Transformers were stored in Building 70 prior to being shipped off-site. Of the 66 transformers removed from the Depot, 50 have been replaced by new units containing less than 50 ppm PCBs.

Under the DD for OU 9, soil in the sump at the concrete vault at transformer location no. 229, which contained 3.8 ppm of PCB 1260, will be cleaned out and disposed of as a removal action. This PCB level does not exceed USEPA's cleanup criterion. The small amount of contaminated

soil will be removed as a feasible and cost-effective means to comply with the State of Oregon's background level rule.

3.2.6 Asbestos

Asbestos-containing material (ACM) is regulated by USEPA, OSHA, and the State of Oregon. Asbestos at UMDA is also being managed in compliance with the U.S. Army guidance "Lead-Based Paint and Asbestos in U.S. Army Properties Affected by Base Realignment and Closure."

An Asbestos Identification Survey was performed in 1988, by the Walla Walla District of the USACE. Approximately 200 buildings were surveyed. The building survey report details building data, recommendations, cost estimates for recommended actions, and a hazard ranking of perceived asbestos hazards. Following this survey, asbestos removal was conducted in some buildings.

A Preliminary Asbestos Survey for the installation was conducted in 1990, with the final Asbestos Assessment Survey Report being completed in 1992. This second survey was completed to support of the BRAC program of UMDA. During this survey, 285 buildings were surveyed, 121 were found to contain asbestos, and asbestos removal was recommended for 58 buildings. The survey did not include the storage igloos in Blocks A through K. Asbestos abatement for the 58 buildings was completed in 1994.

3.2.7 Radon

The radon reduction program at UMDA is conducted under AR 200-1, Chapter 11, U.S. Army Radon Reduction Program.

Radon screening at UMDA took place in two phases. Phase I was a 12-month survey conducted in 1991 and Phase II was a 90-day survey conducted in 1992-1993. The 1991 radon survey, as conducted, was considered to be limited in scope and therefore, was a screening tool rather than a comprehensive survey. The results of the 1991 radon survey are as follows: 120 buildings had no radon gas concentrations exceeding the detection limit of 0.5 picoCuries per liter (pCi/L); radon gas concentrations in 38 buildings ranged from 0.6 to 1.8 pCi/L (less than the USEPA-recommended value of 4.0 pCi/L); and Buildings 1 and 5 tested equal to or greater than the USEPA-recommended level of 4.0 pCi/L. No sampling results were available for Buildings 131, 131-A1, 135, 431, and 605.

The 1993 radon survey was conducted to provide follow-up screening and to provide the following additional tasks in 97 UMDA buildings and structures; re-survey Buildings 122, 130, 131, 131-A1, 135, 409, 415, 431, and 605; re-survey Building 1 basement; survey 10 percent of Blocks A through H, and J storage igloos; resurvey Building 489 and 619; and conduct a survey of Buildings 653, 654, 655, and 656 of K Block. A total of 97 separate buildings or structures were sampled during the 1993 survey including five buildings which were surveyed in 1991. The results of the 1993 radon survey are as follows: 97 buildings were screened; Building 656 had no radon concentrations exceeding the detection limit of 0.5 pCi/L; 84 buildings had detections ranging between 0.5 to 3.8 pCi/L; and seven igloos had radon

concentrations greater than 4.0 pCi/L. The results of the five buildings that had been resurveyed during this 1993 survey are as follows: the mail room of Building 1 had a 9.8 pCi/L level; and Buildings 122, 130, 409, and 415 all had radon concentrations between <0.5 to 1.1 pCi/L.

To date, no mitigation for the seven igloos with readings above 4.0 pCi/L has been implemented. The strategies for addressing radon in these structures is described in Section 4.2.7.

3.2.8 RCRA Facilities (SWMUs)

RCRA facilities and SWMUs at UMDA are managed under the installation hazardous waste management program in accordance with AR 200-1, Chapter 6, DoD Directives, RCRA Subtitle C; and State of Oregon hazardous waste regulations.

A RFA was conducted at UMDA in June 1987. The RFA identified 30 SWMUs. Five of the SWMUs were investigated as OUs in the installation RI and have RODs associated with them: the Deactivation Furnace (SWMU #1 or Site 1, OU 1), the Active Landfill (SWMU #11 or Site 11, OU 7), the Inactive Landfills (SWMU #12 or Site 12, OU 8), the Explosives Washout Lagoons (SWMU #4 or Site 4, OU 2), and the Explosive Washout Plant (SWMU #5 or Site 5, OU 6). Seventeen SWMUs are part of two other OUs investigated during the RI at UMDA: the ADA Area (OU 4) and the Miscellaneous Sites (OU 5) and are included in the associated OU RODs. The remaining eight SWMUs were studied under the installation RI and the SRI and were determined to have no risk. Remedial activities have been completed at the Deactivation Furnace OU and are underway at the Explosives Washout Lagoons Soils OU. Remedial activities are scheduled to begin in July 1995 at the Explosive Washout Plant OU, the ADA Area OU, at the Miscellaneous Sites OU, and the Explosive Washout Lagoon Groundwater OU.

Currently, Building 203 is operating as a RCRA Part B permitted storage facility. The Open Detonation Pits (Site 16) and the Open Burning Trays (Site 32 I and II) are thermal treatment units as defined by RCRA. These sites were operating under RCRA Part B interim status during the Depot's realignment. They are no longer operational. The chemical agent deactivation incinerator will be part of UMDA's new mission when it is constructed and will require a RCRA Part B Subpart X permit. USEPA Region X and the State of Oregon are reviewing a RCRA Part B application that has been submitted for the planned incinerator.

3.2.9 Wastewater Discharges

Wastewater discharges from UMDA consist of sanitary wastewater discharged to a tile leaching field. This discharge does not require an NPDES permit. UMDA does not have any NPDES permits for any former industrial wastewater discharges to the tile leaching field, the Explosives Washout Lagoons or other discharges associated with its previous missions.

3.2.10 Oil/Water Separators

There is one oil/water separator at UMDA. The separator formerly collected rinsewater from two vehicle wash racks at Building 5 and discharged the rinsewater to the Depot's tile leaching field. The oil collection sump is pumped out by a contractor and disposed of off-site. This oil/water separator is managed under the installation's SPCC program, in accordance with applicable federal regulations including Section 313(a) of the Clean Water Act and regulations 40 CFR Parts 110, 112, and 122. This oil/water separator is currently non-operational and there are no plans to repair the unit.

3.2.11 Pollution Prevention

Pollution prevention at UMDA is managed through the installation hazardous waste management program in accordance with AR 200-1, Chapter 6, and applicable federal and state regulatory requirements. UMDA recycles used oil and batteries. Solid waste, including cans, cardboard, and white paper are also recycled.

3.2.12 NRC Licensing

There is a U.S. Army-wide NRC Materials License, Number 12-00722-13, for Model M43A1 Chemical Agent Detectors used in the detection of aerosols and gases associated with chemical munitions. UMDA is included in this license under the docket or reference number 030-21073, Amendment No. 14. There are approximately 50 of these detectors or alarms at UMDA. The chemical agent detectors contain Americium-241 in a sealed cell. No alarm exceeds 300 microcuries or 25 curies total. These alarms are stored in Building 656 and used to inspect the K Block igloos where the chemical agents are stored. The alarms are stored and used in compliance with NRC license requirements.

3.2.13 Mixed Waste

There is no mixed waste generated at UMDA.

3.2.14 Radiation

There is no radioactive waste generated at UMDA. Radioactive source materials at UMDA are limited to 50 chemical agent detectors stored in Building 656 (see Section 3.2.12).

3.2.15 Lead-based Paint

The UMDA lead-based paint management program is conducted in accordance with U.S. Department of Housing and Urban Development (HUD) guidelines for lead-based paint protection and the DA guidance "Lead-based Paint and Asbestos in U.S. Army Properties Affected by Base Realignment and Closure", dated June 1993.

A lead-based paint survey at UMDA is currently planned for FY 1995. In lieu of quantitative data for the CERFA investigation, lead-based paint was assumed to be present in all Depot

buildings constructed prior to 1978. Based on this age-based analysis, 184 buildings were determined to contain lead-based paint. The 1,001 igloos at UMDA are not painted.

3.2.16 Medical Waste

A small quantity of medical waste is generated at the UMDA Occupational Health Clinic. This waste is containerized and transferred to Fort Lewis, Washington where the medical unit is headquartered for handling and disposal. No medical waste has been landfilled at UMDA.

3.2.17 Unexploded Ordnance (UXO)

The ADA Area and the QA Function Range have been identified as the only locations where UXO may be present on UMDA. The ADA Area is a 1,716-acre area in the northwest corner of the Depot and the QA Function Range is in the northeast corner of the Depot. These areas were identified as possible UXO areas in the ENPA, RI/FS, and CERFA investigations.

3.2.18 NEPA

UMDA was included in the Final BRAC Realignment and Closure EIS, dated August 1991, for Fort Wingate Depot Activity, Navajo Depot Activity, and Hawthorne Army Ammunition Plant. The Disposal/Reuse EIS for the installation will be initiated by the U.S. Army Materiel Command during Fiscal Year 1995.

3.2.19 Air Emissions

UMDA operated the small arms deactivation furnace (Site 1, OU 1), the open detonation pits (Site 1, OU 4) and the open burning trays (Site 32, OU 4) under Oregon's Air Contaminant Discharge Permit Number 25-0024. This permit also covers three residual oil boilers greater than 750,000 British Thermal Units (BTU) per hour and fifty smaller boilers of less than 750,000 BTU per hour. At this time, only the boilers are covered under this permit, because the small arms deactivation furnace has been dismantled and the open burning detonation pits and open burning trays are no longer operational. The boilers are operated in compliance with permit requirements.

3.3 Status of Natural and Cultural Resource Programs

This section describes the current status of the natural and cultural resource program established at UMDA including identification and management of vegetation, wildlife, wetlands, and other preservation areas; rare, threatened and endangered species; and cultural resources. Natural and cultural resources at UMDA are managed in accordance with AR 420-74 and 420-40, DoD Directive 4700.4 and 4710.1, and applicable federal and state regulations and statutes.

3.3.1 Vegetation

The vegetation present at UMDA was documented in an ecological assessment report, which was part of the baseline risk assessment for UMDA. The majority of the installation with the

exception of the Administration Area has naturally occurring grass vegetation. The predominant vegetation at the Depot is drought-adapted steppe and shrub-steppe types, mainly sagebrush and bunchgrass communities, of the Upper Sonoran Biotic Zone. Approximately 95 percent of the Depot has these drought-adapted species. The native plant community on the western half of the Depot includes needle and thread grass, Sandberg bluegrass, antelope bitterbrush, big sagebrush and other perennial forbs and grasses. On the eastern portion of the Depot, many of the same native plant communities are found, including needle and thread grass, antelope bitterbrush, sagebrush and Sandberg bluegrass. Bluebunch wheatgrass, grey rabbitbrush and Indian ricegrass are found in smaller numbers.

There are six distinct stands of Bitterbrush (*Purshia tridentate*) on the Depot. This species is of significant interest because it has all but disappeared from the semi-arid region in which the Depot is located, due to the intensive agricultural use of the surrounding land. Russian thistle and cheatgrass are introduced species which are found in smaller numbers on the Depot.

The vegetation within the Administration Area is composed of ornamentals which are manicured and maintained. There is no vegetation management beyond the Administration Area, with the exception of a pronghorn antelope grazing program associated with an antelope herd maintenance plan. The antelope herd, managed by the Oregon Department of the Fish and Wildlife, graze over the entire Depot except the Administrative Area and the ADA Area.

3.3.2 *Wildlife*

The wildlife present at UMDA was documented in an ecological assessment report, which was part of the baseline risk assessment conducted for UMDA. Wildlife occurring at the Depot includes numerous species associated with grassland and shrub-steppe environments including several that are listed as sensitive as defined by state and federal governments. These species are described in Section 3.3.5. Pronghorn antelope which were introduced to the confines of the Depot in 1969, are often seen roaming the area. Other mammals which are common to the region include the badger, black-tailed jackrabbit, coyote, Washington ground squirrel, pocket gopher, and several species of small rodents.

The Depot also includes a representative portion of bird species found in the region. Many make use of the installation as year-round residents and others as spring and summer residents and migratory visitors. Because of the lack of surface water on the Depot (there are no lakes or streams) no water fowl are found on the installation property.

UMDA has no wildlife management plan. The Oregon Department of Fish and Wildlife manages the antelope herd at the Depot. The management includes control of the herd so that the antelope are excluded from the Administration Area and the ADA Area.

3.3.3 *Wetlands and Floodplains*

There are no wetlands or floodplains on UMDA.

3.3.4 Designated Preservation Areas

UMDA is not located on any formally designated preservation areas, although the Depot is located on the historic lands of the Umatilla Indians. The Cayuse Indians held territory to the east of the Depot as well, and both tribes made trips over the lands of the Depot area for hunting and gathering.

3.3.5 Rare, Threatened and Endangered Species

There are no threatened or endangered plant species currently recorded as being on or near the Depot. Laurence's milk-vetch (*Astragalus collinus 'laurentii'*) is found in the vicinity, but has not been documented for the Depot area. This is a species which is expected to be listed on the federal endangered species list in the near future.

During the Ecological Assessment conducted during 1992, six state-listed and one federally-listed sensitive bird species were observed. A sensitive species is one that has the potential of becoming threatened if specific habitats are not preserved. Swainson's hawk, the long-billed curlew, the burrowing owl, grasshopper sparrow, Lewis' woodpecker, and the bobolink are listed as state sensitive species, and the loggerhead shrike appears on the federal sensitive bird species list.

There is no formal management plan for the wildlife on the Depot. The current mission at UMDA is static storage of chemical munitions. Currently, there are no demolitions of expired ordnance or burning of excess propellant occurring or other operations which could impact wildlife on the property. Wildlife management will be addressed in the EIS for the Chem Demil facility prior to this facility becoming operational.

3.3.6 Cultural Resources

Cultural resources consist of prehistoric and historic sites, structures, districts, artifacts, or any other physical evidence of human activity considered important to a culture or community.

3.3.6.1 Historical Resources. Much of the UMDA regional historical and archaeological significance dates back to various Indian tribes that resided in the area, and to the early passage of settlers along the Oregon Trail. During the early 1800s, the first recorded history of the area (documented by Lewis and Clark) notes that the land was being used by Cayuse and Umatilla Indians. Historically, Indian use of the lands in the Depot area was characterized by fishing, hunting, and foraging for food. Hunting for deer, elk and other game took place throughout the region. Salmon fishing occurred on all major rivers and streams in the area.

No known traditional Indian village or sites are located at UMDA. Nevertheless, the Confederated Tribes of the Umatilla Indian Reservation are very interested in any reuse of the Depot. They are concerned with the protection and conservation of Indian and non-Indian cultural resources which may be located within the area and would like to be updated on the process of protection and conservation. A primary concern is the protection of traditional use

areas and resources such as fishing areas, hunting areas, root digging areas, berry picking areas, campgrounds and other resource use areas.

In 1984 a historic American Building Survey of the Depot was conducted. No highly significant or significant buildings were noted, but two minimally significant buildings were identified. They were the headquarters building (Building 1) and the firehouse (Building 2), both of which are located on Cedar Street past the main entrance of the Depot. The State Historic Preservation Office (SHPO), after a review of the Depot area, declared these two buildings eligible for inclusion on the National Register of Historic Places (NRHP) in 1988.

3.3.6.2 Archeological Resources. There are two potentially identifiable, but not presently recorded, archaeological resources at UMDA. A limited archaeological survey in 1987 identified one historic archaeological resource and one potential prehistoric site. According to the report, the historic archaeological site is possibly associated with the Oregon Trail, as indicated from 1861 and 1875 U.S. General Land Survey plates showing an "Old Emigrant Wagon Road" crossing the northeastern corner of UMDA. An analysis of 1993 aerial photography appears to confirm the location of the trail. The potential prehistoric site is located on the west rim of Coyote Coulee. The presence of the site is identified by isolated lithic flake tools scattered on the ground surface. The report concluded that the artifacts were used in conjunction with hunting at this location.

Buildings 1 and 2 are maintained for their current use as the Depot's headquarters building and the Firehouse. These buildings will continue to be utilized in their current capacity. The management plan for the archaeological sites involves monitoring of activities conducted near the archaeological sites so that these activities do not interfere with the integrity of the sites.

3.3.7 Other Resources

There are no other resources that were identified at UMDA.

3.4 Environmental Condition of Property

In October 1992, Public Law 102-426, CERFA amended Section 120(h) of CERCLA and established new requirements with respect to contamination assessment, cleanup, and regulatory agency notification/concurrence for federal facility closures. CERFA requires the federal government, before termination of federal activities on real property owned, to identify property where no hazardous substances were stored, released, or disposed of. These requirements retroactively affect the U.S. Army BRAC 88 and BRAC 91 environmental restoration activities, and are being implemented at BRAC 93 sites concurrently with their ENPAs. The primary CERFA objective is for federal agencies to identify real property offering the greatest opportunity for immediate reuse and redevelopment. Although CERFA does not mandate the U.S. Army transfer real property so identified, the first step in satisfying the objective is the requirement to identify real property where no CERCLA-regulated hazardous substances or petroleum products were stored, released, or disposed.

The U.S. Army has completed an investigation to identify the environmental condition of property at UMDA in compliance with CERFA. The final report was released in April 1994. CERFA investigations included the following assessment procedures:

- ▶ A review of historical installation records;
- ▶ Interviews with current and past installation employees; and
- ▶ Visual inspection of the installation.

During the CERFA investigation process, evidence was gathered that screened installation property into four categories, or parcel types. These categories are CERFA parcels, CERFA parcels with qualifiers, CERFA disqualified parcels, and CERFA excluded parcels as defined below.

An environmental condition of property map provided as Figures 3-2A and 3-2B identifies property at the installation based on the four CERFA parcel categories. The parcels are delineated using a 1-acre square grid for boundary definition. Where CERFA disqualified parcels and CERFA parcels with qualifiers have coincided, the overlapped area has been designated CERFA disqualified.

The USEPA Region X and ODEQ have reviewed the CERFA Report for the installation and USEPA Region X has concurred with the following CERFA parcels: 1P, 75P, 76P, 77P, 80P, 83P, 87P, and 90P. These parcels are all the clean parcels identified on Figure 3-2. Additionally, in its final CERFA Report, the U.S. Army identified property on which buildings containing asbestos and lead-based paint may be present. These properties are designated as CERFA Parcels with Qualifiers.

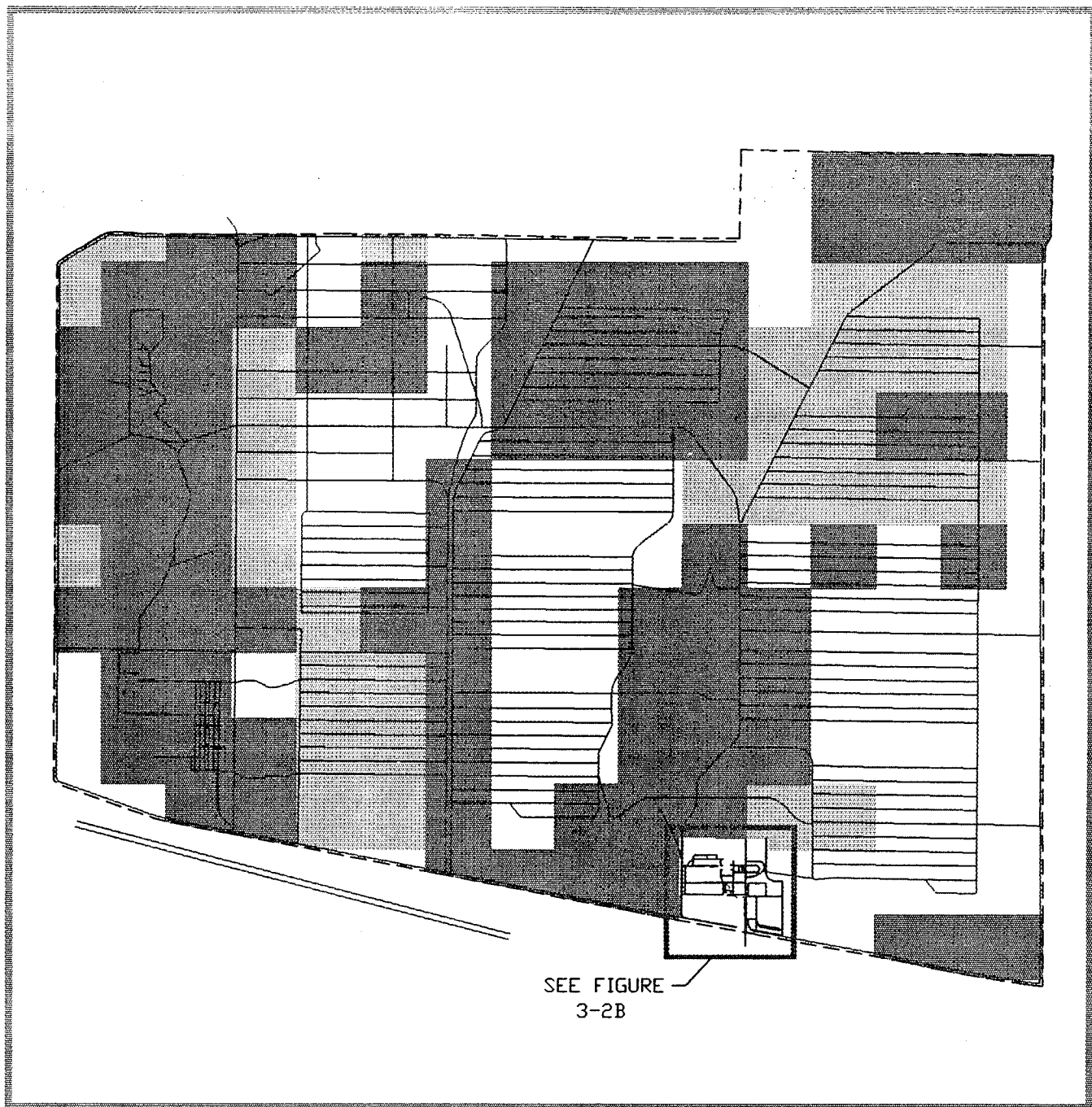
The U.S. Army has not sought USEPA's concurrence on these parcels under Section 120(h)(4) of CERCLA, 42 U.S.C. §9620(h)(4). Pursuant to CERCLA Sections 104 and 120 and USEPA policy, it may be possible to designate these parcels as uncontaminated property.

The U.S. Army may request USEPA concurrence on these parcels in the future, if the lead-based paint and the asbestos are part of the building structure and if there is no evidence that storage, disposal and/or release of lead-based paint or asbestos occurred or is occurring into the environment.

The following subsections provide a detailed description of each of the four categories description of each of the four categories used to classify property in the Environmental Condition of Property Map.

3.4.1 CERFA Parcels

CERFA parcels are those portions of the installation real property for which investigation reveals no evidence of storage for one year or more, release, or disposal of CERCLA hazardous substances, petroleum, or petroleum derivatives, and no evidence of being threatened by migration of such substances. CERFA parcels also include any portion of the installation which



EXPLANATION

- Installation Boundary
-  CERFA Parcel
-  CERFA Parcel with Qualifier(s)
-  CERFA Disqualified Parcel
-  CERFA Excluded Parcel

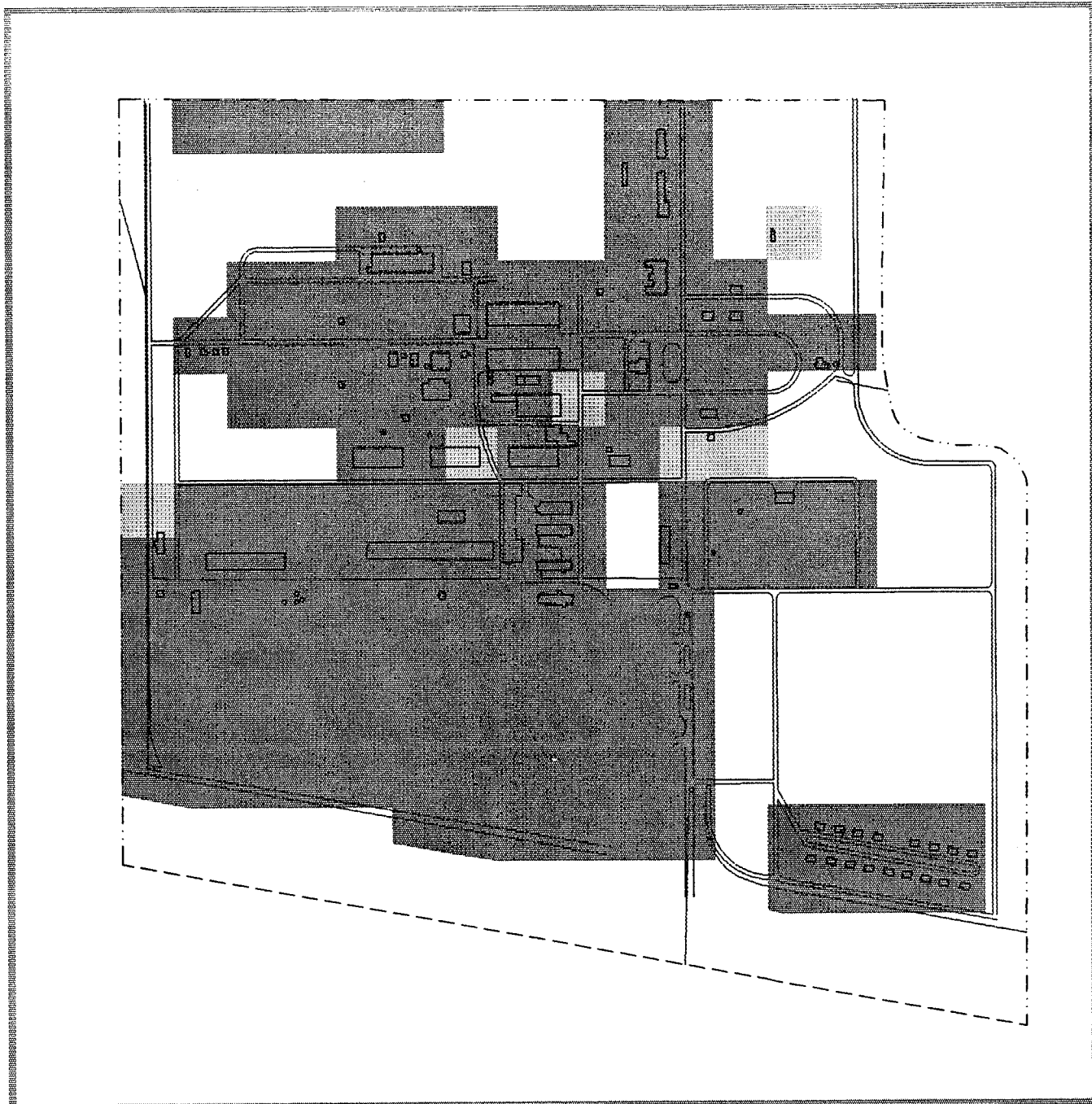


0 2500 5000
FEET

Environmental
Condition
of Property

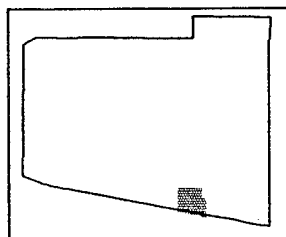
Figure 3-2A

This page intentionally left blank.



EXPLANATION

- Installation Boundary
- Administration Area Boundary
-  CERFA Parcel
-  CERFA Parcel with Qualifier(s)
-  CERFA Disqualified Parcel
-  CERFA Excluded Parcel



0 300 600
FEET

Environmental
Condition
of Property
in the
Administration
Area

Figure 3-2B

This page intentionally left blank.

once contained non-CERCLA hazards, including asbestos, UXO, lead-based paint, and radionuclides, but has since been fully remediated.

3.4.2 CERFA Parcels with Qualifiers

CERFA parcels with qualifiers are those portions of the installation real property for which investigation reveals no evidence of storage for one year or more, release, or disposal of CERCLA hazardous substances, petroleum, or petroleum derivatives, and no evidence of being threatened by migration of such substances. Parcels with qualifiers, however, contain non-CERCLA related hazards including the presence of asbestos, UXO, lead-based paint, radionuclides, radon, or stored (not in use) PCB containing equipment.

3.4.3 CERFA Disqualified Parcels

CERFA disqualified parcels are those portions of the installation real property for which there is evidence of CERCLA hazardous substances, petroleum, or petroleum derivative storage for one year, release or disposal, or threatened by such release or disposal. CERFA disqualified parcels also include any portion of the installation containing a PCB release or disposal, any explosive ordnance disposal locations, any storage sites of chemical ordnance, and any areas in which CERCLA hazardous substances or petroleum products have been released or disposed and subsequently fully remediated.

3.4.4 CERFA Excluded Parcels

CERFA excluded parcels are those portions of the installation real property retained by the DoD, and therefore not explicitly investigated for CERFA. CERFA excluded parcels also include any portions of the installation which have already been transferred by deed to a party outside the federal government, or by transfer assembly to another federal agency.

3.4.5 Suitability of Installation Property for Transfer by Deed

SARA Title I, Section 120 to CERCLA addresses the transfer of federal property on which any hazardous substances were stored during any one year period, or is known as the site of any release or disposal of hazardous substances. SARA Title I, Section 120 to CERCLA also requires any deed for the transfer of this federal property to contain, to the extent such information is available on the basis of a complete search of agency files, the following information.

- ▶ A notice of the type and quantity of any hazardous substance storage, release, or disposal,
- ▶ Notice of the time at which such storage, release, or disposal took place,
- ▶ A description of what, if any RA has occurred, and
- ▶ A covenant warranting that appropriate RA will be taken.

The U.S. Army has begun the identification of property suitable for transfer under CERCLA through the CERFA identification process. Those properties, designated CERFA parcels and CERFA parcels with qualifiers, have had no activities which could potentially preclude them

from transfer under CERCLA. CERFA disqualified parcels consist of those which have had CERCLA hazardous substance storage, and/or POL storage and/or releases.

The U.S. Army is currently in the process of refining the classification of those parcels that are CERFA disqualified to better identify those suitable for transfer under CERCLA. Through this refinement process, properties are defined as in one of the following seven categories:

- ▶ **Category 1:** Areas where no storage, release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).
- ▶ **Category 2:** Areas where only storage of hazardous substances or petroleum products has occurred (but no release, disposal, or migration from adjacent areas has occurred).
- ▶ **Category 3:** Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but at concentrations that do not require a removal or RA.
- ▶ **Category 4:** Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, and all RAs necessary to protect human health and the environment have been taken.
- ▶ **Category 5:** Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, removal and/or RAs are under way, but all required RAs have not yet been taken.
- ▶ **Category 6:** Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but all required response actions have not yet been implemented.
- ▶ **Category 7:** Areas that are unevaluated or require additional evaluation.

Figure 3-3 which is provided in Appendix F, identifies those portions of UMDA based on the DoD seven parcel categorization. Under CERCLA, those parcels which are Category 1, 2, 3, 4 and 5 (if the remedy in place has been approved by the Administrator), meet the CERCLA criteria for suitability for transfer. Category 6 and 7 properties which have involved releases of hazardous substances cannot be transferred under CERCLA until environmental restoration is initiated.

3.5 Status of Community Involvement

Community relations activities that have taken place at UMDA to date include the following:

- ▶ **EIS Process.** During the development of the realignment EIS, a scoping meeting was held on June 7, 1989. Public comments were received by the U.S. Army on

draft EIS documents and were addressed in final versions of these documents. The final realignment EIS was published August 1991.

- ▶ **FFA Process.** After preparation of the UMDA FFA by the U.S. Army, USEPA, and ODEQ, the document was published for public comment, revised and finalized. The FFA was signed on October 31, 1989.
- ▶ **Information Repositories.** A public repository for information has been established in the public library in Hermiston, Oregon, and the USEPA Office in Portland, Oregon. It contains information relative to environmental activities at UMDA.
- ▶ **Administrative Record.** An Administrative Record has been established at UMDA in accordance with CERCLA requirements.
- ▶ **Public Involvement Response Plan (PIRP).** A PIRP has been prepared and is included in the RI/FS Work Plan as Part E. This PIRP provides the basis and procedures for involving the local community and federal, state, and local government agencies in the RI/FS process and keeping them informed of the work in progress and results of the study. The PIRP was approved in October 1990.
- ▶ **Technical Review Committee (TRC) and Restoration Advisory Board (RAB).** The TRC for UMDA was formed on March 29, 1989 and has met quarterly, since it was officially established until December 1993. In addition to U.S. Army, USEPA, ODEQ, the TRC includes representatives from Morrow County Court, Umatilla County Commissioner, mayors of surrounding towns, Umatilla County Emergency Management Agency, Oregon State Department of Human Resources, State Legislature, and several private citizens. In December 1993, the TRC was converted to a RAB in accordance with DoD guidance. The RAB has functions similar to the TRC, but expanded membership including the Chairman of the Reuse Task Force and additional private citizens. The RAB meetings are scheduled quarterly.
- ▶ **Mailing List.** A mailing list of all interested parties in the community is maintained by the Depot and updated regularly.
- ▶ **Fact Sheets.** Fact sheets describing the status of the IRP and compliance activities at the Depot have been distributed to the RAB, Reuse Task Force, and anyone requesting information.
- ▶ **Public Hearings.** Four Public Hearings on Proposed Plans (PPs) for various IRP sites have been held. The meetings occurred in May and September 1992, and in March 1994 and were held to present PPs for cleanup of various OUs and to solicit public comment on those PPs. These Public Hearings were announced in the local papers, The Hermiston Herald and The East Oregonian and Tri-Cities Herald.

This page intentionally left blank.

CHAPTER 4

► INSTALLATION-WIDE STRATEGY FOR ENVIRONMENTAL RESTORATION ◀

This chapter describes the installation-wide environmental restoration and compliance strategy for UMDA.

Prior to the official announcement of realignment in December 1988, IRP projects were underway to identify, characterize, and remediate environmental contamination at UMDA. The restoration strategy implemented during this period focused on protection of human health and the environment and the ongoing and continued use of the installation by the U.S. Army. As a result of the realignment announcement, the installation's strategy shifted from supporting the existing U.S. Army mission to responding to realignment considerations and eventual disposal and reuse of the property. In March 1989, USAEC was assigned the responsibility for managing the BRAC IRP. As a result of realignment, additional environmental investigations beyond those being conducted under the active IRP were mandated. The UMDA environmental restoration strategy was modified to address these new issues of realignment and future closure. An FFA under CERCLA Section 120, was signed October 1989. The FFA is a binding agreement between the U.S. Army, USEPA Region X, and the ODEQ. The agreement outlines the procedural requirements and schedules for the investigation and restoration of the UMDA in compliance with CERCLA and the NCP. Under the direction of USAEC, a strategy was developed which incorporated BRAC and FFA requirements and standards and provided for comprehensive and expeditious investigation and restoration of the UMDA. This strategy has included the completion of an RI/FS, Human Health Baseline Risk Assessment and a SRI.

UMDA has proceeded with the selection and documentation of remedial actions through the ROD and DD process. Eight RODs and a DD have been signed for the nine OUs at UMDA. A public comment period was held for each ROD and the DD to solicit continued community input in the remedy selection process. Restoration has been completed at OU 1 and remedial activities have started at another OU. RD is underway for the four other OUs at the installation.

At the inception of the BCT, the past strategy was reviewed to verify that the appropriate regulatory programs applicable to the areas of contamination were considered prior to the fast track process. Current strategies for remedial activities are being developed and managed by the BCT. The UMDA BEC will continue to hold Project Team meetings to discuss progress of the risk assessments to ensure appropriateness of remedies with particular consideration of the criteria identified above and community reuse goals for the property.

The following sections define various elements of the UMDA environmental restoration strategy including the designation of zones and OUs, sequencing of OU restoration actions, early action

programs, the remedy selection approach process and integrated environmental compliance planning. Schedules for the implementation of this strategy are described in Chapter 5.

4.1 OU Designation and Strategy

The designation of zones and OUs is part of the environmental restoration process. Zones define an installation's investigative strategy. They are tools for organizing and defining areas of investigation. OUs define an installation's remedial strategy. They are derived from an evaluation of hydrogeologic and chemical analytical data for various sites or zones. OU types may be based on geographic area, common media (soil, groundwater, surface water, other), common treatment technology, priorities, or schedules. OUs establish a logical sequence of discussions that address contamination releases in a comprehensive fashion.

The strategies for designating zones and OUs at UMDA are described in the following subsections.

4.1.1 Zone Designations

Zone designations were not utilized during the RI. The Depot was divided into eight areas prior to the RI, but these areas were not utilized in grouping sites. Sites were grouped into OUs during the risk assessment process.

4.1.2 OU Designations

Ten OUs were originally designated during the RI. These OUs were originally groups of sites that were geographically proximate and, therefore shared common human exposure pathways, environmental impacts, and/or similar remedial measures. Following the RI, the OUs were reassessed and were regrouped for the risk assessment process into nine OUs based on historical activities at the sites. All OUs with the exception of OU 4 (ADA Area), OU 5 (Miscellaneous Sites), and OU 9 (SRI Study Sites and PCB Transformer Locations) are site-specific. The following is a summary of the nine OUs:

OU 1 - Deactivation Furnace (Site 1) Soils OU. This furnace was used to incinerate unserviceable or obsolete munitions up to 50 caliber (e.g., cartridges, mines, boosters, primes, fuses, grenades, charges, and detonators). The furnace operated from the early 1960s to November 1988. Windblown deposition of furnace stack particulates and occasional spilling and/or pumping of residual furnace ash and munitions incineration debris have contaminated soils surrounding the furnace and downwind from the furnace site. The contaminants are heavy metals. Contamination is highest in the upper few inches of soil and progressively decreases with depth at rates varying according to the specific metal. Lead and cadmium were found to be the most widespread contaminant in the soils. This OU was based on a single site and contaminant source.

OU 2 - Explosives Washout Lagoon Soils OU. The Explosives Washout Plant processed munitions to remove and recover explosives using a pressurized hot water system. The washwater was discharged via an open metal trough to the two infiltration lagoons located

northwest of the plant. The lagoons were constructed in the 1950s and used until 1965, when plant operations and all discharges to the lagoons ended. A total of 85,000,000 gallons of effluent is estimated to have been discharged to the lagoons. Investigation of the lagoons resulted in the identification of explosives in the lagoon soils and what appeared to be a 45-acre plume of Royal Detonation Explosive (RDX) in the shallow groundwater beneath the lagoons. On July 22, 1987, the Explosives Washout Lagoons were formally listed on the NPL. The OU was based on contaminant source and contaminant media.

OU 3 - Explosives Washout Lagoons Groundwater OU. The washwater from the Explosives Washout Lagoons seeped from the unlined lagoons and contaminated the shallow groundwater beneath the lagoons. The type of contamination is explosive compounds, primarily TNT and RDX. The plume is approximately 45 acres. The OU was based on contaminant source and contaminant media.

OU 4 - ADA Area OU. Since 1945, the ADA Area has been utilized by the U.S. Army to dispose of ordnance and other solid wastes by burning, detonation, dumping, or burial. Activities were conducted at a number of locations throughout the ADA Area. Twenty sites have been identified as actual or possible locations of U.S. Army activities at the ADA Area. In addition to possible chemical contamination at these 20 sites, ADA activities also resulted in the presence of unknown quantities of UXO at unknown locations across the entire ADA Area. No sites within the ADA Area are currently being utilized. The sites within OU 4 are shown on Table 3-1. This OU is based on geographic location and common contaminant media.

OU 5 - Miscellaneous Sites OU. The Miscellaneous Sites OU consists of 32 sites located throughout UMDA. Most of these sites are clustered in the southwestern or southern portions of the Depot. The Miscellaneous Sites have served a wide variety of specific functions, including sewage treatment and storm water discharges, munitions disassembly, Defense Reutilization Marketing (DRMO) Area (recycled materials stockpile), ground storage of raw materials, metal ingot storage, pesticide storage, paint spray and removal area, paint sludge discharge areas, boiler/laundry wastewater discharge areas, disposal pits, and hazardous waste storage. This OU is based on common contaminant media and remedial strategy. Only two sites, 22 and 36, require remedial action in this OU. The 32 sites in this OU are shown on Table 3-1.

OU 6 - Explosives Washout Plant OU. During RI activities at UMDA, wipe samples were taken from the inside surfaces of the washout plant building (Building 489). Four explosives were found to be present. An additional area where larger concentrations of the explosives may possibly be found is inside the process equipment and piping. The process equipment was steam cleaned following the close of the washout operations, but some explosives (possibly at action levels), may remain in the joints, corners, etc. of this equipment. No investigation has been performed to determine the extent of contamination within the equipment. The assumption has been made that the equipment is contaminated internally. This OU is based on explosives contamination within a single building.

OU 7 - Active Landfill OU. The Active Landfill OU is a five-acre disposal area located in the northeastern portion of UMDA. The landfill is a former gravel pit and is approximately fifty

feet in depth. The landfill has been operated since 1968 and the ODEQ issued a landfill permit to the U.S. Army in 1979. Municipal waste from UMDA was disposed at the site and covered weekly. Currently, the landfill accepts only solidified soils from remediation activities in the Depot. All municipal waste is transported off-site and disposed of in a local permitted landfill. The landfill is scheduled to close in 1997. This OU is based on its distinct geographic location.

OU 8 - Inactive Landfills OU. The Inactive Landfills OU is composed of six former disposal areas. The six inactive landfills include: the Northern Inactive Landfill, the Northern Inactive Landfill Extension, the Southern Inactive Landfill, the Southern Inactive Landfill Extension, the Western Inactive Drum Site, and the Southeastern Inactive Landfill. Materials disposed of in these areas were primarily non-hazardous and included demolition debris, garbage, asbestos from brake linings, explosives sludges, and possibly ash from the Deactivation Furnace. These landfills were operated from the early 1940s into the mid-1980s. Much of the activity ceased in the mid-1960s when the Active Landfill opened. This OU is based on historical activities at six geographically close inactive landfills.

OU 9 - SRI Study Sites and PCB Transformer Locations OUs. The SRI study sites include new portions of Site 12 (Inactive Landfills) and 13 additional study areas, as well as 79 PCB transformer locations. These sites are within OU 9 and were investigated by the U.S. Army. A DD between UMDA, the U.S. Army, and ODEQ was signed in September 1994. This OU is based on a group of sites that were investigated in the SRI and have a common contaminant media.

The relationship between IRP sites, OUs, and reuse parcels is depicted in Table 4-1. Installation OUs are shown in Figure 3-1.

4.1.3 Sequence of OUs

A comprehensive environmental restoration strategy has been developed by the UMDA BCT. This strategy consolidates sites identified in the ENPA into OUs for investigation in the RI/FS, and then defines a logical sequence of OUs addressing all past releases associated with these sites in installation RODs and DDs. The following sections outline this sequencing strategy.

4.1.3.1 Sequencing Strategy. The UMDA BCT has developed an approach to identify the logical sequence of OU site investigation and restoration activities. In order to obtain an integrated and comprehensive evaluation at the installation, and to meet FFA requirements, an installation-wide RI was completed. In order to address data gaps for several sites, the RI was followed up with an SRI. Data from the RI was used to prioritize restoration utilizing at the UMDA. The sequencing of OUs was determined based on the following criteria.

- ▶ Prioritization of cleanup necessary for realigned mission operations.
- ▶ Compliance with FAA and ROD stipulated schedules.
- ▶ Consideration of time constraints and compliance hammer dates.
- ▶ Consideration of community reuse planning priorities.

**TABLE 4-1. RELATIONSHIP BETWEEN RESTORATION
SITES, OUS, AND PARCELS**

Reuse Parcel	OU	Site
B	1	Site 1
M	2	Site 4 soils
M and L	3	Site 4 groundwater
A	4	Sites 7, 8, 13, 14, 15, 16, 17, 18, 19, 21, 31, 32, 38, 41, 55, 56, 57, 58, 59, and 60
B, D, E, F, I, J, M, O, and Q	5	Sites 3, 6, 9, 10, 22, 25-I, 25-II, 26, 27, 29, 30, 33, 34, 35, 36, 37, 39, 44-I, 44-II, 45, 46, 47, 48, 49, 50, 52, 53, 67, 80, 81-I, 81-II, and 82
M	6	Site 5
L	7	Site 11
M and N	8	Site 12
B, C, D, H, I, L, M, N, O, and PCB Transformer Locations	9	Sites 12, (two additional areas); 68, 69, 64, 70, 75, 76, 77, 83, 61, 62, 65, 66, 79, and PCB Transformer Locations

Implementation of this strategy has resulted in the following OU and site sequencing priority.

- ▶ ***OU 1 Small Arms Deactivation Furnace Soils.*** The ROD for this OU was signed in September 1992. Restoration of this site is complete. Remedial activities were completed in December 1994.
- ▶ ***OU 2 Explosives Washout Lagoons Soils.*** This site was "fast tracked" following the RI, so remedial activities could be expedited. A separate FS and risk assessment was conducted for this OU. The ROD for this site was signed January 1993. Phase I of the RAs for this OU has been completed. Phase II was started in April 1994.
- ▶ ***OU 8 Inactive Landfills and OU 7 Active Landfill.*** The RI indicated these OUs did not present a threat to human health or the environment and therefore required no further action. No further action remedy RODs for these sites were signed in March and August 1993, respectively.
- ▶ ***OU 4 Ammunition Demolition Activity Area.*** The ROD for this OU was signed September 30, 1994. Phase I of the remedial activities, the UXO Survey and Surface Clearance was started in August 1994. Phase II the remediation of contaminated soil, is scheduled to begin July 1995. Of the 20 sites in this OU, only Sites 15, 17, 19, 31, and 32 require soil remediation because of high metal content.
- ▶ ***OU 5 Miscellaneous Sites.*** The ROD for this OU was signed September 30, 1994. The soil remediation that is required at two sites within this OU is scheduled to begin in July 1995.
- ▶ ***OU 6 Explosive Washout Plant (Building 489) OU.*** The ROD for this OU was signed September 30, 1994. Remedial activities at this OU are scheduled to begin July 1995. The Explosive Washout Plant, also known as Site 5, is to go through hot gas decontamination and partial demolition. The hot gas decontamination will vaporize and release explosive particulates that are present in the building.
- ▶ ***OU 3 Explosives Washout Lagoons Groundwater OU.*** The ROD for this site was signed September 30, 1994. Pump and treat tests are scheduled to begin in 1995 with large scale remedial activities to begin in 1996. Remedial action involves extensive groundwater remediation which may extend past the Depot's anticipated closure date of September 2006.
- ▶ ***A Decision Document for OU 9.*** A DD for OU 9 SRI Study sites and PCB Transformer Locations was signed September 1994. The U.S. Army and the ODEQ have agreed that these sites and locations do not pose sufficient risk to require cleanup and recommended that no RA is necessary under CERCLA. Two small soil removals at Site 75 and transformer location No. 229 will be conducted

to comply with the State of Oregon's background level rule because the amount of soil is small and therefore, it is feasible and cost effective to remove the contaminated soil. Transite siding is to be removed at Site 12.

The OU cleanup sequence for the installation is summarized in Table 4-2.

TABLE 4-2. CLEANUP SEQUENCE

Reuse Parcel	OU	Environmental Risk	Reuse Priority	Cleanup Sequence	Reconcile Comments
B	1	None after soil remediation	Undetermined	1	NA
M	2	None after soil remediation	Undetermined	2	NA
M and L	3	Groundwater contamination	Undetermined	3	Remedial action will continue past closure
A	4	None after soil remediation and UXO clearance	Undetermined	4	NA
B, D, E, F, I, J, M, O, Q	5	None after soil remediation	Undetermined	5	NA
M	6	None after thermal treatment	Undetermined	6	NA
L	7	None	Undetermined	NFA	NA
M and N	8	None	Undetermined	NFA	NA
B, C, D, H, I, K, L, M, N, O	9	None	Undetermined	NFA	NA

Key: NFA = No Further Action
NA = Not Applicable

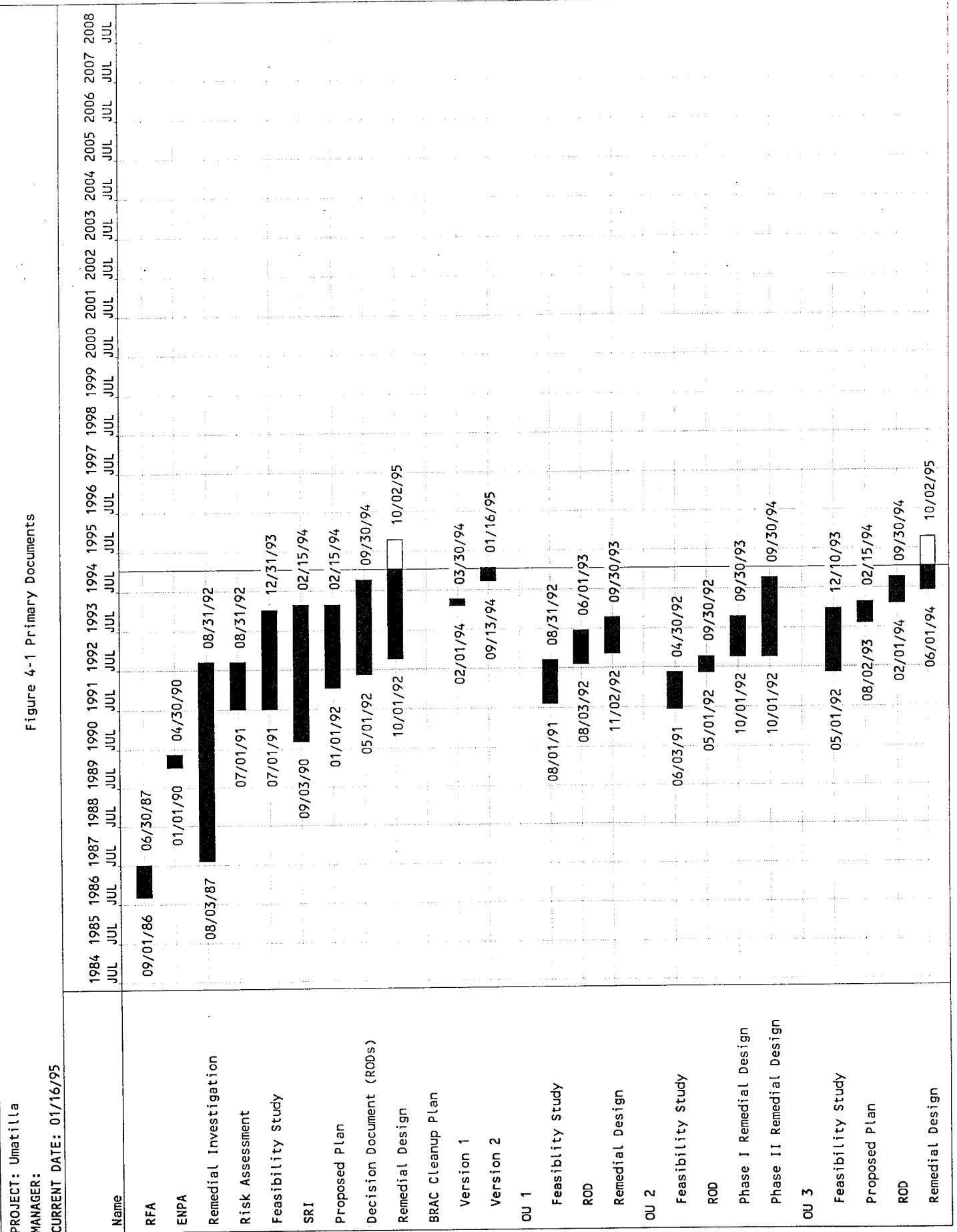
4.1.3.2 Remediation Timelines and Documents. A number of environmental studies have been designed and completed at this installation in an effort to identify sites, determine degree and extent of contamination, evaluate risk, identify and implement RAs. Figure 4-1 identifies the timeline for the completion of those documents necessary to complete these OU cleanup activities and comply with FFA and ROD/DD requirements for the installation.

The schedule was developed using the critical path analysis method with the following components:

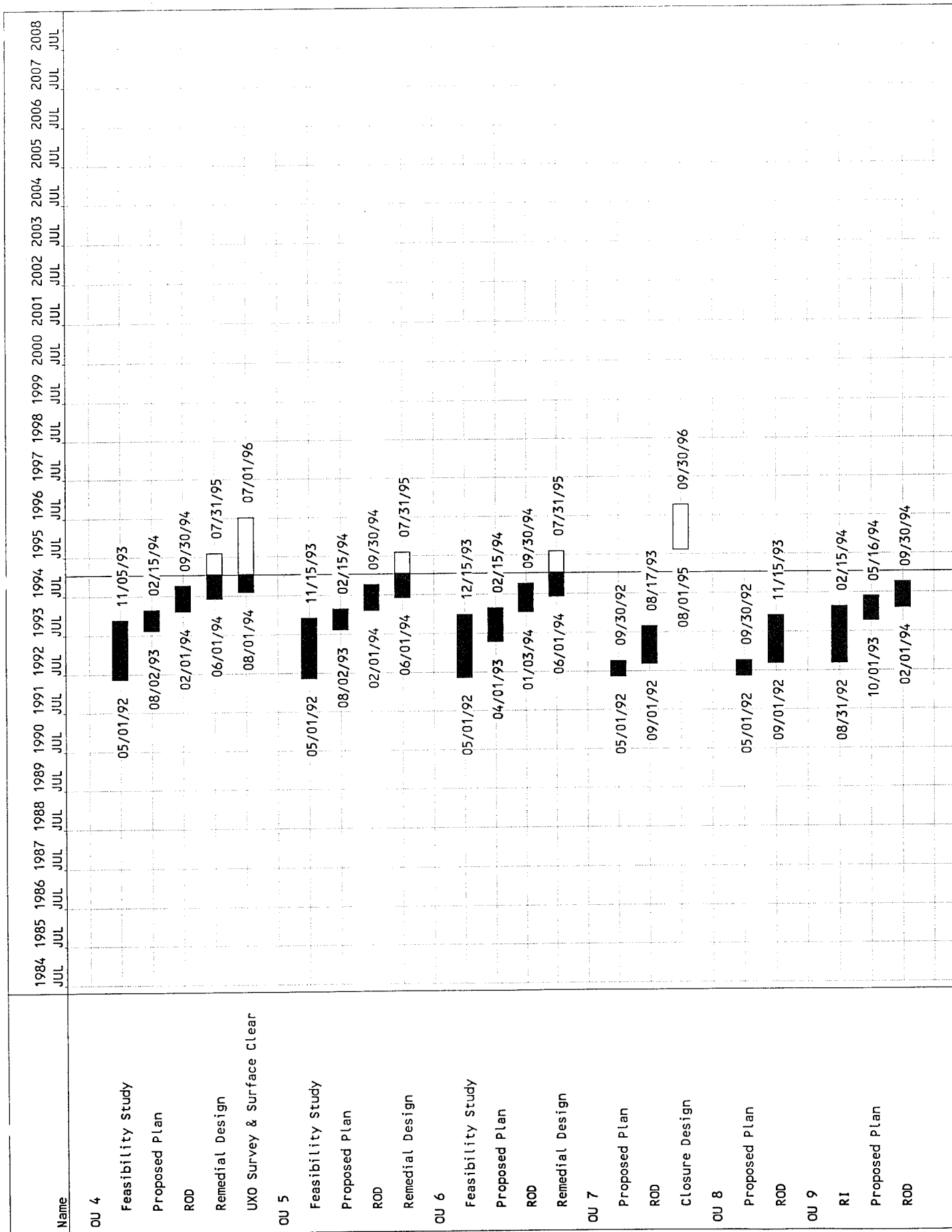
- **Critical.** Critical jobs are those in which any extension in their duration will cause an equivalent delay in the project. This is often referred to as the critical path.

This page intentionally left blank.

Figure 4-1 Primary Documents



This page intentionally left blank.



This page intentionally left blank.

- ▶ **Noncritical.** Noncritical jobs are usually subtasks required to accomplish the critical job.
- ▶ **Baseline.** A set of "original" schedule dates that can be compared with the current schedule to determine if the project has slipped.
- ▶ **Completed Duration.** A measure in time periods of the portion of a job that is completed.
- ▶ **Milestone.** A project event that represents a checkpoint, a major accomplishment, or a deliverable result.
- ▶ **Total Float.** The total length of time that a noncritical job can be delayed before it causes the project or a critical job to slip or causes a job to not meet its target date.
- ▶ **Free Float.** The length of time a noncritical job can be delayed without affecting another job.
- ▶ **Delay.** A waiting period that prevents the job from starting at its earliest possible start time.
- ▶ **Conflict.** The amount of time a job overruns its target date.

The graphical information regarding the primary documents generated for each OU at UMDA which is shown in Figure 4-1 is summarized below:

- ▶ **OU 1 (Deactivation Furnace)**

ENPA	April 1990
RI	August 1992
Risk Assessment	March 1992
FS	August 1992
Proposed Plan	August 1992
DD	January 1993
RD	September 1993
- ▶ **OU 2 (Explosives Washout Lagoon Soils)**

ENPA	April 1990
RI	April 1992
Risk Assessment	March 1992
FS	April 1992
Proposed Plan	April 1992
DD	September 1992
RD	April 1994

▶	OU 3 (Explosives Washout Lagoons Groundwater)	
	ENPA	April 1990
	RI	December 1993
	Risk Assessment	December 1993
	FS	December 1993
	Proposed Plan	February 1994
	DD	September 1994
	RD	September 1995
▶	OU 4 (ADA Area)	
	ENPA	April 1990
	RI	August 1992
	Risk Assessment	November 1993
	FS	August 1993
	Proposed Plan	February 1994
	DD	September 1994
	RD	July 1995
▶	OU 5 (Miscellaneous Sites)	
	ENPA	April 1992
	RI	August 1992
	Risk Assessment	August 1993
	FS	November 1993
	Proposed Plan	February 1994
	ROD	September 1994
	RD	July 1995
▶	OU 6 (Washout Plant)	
	ENPA	April 1990
	RI	August 1992
	FS	August 1993
	Risk Assessment	August 1993
	Proposed Plan	February 1994
	ROD	September 1994
	RD	July 1995
▶	OU 7 (Active Landfill)	
	ENPA	April 1990
	RI/FS	August 1992
	Risk Assessment	August 1992
	Proposed Plan	September 1992
	ROD	August 1993
▶	OU 8 (Inactive Landfill)	
	ENPA	April 1990
	RI/FS	August 1992

Risk Assessment
Proposed Plan
ROD

August 1992
September 1992
March 1993

► **OU 9 (Supplementary Sites)**

ENPA
RI/FS
Risk Assessment
Proposed Plan
DD

April 1990
September 1993
September 1993
February 1994
September 1994

4.1.4 Environmental Restoration Early Actions Strategy

There have been no environment restoration early actions at UMDA. All remedial activities conducted at UMDA have occurred following the Proposed Plan and DD process.

The environmental studies to characterize environmental conditions at UMDA have been comprehensive; therefore it is not anticipated that any currently unidentified contamination will arise. Should any additional environmental contamination be identified which pose a risk to human health and the environment, the BCT will evaluate the need for early actions.

Table 4-3 has been provided should any future early actions occur. The strategy for developing early actions will be based on the risk posed to human health and the environment, and the negative and positive impacts that the action will have on future use of the parcel.

TABLE 4-3. ENVIRONMENTAL RESTORATION PLANNED EARLY ACTIONS

Site	Action	Objective	Time Frame
	All early actions have been taken. No further early actions planned at UMDA.		

4.1.5 Remedy Selection Approach

Site investigations at UMDA, including the ENPA, RI/FS, risk assessment, SRI, and separate RI, FS, and risk assessment for the Explosives Washout Lagoons, have been completed. Remedies for each of the OUs have been selected in accordance with statutory NCP criteria and CERCLA.

Two FSs were prepared, one for the Explosives Washout Lagoons and one for the other sites/OUs at UMDA. These FSs evaluated restoration alternatives for each OU identified at the Depot based on criteria including regulatory compliance, effectiveness, implementability, and cost. Preferred remedies for each OU were identified in proposed plans. A public comment period was held to solicit community input in the remedy selection process. Following the public comment period, a DD was prepared which identified the chosen risk assessment for each OU. Particular attention will be given to the following during the evaluation of alternatives.

- ▶ **Applicable or Relevant and Appropriate Requirements (ARARs).** Applicable requirements for anticipated remedial actions were identified in the site-specific RI/FS process. The effectiveness of alternatives in reducing concentrations of contaminants to chemical-specific ARARs will be evaluated. Chemical-specific ARARs set health- or risk-based concentration limits or discharge limitations in various environmental media for specific hazardous substances, pollutants, or contaminants. Waivers will be considered where treatment to standards is technically impractical.
- ▶ **Future Land Use/Risk Assessment.** The reuse of any parcel of land defines the required level of remediation. Risk assessment protocols incorporated future land use in exposure scenarios.
- ▶ **Applicable Remedies.** The FS for the installation identified and screened a variety of remedial technologies to address the potential risk to human health and the environment posed by the contamination present at UMDA. The FS considered factors including cost, implementability and treatment effectiveness. The most applicable alternatives were determined through the ROD process. A DD was signed for one OU.
- ▶ **POL Remedies.** Source-specific actions for POLs are being addressed under the state UST program as POL releases at UMDA have occurred as a result of leaking USTs.

4.2 Compliance Strategy

This section describes the strategies for addressing compliance-related environmental issues at UMDA prior to installation closure and/or property transfer. These environmental compliance strategies have been developed to ensure that installations are compliant with federal and state regulatory programs, DoD, and U.S. Army directives and regulations throughout the BRAC process.

An important element in the UMDA compliance program is the identification and implementation of compliance related early actions to remove contamination sources and reduce risk posed by releases or potential releases. A number of compliance early actions have been completed at the installation (see Section 3.1). In addition, a number of future compliance early actions are planned to insure compliance with regulatory requirements and proactively address existing or potential compliance program threats to human health or the environment. These future compliance early actions are identified in Table 4-4. A detailed discussion of strategies and schedules for individual compliance programs is provided in the following sections.

4.2.1 Storage Tanks

The following strategies have been developed to manage USTs and ASTs at UMDA.

4.2.1.1 USTs. UST program compliance activities will be continued at numerous locations. Twenty-nine of the 100 USTs at UMDA have been removed. In Fiscal Year 1995, an additional seventeen USTs will be removed in compliance with ODEQ regulations. Final clean-up levels for soils surrounding any leaking USTs will be determined by ODEQ. Nineteen active USTs are required to support the realigning mission of UMDA. These tanks will be upgraded in Fiscal Year 1995. The remaining 35 USTs listed in Table 3-7 which were identified through documentation, but not confirmed with geophysical surveys during the UST survey are presumed to have been previously removed, since no physical anomalies were discovered during the geophysical survey.

4.2.1.2 ASTs. The 38 aboveground storage tanks at UMDA will remain active and in compliance until the Depot's closure date or until it is decided that tanks are not needed on a case-by-case basis.

4.2.2 Hazardous Substance Management

Hazardous substance management activities at UMDA will continue to be managed in compliance with federal requirements outlined in the SARA Title III, SPCC requirements in 40 CFR 110 and 112 ODEQ regulations, AR 200-1 and other applicable federal, state, and local regulations.

Hazardous substance inventories and MSDS sheets will continue to be maintained at the Depot until closure. Spill response coordination with Depot Fire Department will continue. UMDA will continue to follow the guidance set forth in the UMDA Pesticide Management Plan when dealing with pesticides. Tenant agencies have been instructed that all hazardous substances currently located at tenant locations must be managed properly in accordance with applicable regulations. As a precaution, the Depot will be conducting a survey of each tenant activity to ensure that there are no hazardous substances left after tenants vacate the property.

TABLE 4-4. ENVIRONMENTAL COMPLIANCE PLANNED EARLY ACTIONS

Site	UST No.	Action	Objective	Time Frame
Building 1	1	Upgrade Tank	Compliance	1995
Building 7	3	Upgrade Tank	Compliance	1995
Building 10	4	Upgrade Tank	Compliance	1995
Building 30	6	Upgrade Tank	Compliance	1995
Building 38	8	Upgrade Tank	Compliance	1995
Building 416	9	Remove Tank	Compliance	1995
Building 419	10	Upgrade Tank	Compliance	1995
Building 612	11	Remove Tank	Compliance	1995
Building 617	12	Remove Tank	Compliance	1995
Building 208	13	Remove Tank	Compliance	1995
Building 622	14	Remove Tank	Compliance	1995
Building 654	15	Upgrade Tank	Compliance	1995
Building 655	16	Upgrade Tank	Compliance	1995
Building 660	17	Upgrade Tank	Compliance	1995
Building 28	18	Upgrade Tank	Compliance	1995
Building 28	19	Upgrade Tank	Compliance	1995
Building 37	20	Remove Tank	Compliance	1995
Building 31	21	Remove Tank	Compliance	1995
Building 31	22	Remove Tank	Compliance	1995
Building 31	23	Remove Tank	Compliance	1995
Building 131	24	Remove Tank	Compliance	1995
Building 433	25	Remove Tank	Compliance	1995
Building 15A	26	Upgrade Tank	Compliance	1995
Building 15B	27	Upgrade Tank	Compliance	1995
Building 16A	28	Upgrade Tank	Compliance	1995
Building 16B	29	Upgrade Tank	Compliance	1995
Building 35	30	Upgrade Tank	Compliance	1995
Building 55	31	Remove Tank	Compliance	1995
Building 116	32	Remove Tank	Compliance	1995
Building 129	33	Remove Tank	Compliance	1995
Building 51	51	Upgrade Tank	Compliance	1995
Building 654	58/95	Upgrade Tank	Compliance	1995
Building 486	93	Remove Tank	Compliance	1995
Building 433	94	Remove Tank	Compliance	1995
Building 433	97	Remove Tank	Compliance	1995
Building 486	98	Remove Tank	Compliance	1995

4.2.3 Hazardous Waste Management

Hazardous waste generated at UMDA will continue to be managed in compliance with federal, state, and U.S. Army regulations. Wastes generated at the installation will be properly stored at Building 203 for less than 90 days before being transported offsite for disposal by a licensed hazardous waste hauler. As the Depot's ultimate closure date approaches, the Depot will conduct a survey to ensure tenant activities have not left hazardous materials and hazardous wastes on the Depot property.

4.2.4 Solid Waste Management

Solid waste generated at UMDA is currently being transported off-site by a contractor to a local state permitted landfill. Solid waste will continue to be transported off-site until the Depot's closure.

The Inactive Landfills (OU 8, Site 12) are closed and a ROD which requires No Further Action has been finalized for this OU. The Active Landfill (OU 7, Site 11) is no longer accepting municipal waste. This landfill is currently accepting solidified soils from remedial activities on the Depot. A ROD requiring No Further Action has been signed for this OU.

4.2.5 Polychlorinated Biphenyls (PCBs)

All PCB transformers have been taken out of service and removed from the Depot. Therefore, no PCB monitoring is necessary at UMDA.

4.2.6 Asbestos

Asbestos present at UMDA will continue to be managed in compliance with regulations and the U.S. Army guidance "Lead-based Paint and Asbestos in U.S. Army Properties Affected by Base Realignment and Closure," dated June 1993 until installation closure. Friable asbestos has been remediated throughout the installation. Periodic inspections will be conducted to assess the condition of asbestos remaining at the installation. Any friable asbestos will be abated.

4.2.7 Radon

The radon reduction program at UMDA will continue to be conducted in compliance with AR 200, Chapter 11, U.S. Army Radon Reduction Program. One-year and 90-day testing were conducted at UMDA. One-year radon testing indicated that radon in Buildings 1 and 5 tested equal to or greater than the USEPA-recommended level of 4.0 pCi/L. Ninety-day testing indicated that radon levels exceed 4 pCi/L in Building 1, and seven igloos in three igloo blocks. (Only ten percent of the 1,001 igloos were surveyed).

At this time, no action will be taken for the radon in Building 5 as the sample was collected from the only below-grade structure in the building, an unoccupied boiler room which is no longer in use. A radon venting system will be installed in the basement of Building 1 during

Fiscal Year 1995 as a radon mitigation system and radon in the igloos will be addressed when a reuse for the structures has been identified.

4.2.8 RCRA Facilities (SWMUs)

Building 203 is UMDA's RCRA Part B permitted hazardous waste storage facility. This building will remain a storage area following realignment and will close when the Depot no longer needs to store hazardous waste. The closure of this facility may take place before chemical agent incineration is complete. The facility closure will be completed following RCRA regulatory requirements and guidance.

4.2.9 Wastewater Discharges

Currently, UMDA does not generate wastewater discharges that require a NPDES permit. The only wastewaters generated at the Depot are sanitary wastewaters which go to the sewage treatment plant's tile leaching field. Wastewater associated with the planned chemical agent deactivation incinerator may require a NPDES permit. The BCT is investigating this requirement. In the event that a permit is required, the installation will prepare and submit the permit application.

4.2.10 Oil/Water Separators

There is one oil/water separator at UMDA which is currently not in use. At this time, there are no plans to repair the oil/water separator. The oil/water separator will be closed according to regulatory requirements.

4.2.11 Pollution Prevention

UMDA will continue to practice pollution prevention, waste minimization and recycling at the installation during realignment and until closure.

4.2.12 NRC Licensing

UMDA is covered under an U.S. Army-wide NRC materials license for the use of Model M43A1 Chemical Agent Detectors which contain Americium-241 in a closed-cell. These alarms are stored in Building 656 and used to inspect the K Block igloos, where chemical agents are stored. These alarms will be necessary to monitor the chemical weapons at the Depot, as the Depot continues its new mission of static storage of chemical munitions and its future mission of demilitarization of these chemical munitions. Following closure of the chemical agent demilitarization operation, these alarms will be handled as specified in the NRC license and returned or destroyed according to the manufacturer's instructions.

4.2.13 Mixed Wastes

There is no mixed waste generated at UMDA; therefore, there are no compliance requirements or strategies under this program for the Depot.

4.2.14 Radiation

There are no radioactive wastes generated at UMDA. Radioactive source materials will be handled as described in Section 4.2.12.

4.2.15 Lead-Based Paint

The U.S. Army is currently developing a policy on lead-based paint for closure sites. The BCT will continue to follow the guidance provided. A lead-based paint survey is planned for Fiscal Year 1995. Should existing building(s) be found to contain lead-based paint be identified for use as homeless shelters, the U.S. Army will evaluate the impacts on lead-based paint within those buildings.

4.2.16 Medical Waste

Medical waste generated at UMDA by the Occupational Health Clinic will continue to be containerized and shipped off-site to Ft. Lewis, Washington. No medical wastes have been landfilled at the Depot.

4.2.17 Unexploded Ordnance

UXO has been identified as existing in the ADA Area and possibly existing at the QA Function Range.

The ROD for the ADA Area (OU 4) addressed the remediation of UXO for the area in a phased approach. Phase I will consist of a magnetometer survey of the entire 1,716 acres to determine the location and quantity UXO. Phase I will also include surface clearance of UXO discovered during the magnetometer survey. Phase II will be include subsurface clearance of UXO based on future reuse of the area and clearance will occur as needed, based on reuse and regulatory requirements. Phase I is scheduled to begin in 1996.

The QA Function Range will be surveyed for UXO before being relinquished, as a safety precaution. This survey is anticipated to be completed in 1996.

4.2.18 National Environmental Policy Act

The USACE Fort Worth District has prepared the BRAC Final EIS for UMDA. A Disposal and Reuse EIS will be contracted by the USACE, Seattle District as soon as the U.S. Army has identified the property to be retained for the Chem Demil operation.

4.2.19 Air Emissions

The Air Contaminant Discharge Permit No. 25-0024 for the Depot will continue to be maintained, even though two of the three emission sources at the Depot are no longer in use. The small arms deactivation furnace (Site 1, OU 1) has been closed and soil remediation at the site has been completed. The open detonation pits (Site 16) and the open burning trays (Site 32)

are no longer utilized. Open burning of packaging and crating dunnage contaminated with explosives is no longer practiced. The space heating systems consisting of three heating plants greater than 750,000 BTU/hr and fifty heating plants less than 750,000 BTU/hr are still operational. These systems will continue to be operated in compliance with permit requirements.

The chemical agent deactivation incinerator will need an Oregon Air Contaminant Discharge Permit prior to the facility becoming operational. The installation will prepare the appropriate application materials during the design phase for the incinerator.

4.3 Natural and Cultural Resources Strategies

This section discusses the strategies for natural and cultural resource programs developed at UMDA developed to manage these resources throughout the BRAC realignment and closure.

4.3.1 Vegetation

UMDA will continue to maintain the ornamental vegetation in the Administration Area through realignment and until closure. The vegetation on the remainder of the Depot is in its natural state.

4.3.2 Wildlife

Varied wildlife exist at the UMDA outside the Administration Area. The Oregon Department of Fish and Wildlife manages a prong-horned antelope herd outside the Administration Area and ADA Area. Wildlife will be allowed to continue using the Depot ground as a habitat throughout realignment and closure activities. Reuse of UMDA may impact some species currently using the Depot. These impacts will be evaluated in the Disposal and Reuse EIS that is to be prepared in the near future.

4.3.3 Wetlands

There are no wetlands at UMDA; therefore, no wetland strategies are necessary for the Depot.

4.3.4 Designated Preservation Areas

There are no designated preservation areas at UMDA; therefore, no strategies are planned.

4.3.5 Rare, Threatened and Endangered Species

During the Ecological Assessment conducted in 1992, six state-listed and one federally-listed sensitive species were observed. A sensitive species is one that has the potential for becoming threatened if specific habitats are not preserved. Swainson's hawk, the long-billed curlew, the burrowing owl, grasshopper sparrow, Lewis' woodpecker, and the bobolink are listed as state-sensitive species, and the loggerhead shrike appears on the federal sensitive bird species list. These threatened and endangered species will continue to inhabit the Depot grounds through

realignment and closure activities. Reuse of UMDA may impact some of these species. These impacts will be evaluated in the Disposal and Reuse EIS.

4.3.6 Cultural Resources

UMDA has two buildings which were declared eligible for listing on the National Register of Historic Places (NRHP). At this time, these buildings have not been listed on the NRHP. If these buildings are placed on the NRHP, appropriate action will be taken to insure the resources are properly managed.

Care will be taken during implementation of any reuse of the Depot so that there would be no impact on the two known archaeological and historic sites at UMDA. In the event that any additional sites are found on the Depot, care will be taken to avoid inadvertent disturbance of archaeological resources, and further studies will be conducted.

4.3.7 Other Resources

There are no other resources that the BCT is currently reviewing.

4.4 Community Involvement/Strategy

The establishment of a RAB is a requirement of the Fast Track Cleanup Policy at BRAC installations where community interest is high and property will be available for transfer to the community. Until December 15, 1993, UMDA had an active TRC. This TRC was expanded to become a RAB, rather than create a separate committee. The expansion included the addition of community representatives, a community co-chairperson, and representatives from the UMDA Reuse Task Force.

The RAB will act as a forum for the exchange of cleanup information between the community and the government, to ensure that community reuse plans are adequately addressed and to ensure that community input is fully considered in decision making for the cleanup program. The RAB consists of U.S. Army, USEPA, and ODEQ representatives along with members of the community. The RAB is jointly chaired by the U.S. Army and a community representative.

In addition to the formation of the RAB, the UMDA BCT has adopted the following strategy to support a proactive community relations program in accordance with the CERCLA requirements:

- ▶ Update the existing Community Relations Plan (CRP).
- ▶ Maintain an information repository at the Depot and in Hermiston, Oregon.
- ▶ Continue to publish fact sheets on the progress of environmental restoration and disposal programs.
- ▶ Continue coordination with the Umatilla Reuse Task Force or Umatilla Depot Reuse Authority.

- ▶ Maintain and update the mailing lists at the Depot and the USACE, Seattle District.
- ▶ Continue to solicit participation of representatives from all affected communities through the reuse planning outreach programs.

CHAPTER 5

► ENVIRONMENTAL PROGRAM MASTER SCHEDULES ◄

This chapter presents the UMDA Master Schedules of anticipated activities in the installation's environmental programs. These schedules are simplified from detailed network and operational schedules developed to support specific work plans and compliance agreements. Environmental restoration activities are graphically summarized in Figure 5-1. Compliance activities are summarized in Figure 5-2 and Figure 5-3. Natural and cultural resource activities are summarized in Figure 5-4. Each of these schedules displays the critical path analysis for the respective installation program. Components in each analysis include critical and noncritical path, baseline, completed duration, milestones, float, delay, and conflict. These components are defined in Section 4.1.3.

5.1 Environmental Restoration Program

This section presents response schedules outlined in the FFA and outlines fiscal year requirements for UMDA's environmental restoration program.

5.1.1 *Response Schedules*

The schedule for environmental response actions for the UMDA is shown in Figure 5-1. The Depot's ability to meet milestones shown on the schedule in Figure 5-1 hinge on a number of factors including securing remediation contractors in a timely manner; RD; completion of remediation activities; and resolution of issues related to real estate transfer of property with long-term RAs including access, liability, impact on redevelopment and conflicts with construction.

5.1.2 *Requirements by Fiscal Year*

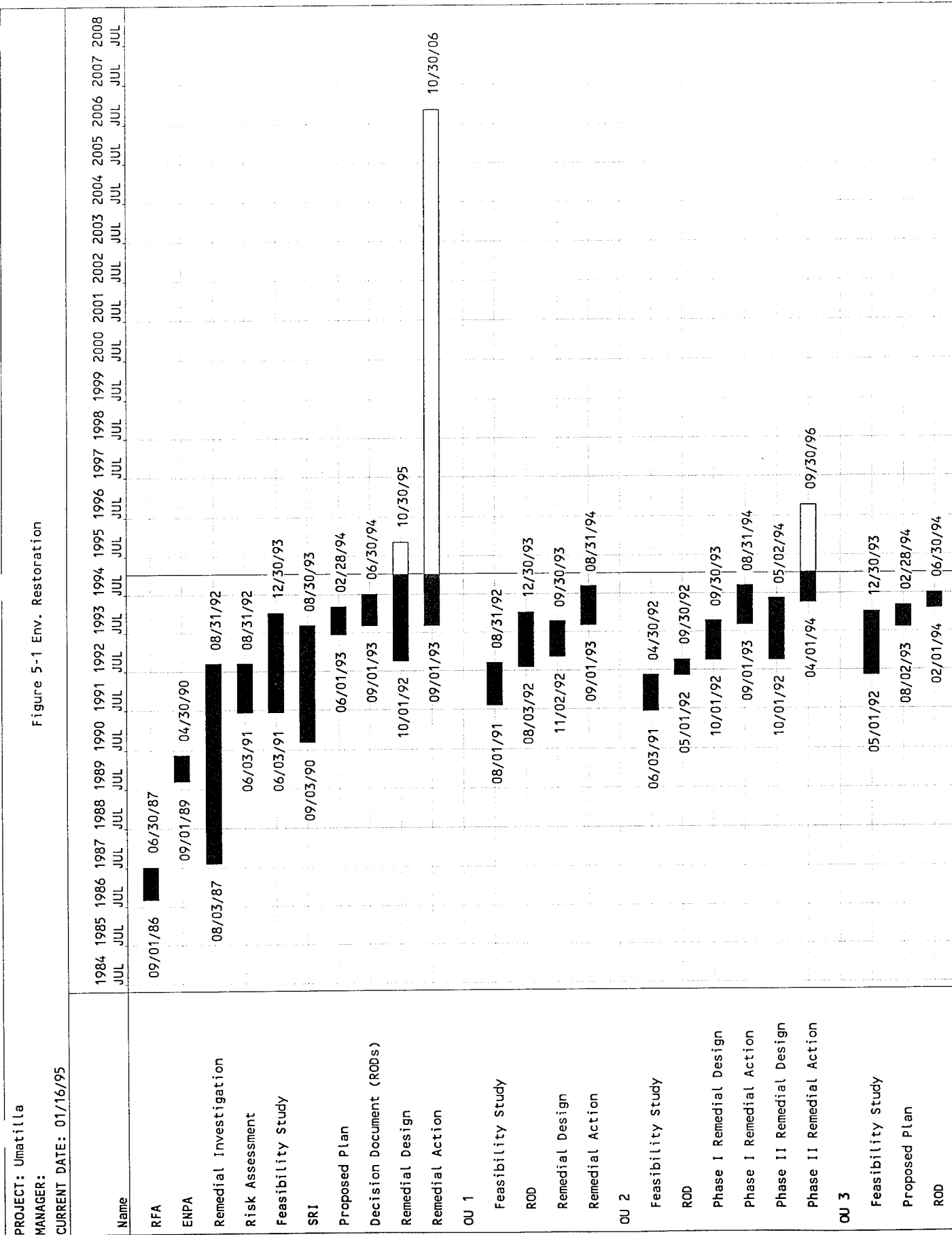
The detailed requirements information by fiscal year is contained in UMDA Work Plan and is incorporated into this document by reference. The tables in Appendix A of this document are taken directly from the Work Plan and provide summary information on funding requirements.

5.2 Compliance Programs

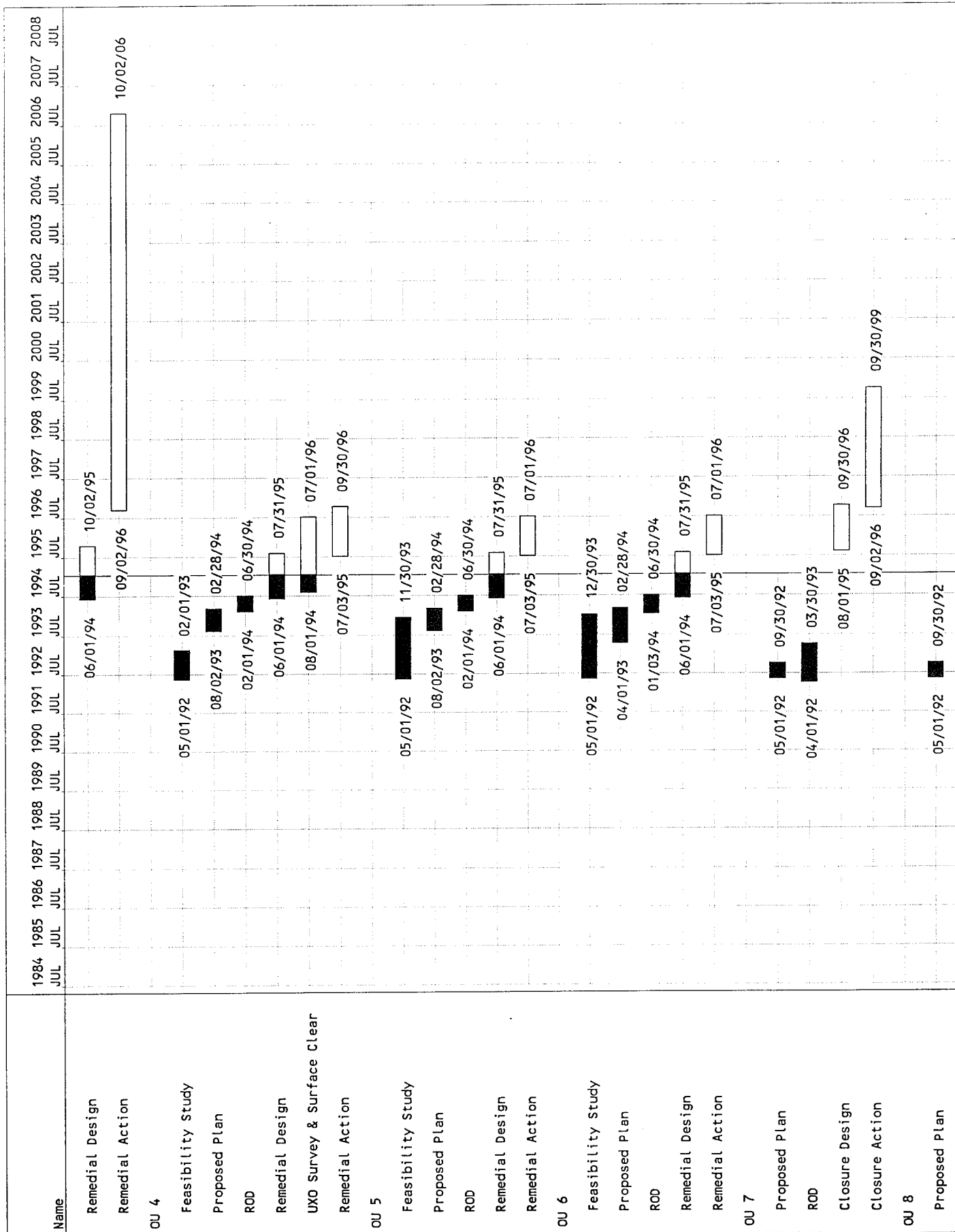
This section presents master compliance schedules and outlines fiscal year requirements for UMDA's environmental compliance programs. Mission-related and closure-related programs are scheduled separately.

This page intentionally left blank.

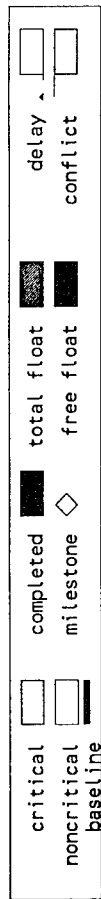
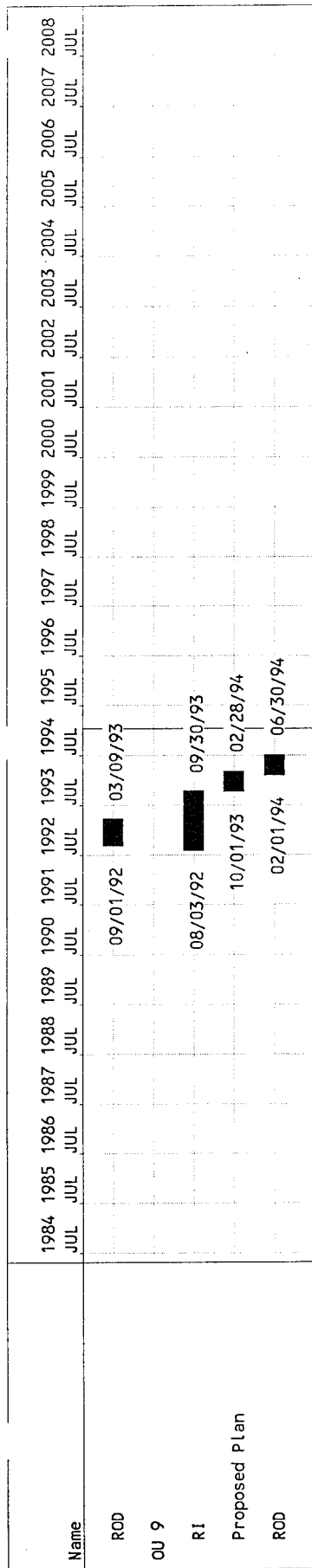
Figure 5-1 Env. Restoration



This page intentionally left blank.



This page intentionally left blank.



This page intentionally left blank.

5.2.1 Master Compliance Schedules

The compliance schedule for UMDA is provided in Figure 5-1. Mission/operational related compliance programs for UMDA is provided in Figure 5-2. The compliance schedule for closure-related compliance programs is provided in Figure 5-3. Compliance activities to be completed include removal of hazardous waste, ongoing worker training, air quality permitting and solid waste disposal.

5.2.2 Requirements by Fiscal Year

The detailed requirements information by fiscal year is contained in the UMDA Work Plan and is incorporated into this document by reference. The tables in Appendix A of this document are taken directly from the Work Plan and provide summary information on funding requirements.

5.3 Natural and Cultural Resources

This section presents master natural and cultural resources activity schedules and outlines fiscal year requirements for UMDA natural and cultural resource programs.

5.3.1 Natural and Cultural Resources Schedule(s)

The natural and cultural resources schedule for past projects at UMDA is provided in Figure 5-4. There are currently no natural and cultural resources projects planned at UMDA.

5.3.2 Requirements by Fiscal Year

The detailed requirements information by fiscal year is contained in the UMDA Work Plan and is incorporated into this document by reference. The tables in Appendix A of this document are taken directly from the Work Plan and provide summary information on funding requirements.

5.4 Meeting Schedule

Meetings are scheduled as required by the applicable process or as mandated by the RODs or FFAs. Meetings are typically held as follows:

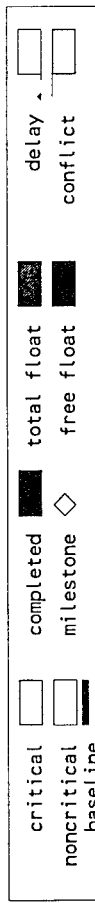
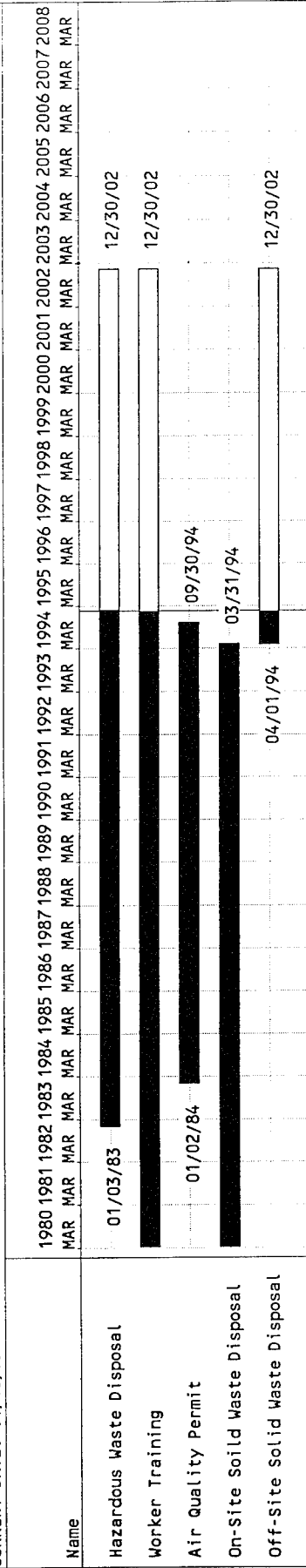
- ▶ Remedial Project Manager Meetings - as necessary
- ▶ Document Presentation Meetings - Within 10 days of document submittal
- ▶ Technical/Issue Resolution Meetings - As necessary to facilitate continued movement of the IRP or compliance activities
- ▶ Restoration Advisory Board - as necessary
- ▶ UST Program Meetings - as necessary

A listing of the past and currently scheduled BCT meetings is provided in Table 5-1.

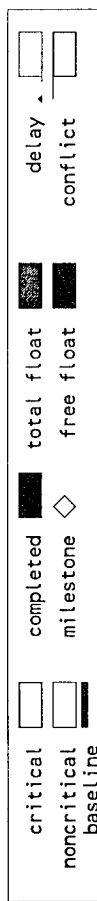
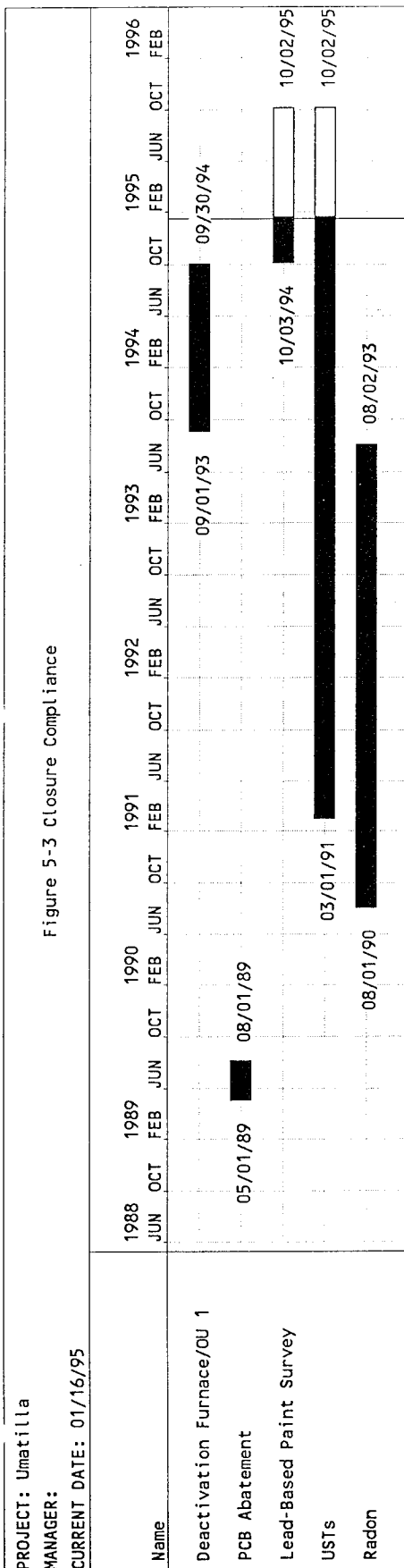
This page intentionally left blank.

PROJECT: Umatilla
 MANAGER:
 CURRENT DATE: 01/16/95

Figure 5-2 Miss/Op Compliance



This page intentionally left blank.



This page intentionally left blank.

Figure 5-4 Projected Schedule for Natural and Cultural Resources Activities

At this time, there are no Natural and Cultural Resources activities scheduled at UMDA.

This page intentionally left blank.

TABLE 5-1. BCT MEETING SCHEDULE

Date	Topic
14-16 December 1993	Bottom Up Review
18-20 January 1994	Draft BCP Review
11 February 1994	Review of RA Management Plan for Deactivation Furnace Soils OU
15 February 1994	Draft BCP Review
1-3 March 1994	TRC Meeting and Public Meetings for four OUs
15-16 March 1994	BCP Meeting with contractor
29-31 March 1994	Remedial Design Review Meeting
April 1994	Review of Final Remedial Design Plan for Phase II (Compost Treatment) of the Explosives Washout Lagoons Soils OU
August 1994	Review of Treatability Study Report for Treatment of Contaminated Soils from Ammunition Demolition Activity Area OU; Review of Treatability Study Report for Treatment of Contaminated Soils from Miscellaneous Sites OU; Review of RA Management Plan for Phase II of the Explosives Washout Lagoons Soils OU; Review of Draft Remedial Design Plan for the Miscellaneous Sites OU; Review of Draft Remedial Design Plan for the Ammunition Demolition Activity Area OU; Review of Pilot Well Testing of the Groundwater OU; Review of Final Report for Cleanup of Deactivation Furnace Soils OU; Review of Draft Remedial Design Plan for the Groundwater OU; Review of Final Report for Cleanup of Phase I of Explosives Washout Lagoons Soils OU.
November 1994	Review of Draft Remedial Design Plan for the Groundwater OU; Review of Draft Final Remedial Design Plan for the Miscellaneous Sites OU; Review of Draft Final Remedial Design Plan for the Ammunition Demolition Activity Area OU; Review of Draft Final Remedial Design Plan for the Explosives Washout Plant OU; Review of Complete Computer Modeling of the Groundwater OU.
March 1995	Review of Draft UXO Survey and Surface Clearance Report of the Ammunition Demolition Activity Area OU; Review of Draft Final Remedial Design Plan for the Groundwater OU.
May 1995	Review of Final Remedial Design Plan for the Ammunition Demolition Activity Area OU; Review of Final Remedial Design Plan for the Miscellaneous Sites OU; Review of Final Remedial Design Plan for the Explosives Washout Plant OU.
July 1995	Review of Final Remedial Design Plan for the Groundwater OU.
November 1995	Review of RA Management Plan for the Miscellaneous Sites OU; Review of RA Management Plan for the Explosives Washout Plant OU; Review of RA Management Plan for the Ammunition Demolition Activity Area OU; Review of Draft Remedial Design Plan for the Closure of Active Landfill OU.

TABLE 5-1. BCT MEETING SCHEDULE**Continued**

Date	Topic
January 1996	Review of Remedial Action Management Plan for the Groundwater OU.
March 1996	Review of Draft Final Remedial Design Plan for the Closure of Active Landfill OU.
June 1996	Review of Final Report for the Cleanup of the Miscellaneous Sites OU; Review of Final UXO Survey and Surface Clearance Report of the Ammunition Demolition Activity Area OU.
September 1996	Review of Final Remedial Design Plan for the Closure of Active Landfill OU; Review of Final Report for Cleanup of Phase II of the Explosives Washout Lagoons Soils OU; Review of Final Report for the Cleanup of the Ammunition Demolition Activity Area OU.
December 1996	Review of RA Management Plan for the Closure of Active Landfill OU.
September 1997	Review of Final Report for the Closure of the Active Landfill OU.
May 1998	Review of Statement of Condition for the Umatilla Depot Activity Environmental Restoration.

CHAPTER 6

► TECHNICAL AND OTHER ISSUES TO BE RESOLVED ◄

This chapter summarizes technical and other issues that are yet to be resolved. These issues include information management; the usability of historical data; data gaps; natural (background) levels of elements and compounds in soil, groundwater, surface water, and sediments; risk assessment; state cleanup standards; and program initiatives to complete cleanup requirements as required to meet property transfer schedules.

6.1 Information Management

This section identifies issues that need to be resolved with regard to managing information gathered and used in the installation environmental restoration and compliance programs. Issues include:

- Improve coordination of, access to, and management of environmental restoration and real estate-type data generated at UMDA;
- Ensure all UMDA data are loaded into the Installation Restoration Data Management Information System (IRDMIS) and DENIX. These electronic data management systems are used by UMDA;
- Require all contractors to submit data in electronic format that can be readily loaded into IRDMIS or DENIX;
- Establish method and procedure for the distribution of data to parties (USEPA, ODEQ, Real Property Contractors, UMDA etc.) with need for an installation perspective on activities at UMDA; and
- Develop provisions for real time data input of field decisions to expedite BRAC field work progression.

6.1.1 BCT Action Items

There is currently one BCT action item that should be addressed at UMDA in order to manage data during the environmental restoration BRAC process. The information transfer system, DENIX, should be made available to each BCT member.

6.1.2 Rationale

As the number of agencies and contractors associated with UMDA disposal and environmental restoration program grows, it is important that all parties involved be able to share data for decision making. The establishment and maintenance of an electronic information transfer station containing sampling and analysis data and spatial data (e.g., real estate and environmental condition of property maps) is the most efficient method of sharing data among parties.

6.1.3 Status/Strategy

A summary of the current status of information management relative to BRAC cleanup activities at UMDA and strategies which have been developed to address information management requirements is provided below:

- ▶ All historical data generated at UMDA are available at the BEC office. Data regarding environmental sampling for investigations at UMDA have been loaded into IRDMIS;
- ▶ Data generated in the future will be loaded into IRDMIS as it is generated on a quarterly basis, subject to inclusion of this requirement being added to or included into contracts; and
- ▶ Necessary contract modifications will be made by the U.S. Army's Service Center/Service Agent to ensure that data from ongoing efforts are submitted electronically in accordance with IRDMIS and DENIX guidance.

6.2 Data Usability

This section summarizes unresolved issues pertaining to the validity of using historical data sets in the installation environmental restoration program.

6.2.1 BCT Action Items

Eight RODs and one DD have been signed for UMDA. Historical data sets do not need to be reviewed.

6.2.2 Rationale

Historical analytical data can contribute to the completion of site characterizations and risk assessments by filling data gaps. These steps have been completed at the Depot. Eight RODs and one DD have been signed for UMDA.

6.2.3 Status/Strategy

The BCT is no longer reviewing existing environmental documents. RD or RA activities have been initiated for all of the OUs at the installation.

6.3 Data Gaps

This section summarizes unresolved issues pertaining to the determination and collection of data needed to complete UMDA's environmental restoration program.

6.3.1 BCT Action Items

The most significant data gap related to UMDA is the characterization of the ADA Area with regard to the amount and location of buried UXO.

6.3.2 Rationale

It is necessary to know the amount and location of UXO at the ADA Area in order to determine the amount of time needed to clear the property of UXO. This information is important for determining how the RA will affect other potential reuse options.

6.3.3 Status/Strategy

The ROD for the ADA Area was signed in September 1994. The ROD has a phased approach for addressing the UXO. Phase I will involve a magnetometer survey to identify location, and Phase II will involve clearance of UXO based on the reuse option, safety factors, and any regulatory requirements. Phase I will also include surface clearance of UXO identified during the magnetometer survey.

6.4 Background Levels

This section summarizes unresolved issues, BCT action items, and status and strategy related to background levels at UMDA. Nitrate/nitrite concentrations are high in off-site wells. ODEQ has been sampling and analyzing groundwater and has added analytical parameters of interest to the U.S. Army. In turn, the U.S. Army has allowed ODEQ access to UMDA groundwater wells.

6.4.1 BCT Action Items

The BCT will continue to allow ODEQ access to UMDA groundwater wells in exchange for off-site groundwater data.

6.4.2 Rationale

This exchange of information is valuable in planning remediation of contaminated groundwater at UMDA.

6.4.3 Status/Strategy

The BCT will continue to direct the ongoing exchange of information with regard to background information.

6.5 Risk Assessments

This section summarizes unresolved issues pertaining to the completion of risk assessments required to support UMDA environmental restoration and compliance programs.

6.5.1 BCT Action Items

The collection of toxicity information for an explosive parameter, 1,3,5-trinitrobenzene, is ongoing.

6.5.2 Rationale

New information regarding this constituent is expected to lower uncertainty factors and raise clean-up levels at the Explosives Washout Lagoons Groundwater OU.

6.5.3 Status/Strategy

Table 6-1 presents a summary of future land use risk for development of remedy selections. Only those sites/OUTs where remediation is occurring are listed. New information regarding the toxicity of hazardous constituents such as those for the Explosives Washout Lagoons will be incorporated into DDs as soon as possible so that RAs/strategies can be reviewed or changed.

6.6 Installation-Wide Remedial Action Strategy

An installation-wide RA strategy has been developed which addresses the ongoing environmental restoration efforts at UMDA. This section summarizes unresolved issues relative to this strategy.

6.6.1 BCT Action Items

The RA strategy for clean-up of contaminated sites at UMDA has been established and is presented in the work plan and DDs for the Depot. Final reuse decisions regarding the ADA Area have not been made. Reuse options for this area will determine UXO clearance standards.

6.6.2 Rationale

The installation-wide RA strategy is structured to achieve expedited RAs while controlling costs. The strategy is also designed to meet all BRAC and FFA investigation and restoration requirements.

TABLE 6-1. FUTURE LAND USE RISK ASSESSMENT FOR DEVELOPMENT OF REMEDY SELECTIONS

Site ID	Risks	Contaminants			Current Use	Adjacent Uses	Anticipated Uses
		Groundwater	Soil	Surface/Sediment			
Site 1/OU 1	Lead	--	Lead contamination	Lead contamination	Remediation activities	Warehousing	Industrial Warehousing
Site 4/OU 2	Explosives-contaminated soil	--	Explosives residues	Explosives residues	Remediation activities	Former Production Areas	Wildlife Reserve
Site 4/OU 3	Explosives-contaminated groundwater	Explosives contaminants	--	--	Remediation activities	Former Production Areas	Wildlife Reserve
Sites 15, 17, 19, 32, 32 (II)/OU 4	Heavy metals contamination	--	Heavy metals contamination	--	Site 32 only; site active - banning propellant trays	ADA Area	Firing Range/Impact Area
Sites 22 and 36/OU 5	Lead and cadmium	--	Lead and cadmium contamination	--	Site 22 only; site active - DRMO	Vehicle Maintenance Building	Education/Training Area
Site 5/OU 6	Explosives risks	--	--	Building contains explosives residues	Not active	Former Production Area	House Groundwater Remediation Equipment

6.6.3 Status/Strategy

The RAs outlined in the RODs are in the process of being implemented based on the schedule for these activities. Restoration activities related to compliance issues such as USTs are also completed, ongoing or planned. Planning of these activities is integrated through the BCP process and provides for the comprehensive and effective restoration of the UMDA on an installation-wide basis.

6.7 Interim Monitoring of Groundwater and Surface Water

Interim monitoring of groundwater will be conducted as requested for specific remedial activities. No surface water exists at UMDA. Action items, rationale, status and strategies for interim groundwater monitoring at UMDA are presented in the following subsections.

6.7.1 BCT Action Items

At the present time, no interim monitoring of groundwater has been requested in conjunction with any remedial activities or closed landfills.

6.7.2 Rationale

When groundwater interim monitoring is requested, the monitoring will be conducted as a required task under the ROD.

6.7.3 Status/Strategy

The BCT will develop a plan to monitor groundwater in conjunction with the ROD requiring the monitoring.

6.8 Excavation of Contaminated Materials

Excavation of contaminated materials at UMDA will occur during the remediation of five OUs as outlined in four RODs and one DD.

6.8.1 BCT Action Items

The BCT will ensure that the excavated contaminated soils at OU 1 - Deactivation Furnace Soils, OU 2 - Explosives Washout Lagoons Soil, OU 4 - ADA Area, OU 5 - Miscellaneous Sites, and OU 9 - SRI Study Sites and Transformer Locations, will be disposed of properly, as specified in the RODs and the DD. The BCT will evaluate the effectiveness of this treatment technology.

6.8.2 Rationale

The excavation and on-site treatment/disposal of contaminated materials were identified as a cost-effective method of remediating five OUs as the selected remedy in the RODs and the DD.

6.8.3 Status/Strategy

The excavation of contaminated material and on-site disposal was the selected remedy for OUs 1, 2, 4, 5, and 9, as documented in four RODs and one DD. These remedies will be implemented following FFA and RD/RA Work Plan schedules specified.

6.9 Protocols for Remedial Design Reviews

UMDA has developed RDs based on protocols established in the FFA for RD. This section summarizes unresolved issues and action items related to these protocols.

6.9.1 BCT Action Items

UMDA will continue to follow UMDA developed protocols in the FFA for RD and review the RDs.

6.9.2 Rationale

Review of RDs is critical to ensure they will achieve cleanup goals and that they are technically and administratively feasible. In addition, the solicitation of public comments on RDs can aid in the identification of community concerns which are outside technical and administrative criteria so that they can be addressed before they impact the implementation of RA.

6.9.3 Status/Strategy

RDs are reviewed by staff at the installation, USACE and the state at the 30 percent design stage. The design may be revised based on the technical comments from the reviewer(s). RDs are reviewed again at the 90 percent design stage. The RD may be revised based on the technical comments and finalized. In addition, copies of RD documents will be provided to members of the BCT, the RAB, and other interested parties for review in a manner consistent with the protocols specified under CERCLA Section 120, and in accordance with all ARARs specified in Chapter 4 and Chapter 6.11 of this document.

6.10 Conceptual Models

Conceptual site models have not been prepared for sites/OUs at UMDA. If prepared, the conceptual site model summaries will be provided in Appendix E.

6.10.1 BCT Action Items

There are currently no action items related to the development of conceptual site models for the UMDA. Models were not determined to be necessary during the completion of the installation RI and no other applications requiring the preparation of conceptual site models have been identified.

6.10.2 Rationale

In the event that an application requiring the preparation of conceptual site models is identified at UMDA, models will be developed based on the results of past, current, and future restoration activities.

6.10.3 Status/Strategy

The BCT will continue to monitor environmental restoration activities at UMDA to determine the need to prepare conceptual site models.

6.11 Cleanup Standards

Cleanup standards are used to identify remedial alternatives capable of achieving cleanup goals and the time at which remediation is complete. Action items, rationale, and the status/strategy related to the establishment of cleanup standards for UMDA are presented in the following sections.

6.11.1 BCT Action Items

UMDA has established cleanup standards with the regulatory agencies as part of the CERCLA and FFA process. The BCT will continue to meet the cleanup standards established in the installation DDs and the FFA.

6.11.2 Rationale

UMDA entered into an FFA with the USEPA and ODEQ. Under the FFA, regulatory obligations, such as the remediation of sites to established cleanup standards, are to be completed.

6.11.3 Status/Strategy

The BCT will continue to ensure that the cleanup standards established in the RODs and DD are met.

6.12 Initiatives for Accelerating Cleanup

Initiatives for accelerating cleanup will continue at the Depot. Action items, rationale status and strategies related to developing these initiatives are described in the subsections below.

6.12.1 BCT Action Items

The Depot has realigned and its new mission is currently the static storage of chemical agents and in the future, the incineration of chemical agents. Following the conclusion of chemical demilitarization, which is expected to take five years after construction of the chemical agent deactivation incinerator, the Depot will close.

The BCT will continue to implement and oversee remedial activities so that they are complete or well underway at closure. Groundwater remediation at the Explosives Washout Lagoons Groundwater OU is expected to be completed in approximately 10 to 20 years.

6.12.2 Rationale

It is desirable to accelerate remedial activities at UMDA, even though most of the property cannot be transferred prior to closure or during chemical agent demilitarization activities.

6.12.3 Status/Strategy

Remedial activities will continue based on established schedules. These schedules were developed with consideration of ongoing mission requirements, expedited cleanup and disposal of excess property and community planning goals. It is desirable that remedial activities be completed prior to closure. (Completion of groundwater remediation may not be possible before closure of the Depot).

6.13 Remedial Action

This section summarizes unresolved issues pertaining to the implementation of RAs performed as part of UMDA's environmental restoration program. Currently, the major issues regarding RAs are quality assurance of RAs and RA contracting issues.

6.13.1 BCT Action Items

The BCT will ensure that technical issues that affect remedial activities are addressed in a timely manner. Contracting issues regarding remedial activities will also be addressed as they arise. Also, the U.S. Army real estate office will be kept apprised of RAs which will continue past transfer. Issues relative to access, liability, impact or redevelopment and conflicts with construction will be resolved.

6.13.2 Rationale

Technical issues must be addressed in a timely manner to ensure that remedial activity schedules are not adversely affected.

6.13.3 Status/Strategy

At this time, there are no unresolved technical issues affecting quality assurance of remedial activities or RA contracting issues at UMDA. UMDA will develop a QA program sufficient to cover quality assurance oversight of RA and RA contracting issues which are implemented prior to initiation of RA.

6.14 Review of Selected Technologies for Application of Expedited Solutions

At this time, all of the technologies for expedited RA have been selected for OUs at UMDA. Action items, rationale, and status/strategy for selected technologies are described below.

6.14.1 BCT Action Items

As selected technologies for application of expedited solutions are developed, they will be reviewed and assessed for appropriateness.

6.14.2 Rationale

It is desirable to expedite evaluation of remedial technologies at UMDA in order to facilitate the property transfer process. Remedial solutions have already been proposed at the UMDA, as of April 1994, so that no other selections remain to be expedited. Previously, the Explosives Washout Lagoons Soils OU was separated out from the site-wide RI/FS to expedite the composting of explosives-contaminated soils. At the time, the only technology proven for explosives was incineration, and success of the test led UMDA and the regulators to consider that composting would be the best technology for an expedited cleanup of the lagoons. A separate risk assessment, FS, and ROD was conducted for the lagoons soils. The ROD was signed in September 1992, approximately one year and nine months earlier than the expected RODs for most of the other UMDA sites.

For metals-contaminated soil at the UMDA deactivation furnace, solidification was considered the most likely choice for RA. Because the site was fairly well-defined, and the cleanup technology was known, this site was also broken out as a separate OU. The ROD was signed in January 1993, approximately one and a half years ahead of the expected RODs for most of the other sites.

6.14.3 Status/Strategy

The BCT will continue to evaluate technologies for expedited cleanups as these technologies become known and available.

6.15 Hot Spot Removals

There have been no hot spot removals at UMDA. Action items, rationale, and status/strategy related to this issue are described in more detail in the following subsections.

6.15.1 BCT Action Items

If any hot spots are identified at UMDA, the BCT will review the situation to determine if removal of the hot spots will expedite cleanup and property transfer efforts. If these efforts will be expedited by a hot spot removal, the BCT may elect to incorporate this approach into the RA strategy for the Depot.

6.15.2 Rationale

Hot spot removals may expedite any required cleanup effort and facilitate property transfer. If appropriate, and if hot spot removals are identified, they will be used to achieve these goals.

6.15.3 Status/Strategy

Should information arise which would suggest the need for immediate action in order to protect human health and the environment, the BCT in conjunction with USEPA Region X and ODEQ will make decisions regarding hot spot removals.

6.16 Identification of Clean Properties

The identification of clean properties has been completed at UMDA. The status and strategy for the continued evaluation of these properties is described in the following subsections.

6.16.1 BCT Action Items

As areas at UMDA are remediated, the BCP and associated environmental-condition-of-property and suitable-property-for-transfer maps will be updated to reflect the changes. Similarly, if additional contamination is identified at the installation, appropriate modifications to the maps will be made.

6.16.2 Rationale

It is necessary to identify clean properties as part of the property transfer effort. SARA Title I, Section 120 to CERCLA addresses the transfer of federal property on which any hazardous substances were stored during any one year period, or that is known as the site of any release or disposal of hazardous substances. SARA Title I, Section 120 to CERCLA also requires any deed for the transfer of this federal property to contain, to the extent such information is available on the basis of a complete search of agency files, the following information:

- ▶ A notice of the type and quantity of any hazardous substance storage, release, or disposal;

- ▶ A notice of the time at which such storage, release, or disposal took place;
- ▶ A description of what, if any, RA has occurred; and
- ▶ A covenant warranting that appropriate RA will be taken.

Under CERCLA Section 120, federal property which has had a release cannot be transferred unless the release has been remediated or has a remedy in place.

In October 1992, Public Law 102-426, CERFA amended Section 120(h) of CERCLA and established new requirements with respect to contamination assessment, cleanup, and regulatory agency notification/concurrence for federal facility closures. CERFA requires the federal government, before termination of federal activities on real property, to identify property where no hazardous substances were stored, released, or disposed. The primary CERFA objective is for federal agencies to quickly identify real property offering the greatest opportunity for immediate reuse and redevelopment.

6.16.3 Status/Strategy

Chapters 3.4 and 3.5, Environmental Condition of Property and Suitable Property for Transfer, outline the steps UMDA has taken to define the environmental condition of property and identify that property which is suitable for transfer as required under CERCLA Section 120 and CERFA.

The CERFA Investigation for the installation was completed in April 1994. An environmental-condition-of-property map was generated as part of that effort and is provided as Figure 3-2 in Chapter 3.4 of the BCP. The map identifies property in four environmental categories on a one-acre grid basis.

The CERFA map has been further refined as part of the BCP process. A suitable-property-for-transfer map has been developed using information from the CERFA investigation, the installation RI/FS and other sources. The map identifies UMDA properties in seven categories based on historical evidence of storage or release of hazardous substances or POL and the status of related restoration activities. This map is provided in Appendix F as Figures 3-3A and 3-3B. The map was created using Geographical Information System (GIS) technology.

The environmental-condition-of-property map and suitable property-for-transfer map will be updated as areas of UMDA are remediated so that an accurate visual portrayal of property available for transfer is maintained.

6.17 Overlapping Phases of the Cleanup Process

RDs for RAs will continue to be developed. Specific action items, rationale, and strategies necessary to accomplish this are described in the following subsections.

6.17.1 BCT Action Items

The BCT will review the RDs to evaluate where opportunities exist for combining RAs in order to eliminate duplication of effort.

6.17.2 Rationale

Overlapping RAs can eliminate redundant efforts and facilitate property transfer. The RI and FS phases overlapped significantly because of the need to conduct a second phase of the RI. The overall RI was completed to define the groundwater contamination at the washout lagoons, and the extent of soil contamination at some sites. A second phase of the RI was conducted from the fall of 1992 until the fall of 1993 to collect more information, and the information was added to the ongoing draft and draft final FS reports in early and late 1993.

For the Washout Lagoons Soils OU, the ROD was signed in September 1992 with the specification that composting would be conducted using either a mechanically agitated vessel or windrow method. Costs for windrows were specified in the ROD, and although it was expected that windrows would be successful, only the agitated vessel method had been demonstrated. A windrow treatability study was initiated in the fall of 1992 and completed in 1993, concurrent with the RD. Windrow composting was shown to be successful, and was retained in the final RD.

During September 1994, the RODs for the ADA area, Miscellaneous Sites, the Explosive Washout Plant, the Explosives Washout Lagoons Groundwater, and the DD for the SRI Study Sites were signed. Limited RD is expected. No significant change is expected in the remedies prior to ROD signature, so an early start on RD will expedite completion of the RAs.

6.17.3 Status/Strategy

Some RAs planned at UMDA could be combined. For example, UXO removal and site remediation could occur at several sites concurrently.

6.18 Improved Contracting Procedures

Efficient and cost-effective contracting procedures are necessary to expedite the restoration process. Specific action items, rationale, and status/strategy for improved contracting procedures are outlined in the subsections below. Improved contracting procedures include pre-placed indefinite delivery contracts, which are being utilized for UST removal and petroleum-contaminated soil remediation. These contracts help to expedite the BRAC cleanup. These contracts include pre-negotiated unit pricing, scope of work for analytical data acquisition, RA management plans, and regulatory reporting requirements.

6.18.1 BCT Action Items

The BCT will continue to investigate approaches for expediting contract procedures for cleanup work.

6.18.2 Rationale

Timeliness in the contracting process is important for completing restoration work. To expedite removal of contamination from the washout lagoon soils, the action was separated into two phases. In the first phase, the soil was excavated and stockpiled. This effort was well defined and standard materials handling equipment and procedures were used. An invitation for bid was used to select the contractor.

A request for proposal was used for the more complex second phase composting of the stockpiled soil. Technical requirements were advertised and distributed to the remediation industry for proposals. The contractor was selected based on technical merit and price. The request for proposal solicitation allows the evaluation of different and often innovative technical approaches to achieve remediation goals.

6.18.3 Status/Strategy

UMDA's use of pre-placed indefinite delivery contracts and the phased approach using invitations for bids and requests for proposals will allow the Depot to complete restoration work in a timely manner.

6.19 Interfacing with the Community Reuse Plan

Interfacing with a community reuse plan is desirable to expedite implementation of RAs and identify and transfer of parcels to the community. This section identifies issues that need to be resolved relative to this process. The plan was drafted in late 1993, and was considered in the preparation of this BCP. The reuse plan will be revised, as limitations on future property use are identified and incorporated into the planned use of the different reuse parcels at UMDA. The UXO in the ADA Area is the greatest limitation for property reuse on the Depot. The reuse map included in this BCP is the latest version available.

Reuse of UMDA is also affected by the U.S. Army "footprint", which is the property that the U.S. Army must retain in order to continue its chemical munitions storage mission and chemical stockpile demilitarization effort. This footprint is continuing to evolve and the latest version is included in this BCP.

6.19.1 BCT Action Items

The BCT will advise the local redevelopment authority of property conditions if new environmental discoveries are made at UMDA. The BCT should be prepared to modify the BCP as the reuse plan is modified and finalized.

6.19.2 Rationale

Coordination with the community reuse plan contributes to the selection of appropriate cleanup standards and facilitates implementation of remedial alternatives, ultimately resulting in a successful transfer of property.

6.19.3 Status/Strategy

The community reuse plan or the BCP will be revised according to the reuse needs, which are based on the desires of the community and the budget available.

6.20 Bias for Cleanup Instead of Studies

Specific action items and strategies related to this topic are provided in the subsections below. At this time, all investigations of the sites/OUTs at UMDA have been completed. During the investigations at UMDA, several of the most contaminated sites were separated out of the overall investigation so that cleanup of these sites could be expedited. This action allowed the cleanup of these sites to begin approximately 1-2 years prior to the cleanup of the other sites.

6.20.1 BCT Action Items

The BCT will make every effort to implement any necessary RAs as soon as possible to facilitate transfer of UMDA. Investigations which identify and delineate contamination will be completed in a timely manner, so cleanup can commence.

6.20.2 Rationale

Although cleanup is preferred in lieu of extensive studies, extensive studies at UMDA have provided sufficient justification for no action decisions at 72 of the 83 sites identified in the RI/FS.

6.20.3 Status/Strategy

Where appropriate, for any future sites that are identified, the BCT will promote studies instead of cleanup to expedite the transfer of property.

6.21 Expert Input on Contamination and Potential Remedial Actions

It is necessary that proper resources are used to evaluate contamination and associated RAs. The following sections outline action items, rationale, and strategies related to this issue. The UMDA has utilized services of and consulted with various contractors and expert agencies in conducting the environmental work. The USAEC has conducted most of the RI/FS work and other surveys for asbestos, radon, and USTs. The UMDA has used the services of the USACE to conduct all of the RA work. During the RI/FS, the USAEC has consulted with the following agencies:

- ▶ The U.S. Army Corps of Engineers-Seattle District,
- ▶ The U.S. Army Corps of Engineers-Waterways Experiment Station,
- ▶ The Oregon Water Resources Department,
- ▶ The University of Washington, and
- ▶ The National Audubon Society.

6.21.1 BCT Action Items

The BCT is currently utilizing several resources to evaluate potential RAs and technologies.

6.21.2 Rationale

The use of several entities involved in the restoration of UMDA will promote the expedited property transfer process.

6.21.3 Status/Strategy

The BCT will continue to ensure that the proper resources are used to evaluate contamination and potential RAs.

6.22 Generic Remedies

The USEPA has issued guidance on "generic" or "presumptive" remedies for a few specific contamination scenarios. For example, one of the generic remedies for vadose zone volatile organic compound contamination is soil vapor extraction. Generic remedies were not used for the operable units at UMDA. Where RAs were needed, an FS was conducted which included screening of technologies and remedial alternatives. Action items, rationale, and status/strategies related to generic remedy implementation at UMDA are described in the following subsections.

6.22.1 BCT Action Items

The BCT does not need to consider generic remedies to expedite implementation of the installation's RA strategy.

6.22.2 Rationale

FSs for RAs have been conducted for all OUs at UMDA.

6.22.3 Status/Strategy

Generic remedies will not be used because UMDA's FSs have been conducted and RAs have been started for several sites.

6.23 Partnering (using innovative management, coordination, and communication techniques)

Partnering is the process of fostering cooperation and communication between key players in the BRAC process. Outstanding issues relative to this process are described in the following subsections. The FFA between UMDA, USEPA, and ODEQ provides the framework for all three parties to work together to be in accordance with CERCLA and State of Oregon laws.

6.23.1 BCT Action Items

At the present time, the BCT is actively fostering partnerships with USAEC, USEPA, ODEQ, and the community through scheduled meetings and the document review process.

6.23.2 Rationale

Close cooperation and coordination between UMDA, USAEC, the community, and regulators helps foster good working relationships, and can accelerate implementation of the installation's RA strategy by keeping "key players" informed of the status of environmental efforts, soliciting their input, and addressing potential concerns in the remediation process.

6.23.3 Status/Strategy

The BCT plans to continue its activities and to encourage information transfer between UMDA, USAEC, the community and regulators.

6.24 Updating the CERFA Report and Natural/Cultural Resources Documentation

Outstanding issues related to updating the CERFA and natural/cultural resource documents for UMDA are outlined in this section.

6.24.1 BCT Action Items

Natural and cultural resource information has been documented at UMDA. The BCT will update the environmental-condition-of-property and suitable-property-for-transfer maps as necessary when RAs at UMDA are complete.

6.24.2 Rationale

Updates of the environmental-condition-of-property and suitable-property-for-transfer maps are necessary to reflect changes in property classification based on completion of RAs.

6.24.3 Status/Strategy

As new information regarding natural and cultural resources is documented in the Disposal and Reuse EIS, new programs for management will be developed. The BCT will continue to manage natural and cultural resources at the Depot as per the current program. The BCP will

periodically review the CERFA report in conjunction with new data from RAs to determine if parcels can be reclassified to allow property transfer.

6.25 Implementing the Policy for On-site Decision Making

Most decisions for cleanup actions have been made as of April 1994. No impediments to quick decision making are expected in the future. Formal U.S. Army approval of RODs has remained with the installation Commander and Deputy Assistant Secretary, Installation, Logistic, and Environmental level. This section describes outstanding issues relative to the implementation of policies for such on-site decision making.

6.25.1 BCT Action Items

If additional decisions for cleanup actions are necessary, the BCT will consult the appropriate U.S. Army representatives.

6.25.2 Rationale

Close cooperation and coordination between the decision making groups has helped to foster good working relationships. It has also helped to accelerate implementation of the installation-wide RA strategy by keeping the "key players" informed of the status of environmental efforts by soliciting their input, allowing effective on-site decision making, and addressing potential concerns in the remediation process.

6.25.3 Status/Strategy

The BCT plans to continue its activities and to encourage information transfer between the UMDA, USEPA, ODEQ, and the community.

6.26 Structural and Infrastructural Constraints to Reuse

The most significant constraint on future reuse is a limitation on the use of groundwater wells at UMDA. Outstanding issues relative to structural and infrastructural constraints to reuse are identified in this section.

The State of Oregon grants UMDA the right to use the existing UMDA water supply wells in order to operate the Depot; however, it is unknown whether future owners would be permitted to access groundwater at these wells.

6.26.1 BCT Action Items

As new information regarding this significant constraint becomes available, the BCT will evaluate approaches for overcoming this constraint or new constraints that may be identified in the future.

6.26.2 *Rationale*

Potential structural and infrastructural constraints must be overcome, or alternative reuses must be identified, to allow transfer of UMDA property.

6.26.3 *Status/Strategy*

BCT will await the decision of the State of Oregon who will determine if future property owners will have access to the groundwater from the existing UMDA water supply wells.

6.27 Other Technical Issues to be Resolved

There are no other technical issues to be resolved at UMDA.

This page intentionally left blank.

CHAPTER 7

► PRIMARY REFERENCES ◀

1. Final Interim RCRA Facility Assessment, Umatilla Depot Activity, NUS Corporation, June 1987.
2. Enhanced Preliminary Assessment for Umatilla Depot Activity, Dames and Moore, April 1990.
3. Risk Assessment for the Explosives Washout Lagoons, Dames and Moore, March 1992.
4. Feasibility Study for the Explosives Washout Lagoons Soils Operable Unit, Dames and Moore, April 1992.
5. Remedial Investigation Report for the Umatilla Depot Activity, Dames and Moore, August 1992.
6. Human Health Baseline Risk Assessment, Umatilla Depot Activity, Dames and Moore, August 1992.
7. Record of Decision for the Explosives Washout Lagoons Soils Operable Unit, September 1992.
8. Record of Decision for Deactivation Furnace Soils Operable Unit, USACE, Seattle District, December 1992.
9. Ecological Assessment Report for the Umatilla Depot Activity, Dames and Moore, January 1993.
10. Record of Decision for the Active Landfill Operable Unit, March 1993.
11. Record of Decision for the Inactive Landfills Operable Unit, March 1993.
12. Supplementary Remedial Investigation Report for Umatilla Depot Activity, Dames and Moore, September 1993.
13. Supplementary Human Health Baseline Risk Assessment Report for the Umatilla Depot Activity, Dames and Moore, September 1993.
14. Draft Record of Decision for the Explosives Washout Plant Operable Unit, January 1994.
15. Draft Record of Decision for the Explosives Washout Lagoons Groundwater Operable Unit, February 1994.

16. Draft Record of Decision for the Ammunition Demolition Activity Area Operable Unit, February 1994.
17. Draft Record of Decision for the Miscellaneous Sites Operable Unit, February 1994.
18. Internal Draft Record of Decision for the Supplementary Remedial Investigation Study Sites and PCB Transformer Locations, February 1994.

APPENDIX A

► FISCAL YEAR FUNDING REQUIREMENTS/COSTS ◄

This page intentionally left blank.

TABLE A-1. TOTAL ENVIRONMENTAL PROGRAM SUMMARY

FUND REQUIREMENTS (\$000)								
Program	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	Total
IRP DERA	0	0	0	6380	3470	910	910	11670
IRP BRAC	4530	8735	7340	0	0	0	0	20605
EC-CR ¹	282	174	400	0	0	0	0	856
EC-MR ²	0	0	0	0	0	0	0	0
NAT/CULT	0	0	0	0	0	0	0	0
Total	4812	8909	7740	6380	3700	910	910	33131

**TABLE A-2. HISTORICAL ENVIRONMENTAL
PROGRAM EXPENDITURES SUMMARY**

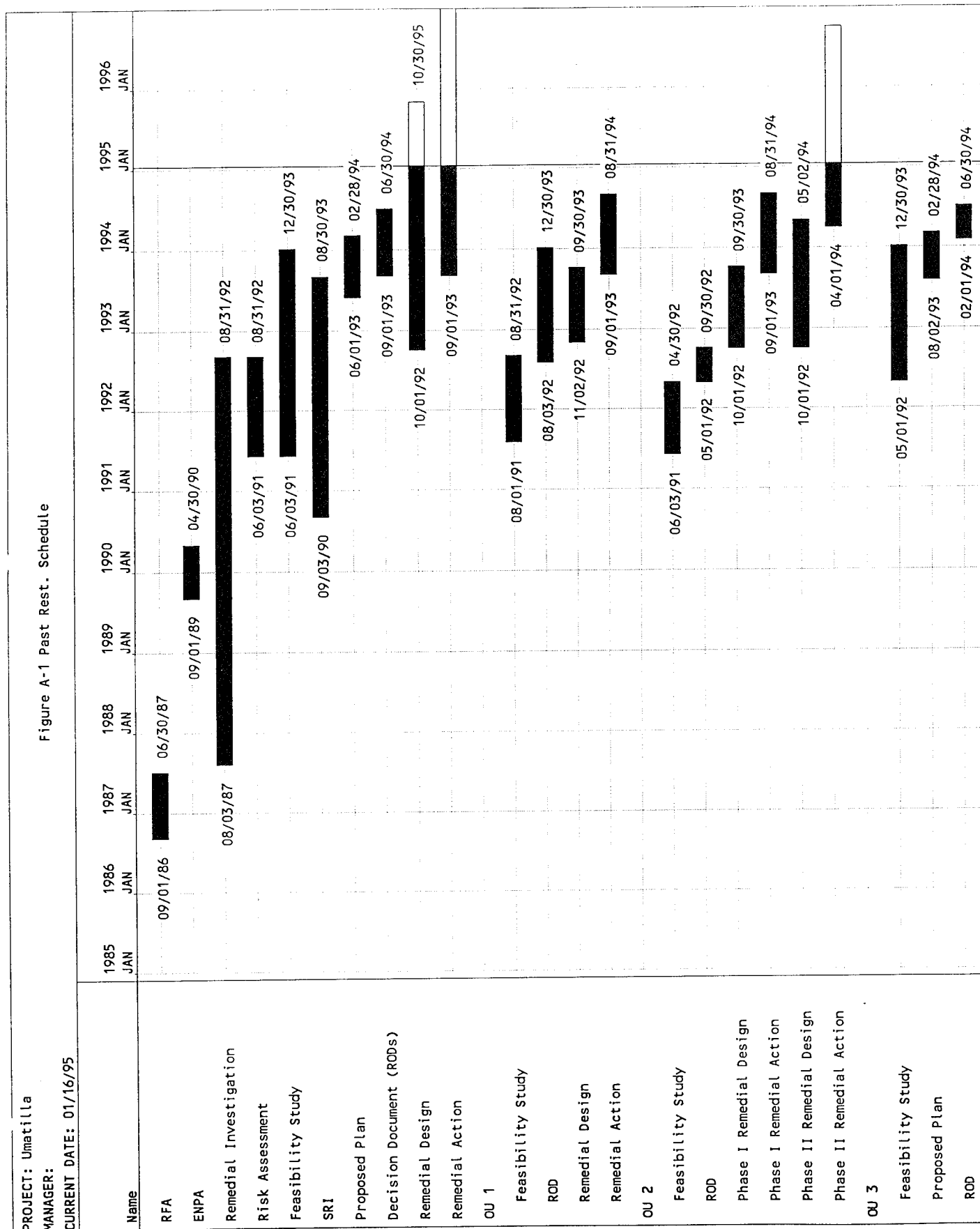
FUND REQUIREMENTS (\$000)								
Program	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	Total
IRP DERA	609	998	165	4891	3744	6041	178	16626
IRP BRAC	0	0	0	0	0	400	7115	7515
EC-CR ¹	0	10	50	310	196	167	0	733
EC-MR ²	0	0	0	0	0	0	0	0
NAT/CULT	0	0	0	0	0	0	0	0
Total	609	1008	215	5201	3940	6608	7293	24874

¹Environmental Compliance-Closure Related

²Environmental Compliance-Mission Related

This page intentionally left blank.

Figure A-1 Past Rest. Schedule



This page intentionally left blank.

Name	1985 JAN	1986 JAN	1987 JAN	1988 JAN	1989 JAN	1990 JAN	1991 JAN	1992 JAN	1993 JAN	1994 JAN	1995 JAN	1996 JAN
OU 4												
Remedial Design												
Feasibility Study												
Proposed Plan												
RDD												
Remedial Design												
UXO Survey & Surface Clear												
OU 5												
Feasibility Study												
Proposed Plan												
RDD												
Remedial Design												
OU 6												
Feasibility Study												
Proposed Plan												
RDD												
Remedial Design												
OU 7												
Proposed Plan												
RDD												
OU 8												
Proposed Plan												
RDD												
OU 9												
RI												
Proposed Plan												
RDD												

This page intentionally left blank.

APPENDIX B

► INSTALLATION ENVIRONMENTAL RESTORATION DOCUMENTS SUMMARY TABLES ◀

This page intentionally left blank.

TABLE B-1. PROJECT DELIVERABLES

Year	Phase	Project Title	Report No.	Sites Examined	Contractor/Delivery Date
1987	PA	RCRA Facility Assessment	1	1-30	NUS Corporation, June 1987
1990	ENPA	Enhanced Preliminary Assessment	2	1-82	Dames & Moore, April 1990
1992	RA	Risk Assessment for Explosive Washout Lagoons	3	4	Dames & Moore, April 1992
1992	RI	Remedial Investigation/ Alternatives	4	4	Dames & Moore, April 1992
1992	FS	Feasibility Study	5	58 sites	Dames & Moore, August 1992
1992	RA	Human Health Baseline Risk Assessment	6	58 sites	Dames & Moore, August 1992
1993	SRI	Supplementary Remedial Investigation	12	13 sites	Dames & Moore, September 1993
1993	RA	Supplementary Human Health Baseline Risk Assessment	13	13 sites	Dames & Moore, September 1993

TABLE B-2. SITE DELIVERABLES

Site ID	ENPA/SI	RI/FS	RD/RA	Close Out	IRA	LTM	NFRAP
OU 1	2	5					
OU 2	2	4,5					
OU 3	2	5					
OU 4	2	5					
OU 5	2	5					
OU 6	2	5					
OU 7	2	5					10
OU 8	2	5					11
OU 9	2	5					18

Note: Numbers refer to report numbers listed in Table B-1, Project Deliverables.

**TABLE B-3. TECHNICAL DOCUMENTS/
DATA LOADING STATUS SUMMARY**

Date	IRP Title	Site/OU	Contractor	Service Center	IRDMIS Status/Other
	Technical documents/data loading status summary will be provided in later versions of the BCP.				

APPENDIX C

► DECISION DOCUMENT/ROD SUMMARIES ◄

This page intentionally left blank.

APPENDIX C

► DECISION DOCUMENT/ROD SUMMARIES ◀

As of February 1994, UMDA has prepared eight RODs for OUs 1 through 8, and one Decision Document for OU 9. The RODs summarize the findings of the RI/FS and Risk Assessments and the remedial alternatives selected to address the contamination found at the sites. Two of the RODs and the Decision Document are "No Action" remedies. These will also be addressed in this section because they went through the formal ROD process.

For OU 1 (Deactivation Furnace Soils), the selected remedy is excavation of all soils with lead concentrations exceeding the cleanup level of 500 mg/kg. These soils will be solidified and disposed of in the UMDA state-permitted active landfill.

For OU 2 (Explosives Washout Lagoons Soils), the selected remedy includes: excavation of lagoon soils having 2,4-trinitrotoluene (TNT) or hexahydro-1,3,5-trinitro-1,3,5-triazine (commonly referred to as Royal Demolition Explosive or RDX) concentrations greater than 30 ppm each (initially estimated to be 6,800 tons of soil); onsite biological treatment of excavated soils, via composting, to TNT and RDX concentrations of 30 ppm or less; and replacement of composted soils in the excavation, covering the area with two feet of clean soil, and revegetating.

For OU 3 (Explosives Washout Lagoons Groundwater), the selected remedy is a 10-year on-site treatment using granular activation carbon (GAC) followed by reinfiltration of the treated groundwater. The major components include: extraction from a series of three wells over a 10-year period, pretreatment by metals precipitation, treatment by GAC to meet proposed cleanup levels, and reinfiltration into an aquifer.

For OU 4 (Ammunition Demolition Activity (ADA) Area), the selected remedy is on-site treatment of all contaminated soil by solidification/stabilization and on-site disposal. The specific steps include: excavation of approximately 14,000 cubic yards of contaminated soil at ADA sites 15, 17, 19, 31, and 32 (Area II), removal of UXO from these sites during excavation as necessary to permit safe excavation and access, treatment by a mobile solidification/stabilization system, disposal of treated soil from the solidification/stabilization system into the on-site active landfill, and restoration of excavated areas with clean backfill and vegetation.

For OU 5 (Miscellaneous Sites), the selected remedy is excavation of contaminated soils at Sites 22 and 36, solidification/stabilization of the soils, followed by on-site disposal of the treated materials and replacement of excavated soil with clean soil.

For OU 6 (Explosive Washout Plant, Building 489), the selected remedy is the cleanout and disposal of the standing water and sludge in the washout water sump, followed by remote flaming of the sump. The Washout Plant and process equipment would be decontaminated by

the hot gas process before removal of the process equipment from the Washout Plant Building. The major components of the selected remedy include: pumping out wet explosive sludge from the washout water sump and moving it to the burn trays in the ADA area to dry and be burned; pumping out contaminated water from the washout water sump and moving it to the burn trays in the ADA Area to dry and be burned; excavate and flame (by remote operation) the empty washout water sump; and landfill the decontaminated concrete sump.

For OU 7 (Active Landfill), the selected remedy is the No Action Alternative. Following remedial activities at other sites/OU's on the Depot, the Active Landfill will be capped and closed in accordance with Oregon State solid waste regulations. Groundwater monitoring will be performed for five years to ensure the landfill does not constitute a source of contamination.

For OU 8 (Inactive Landfill), the selected remedy is the No Action Alternative. A five-year review of the Inactive Landfills is not required because the physical site conditions are not expected to be altered and no site access restrictions, risk-based or otherwise, are needed.

For OU 9 (Supplementary Remedial Investigation (SRI) Study Sites and PCB Transformer Locations), the selected remedy is the No Action Alternative. Because this remedy will not result in hazardous substances remaining onsite above health-based levels, the five-year review will not apply to the no action remedy. Even though no remedial action is necessary under CERCLA, three sites will have minor remediations as recommended in the Supplemental Remedial Investigation. Transite siding at Site 12 will be removed and disposed of properly; the existing sump at Site 75, Battery Acid Collection Sump, will be cleaned out and decontaminated when current operations end; and soil in the concrete vault at transformer location 229 (which contained 3.8 ppm of PCB 1260) will be cleaned out and disposed of properly.

APPENDIX D

► NO FURTHER RESPONSE ACTION PLANNED (NFRAP) SUMMARIES ◄

Table D-1 identifies those sites where restoration has been completed or where no releases have occurred at UMDA. The table will be updated as additional remedial actions are completed.

**TABLE D-1. NO FURTHER RESPONSE
ACTION PLANNED (NFRAP) SUMMARIES**

Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
OU 1 - DEACTIVATION FURNACE SOILS							
Site 1	Deactivation Furnace Soils	✓	✓	✓	✓	Heavy metals with lead as primary contaminant	Contaminated soil was excavated as per ROD. Remediation is complete.
OU 4 - AMMUNITION DEMOLITION ACTIVITY AREA OU							
Site 7	Aniline Pit	✓	✓	✓	✓	No contamination identified	No further action as per ROD.
Site 8	Acid Pit	✓	✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 13	Smoke Canister Disposal Area	✓	✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 14	Flare and Fuse Disposal Area	✓	✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 16	Open Detonation Pits	✓	✓	✓	✓	Heavy metal contamination estimated cancer and non-cancer risks were within the acceptable range for residential use.	Phased clearance of UXO as per ROD.
Site 18	Dunnage Pits	✓	✓	✓	✓	Heavy metal contamination, estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 21	Missile Fuel Storage Areas	✓	✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 38	Pit Field Area		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 41	Chemical Agent Decontamination Solution Burial Area		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.

**TABLE D-1. NO FURTHER RESPONSE
ACTION PLANNED (NFRAP) SUMMARIES**

Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 55	Trench/Burn Field		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 56	Munitions Crate Burn Area		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 57	Former Pit Area Locations		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 58	Borrow/Burn Disposal Area		✓	✓	✓	No contamination identified.	No further action as per ROD.
Site 59	Chemical Agent Decontamination Solution Disposal Area		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 60	Active Firing Range		✓	✓	✓	Heavy metal contamination; estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
OU 5 - MISCELLANEOUS SITES							
Site 3	Hazardous Waste Storage Facility	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 6	Sewage Treatment Plant	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 9	Remote Munitions Disassembly GB Bomb Area	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 10	Former Agent H Storage Area	✓	✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.

**TABLE D-1. NO FURTHER RESPONSE
ACTION PLANNED (NFRAP) SUMMARIES**

Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 25-I	Metal Ore Piles - Location I	✓	✓	✓	✓	Cancer risk was not calculated and there were high uncertainties in the results because, contamination was sporadic and only slightly above background levels, caused the hazard quotient to be excluded.	No further action as per ROD.
Site 25-II	Metal Ore Piles Location II	✓	✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 26	Metal Ingot Stockpiles	✓	✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 27	Pesticide Storage Building	✓	✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 29	Septic Tanks	✓	✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 30	Stormwater Discharge Area	✓	✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 33	Gravel Pit Disposal Area		✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 34	Paint Spray and Shot Blast Areas		✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 35	Malathion Storage Leak Area		✓	✓	✓	High cadmium contamination; Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 37	Building 131 Paint Sludge Discharge Area		✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as per ROD.

**TABLE D-1. NO FURTHER RESPONSE
ACTION PLANNED (NFRAP) SUMMARIES**

Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 39	QA Function Range		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 44-I	Road Oil Application Disposal Sites		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 44-II	Road Oil Application Disposal Sites		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 45	Buildings 612 and 617 Boiler Discharge Areas		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 46	Railcar Unloading Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 47	Boiler/Laundry Effluent Discharge Area		✓	✓	✓	Cancer risk was not calculated and there were high uncertainties in the results because, contamination was sporadic and only slightly above background levels, caused the hazard quotients to be excluded.	No further action as per ROD.
Site 48	Pipe Discharge Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 49	Drill and Transfer (DAT) Site		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 50	Railroad Landfill Areas		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 52	Coyote Coulee Discharge Gullies		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 53	Building 433 Collection Sump/Cistern and Disposal Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per ROD.

**TABLE D-1. NO FURTHER RESPONSE
ACTION PLANNED (NFRAP) SUMMARIES**

Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 67	Building 493 Brass Cleaning Operations Area		✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 80	Disposal Pit and Graded Area		✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 81-I	Former Raw Materials Storage		✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 81-II	Former Raw Materials Storage		✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as per ROD.
Site 82	Former Gravel Pit/Disposal Location		✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as per ROD.
OU 7 - ACTIVE LANDFILL							
Site 11	Active Landfill	✓	✓	✓	✓	Landfill's current condition does not pose an unacceptable risk to human health or the environment.	ROD signed. No action was selected as the remedy.
OU 8 - INACTIVE LANDFILLS							
Site 12	Inactive Landfills	✓	✓	✓	✓	These landfills current condition does not pose an unacceptable risk to human health or the environment. Two areas within the Northern Inactive Landfill were investigated further in the SRI.	ROD signed. No action was selected as the remedy.
OU 9- SUPPLEMENTARY REMEDIAL INVESTIGATION (SRI) STUDY SITES AND PCB TRANSFORMER LOCATIONS							
Site 2	Storage Igloos	✓	✓			Good management practices are believed to preclude environmental concerns.	ENPA recommended no further investigation.

**TABLE D-1. NO FURTHER RESPONSE
ACTION PLANNED (NFRAP) SUMMARIES**

Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 12	Inactive Landfills (Two Areas Within Northern Active Landfills)			✓	✓	No contaminants of concern were identified.	Decision Document was signed in September 1994. U.S. Army and DEQ have agreed that the contaminants at the SRI Study Sites and the PCB transformer locations do not pose sufficient risk to require cleanup and recommended that no RA is necessary under CERCLA. Transite siding will be removed from Site 12 and disposed of property.
Site 20	Open Burning Areas	✓	✓			Exact location of these areas could not be identified and may actually burning areas associated with other ADA sites.	ENPA recommended no further investigation.
Site 28	Missile Fuel Burning Areas	✓	✓			Burning reportedly took place in a kiln, not on bare soil, and because aniline and hydrazine fuels are not persistent in the environment.	ENPA recommended no further investigation.
Site 40	Jeep Storage Areas		✓			Area is a large parking lot, minor oil leaks.	ENPA recommended no further investigation.
Site 45	Buildings 612 and 617 Boiler Discharge Areas		✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as Decision Document.
Site 46	Railcar Unloading Area		✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as Decision Document.
Site 47	Boiler/Laundry Effluent Discharge Area		✓	✓	✓	Cancer risk was not calculated and there were high uncertainties in the results because, contamination was sporadic and only slightly above background levels, caused the hazard quotients to be excluded.	No further action as Decision Document.
Site 48	Pipe Discharge Area		✓	✓	✓	Estimated cancer and non- cancer risks were within the acceptable range for residential use.	No further action as Decision Document.

**TABLE D-1. NO FURTHER RESPONSE
ACTION PLANNED (NFRAP) SUMMARIES**

Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 49	Drill and Transfer (DAT) Site		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as Decision Document.
Site 50	Railroad Landfill Areas		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as Decision Document.
Site 51	Large Open Storage Areas (Vicinity of Coyote Coulee)		✓			Site reconnaissance did not reveal any significant signs of disposal activities of environmental degradation in these areas.	ENPA recommended no further investigation.
Site 52	Coyote Coulee Discharge Gullies		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as Decision Document.
Site 53	Building 433 Collection Sump/Cistern and Disposal Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as Decision Document.
Site 54	Possible Disposal Pit Location		✓			Site was not located.	ENPA recommended no further investigation.
Site 61	Open Paint Spray Areas		✓	✓	✓	No contaminants of concern were identified.	See above
Site 63	Paint and Solvent Disposal Area		✓	✓	✓	Copper, lead, and zinc were identified as the contaminants of concern in the soil. Contaminants of concern in soil pose a risk of less than 1×10^{-6} and a hazard index of less than 1.	See above
Site 63	Pier 386 Chemical Solution Disposal Area		✓			During SRI Work Plan preparation. Site was reevaluated and it was determined no further investigation was necessary.	Determined no further investigation was necessary, following SRI Work Plan preparation.
Site 64	Leaking Railcar Shipment Inspection Area		✓	✓	✓	Heavy metal soil contamination. Contaminants of concern in soil pose a risk of less than 1×10^{-6} and a hazard index of less than 1.	No further action as per Decision Document.

**TABLE D-1. NO FURTHER RESPONSE
ACTION PLANNED (NFRAP) SUMMARIES**

Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 65	Waste Paint and Solvent Disposal Area		✓	✓	✓	Mercury and zinc were identified as the contaminants of concern in the soil. Contaminants of concern in soil pose a risk of less than 1×10^{-6} and a hazard index of less than 1.	No further action as per Decision Document.
Site 66	Brass, Copper, and Steel Storage Area		✓	✓	✓	No contaminants of concern were identified.	Existing sump will be cleaned out and decontaminated when current operations end.
Site 67	Building 493 Brass Cleaning Operations Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as per Decision Document.
Site 68	Former Unsymmetrical Dimethyl Hydrazine Operations		✓	✓	✓	No contaminants of concern were identified.	No further action as per Decision Document.
Site 69	Area Skunk Works Area		✓	✓	✓	No contaminants of concern were identified.	No further action as per Decision Document.
Site 70	Wood Preserving Solution Spill Area		✓	✓	✓	Contaminants of concern were identified in groundwater; arsenic, and nitrate/nitrite.	No further action as per Decision Document.
Site 71	Possible Fire Training Pit		✓			This site was evaluated under the UST survey.	Determined no further investigation was necessary, following SRI Work Plan preparation.
Site 72	Vehicle Storage Area		✓			Site is a large parking lot.	ENPA recommended no further investigation.
Site 73	Diesel Fuel Spill Location		✓			This site was evaluated in the UST survey.	See UST survey.
Site 74	Oil/Fuel Transfer Station (Building 23)		✓			This site was evaluated under the UST survey.	Determined no further investigation was necessary, following SRI Work Plan preparation.
Site 75	Battery Acid Collection Sump		✓	✓	✓	Lead was identified as contaminant of concern in the soil. Contaminants of concern in soil pose a risk of less than 1×10^{-6} and a hazard index of less than 1.	No further action as per Decision Document.
Site 76	Photographic Chemical Solution Disposal Area		✓	✓	✓	No contaminants of concern were identified.	No further action as per Decision Document.

**TABLE D-1. NO FURTHER RESPONSE
ACTION PLANNED (NFRAP) SUMMARIES**

Site No.	Description	Environmental Investigation Report Results/Findings					Final Determination
		RFA	ENPA	RI/SRI	Risk Assessment	Findings	
Site 77	Paint Storage and Disposal Area		✓	✓	✓	No contaminants of concern were identified.	No further action as per Decision Document.
Site 78	Building 608 and 615 Heat Exchange Systems		✓			During SRI Work Plan preparation. Site was reevaluated and it was determined no further investigation was necessary.	No further investigation necessary and it was determined no further investigation was necessary.
Site 79	Malathion Spray Area		✓	✓	✓	No contaminants of concern were identified.	No further action as per Decision Document.
Site 80	Disposal Pit and Graded Area		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as Decision Document.
Site 81-1	Former Raw Materials Storage		✓	✓	✓	Estimated cancer and non-cancer risks were within the acceptable range for residential use.	No further action as Decision Document.
Site 83	Leaking Drum Storage Area		✓	✓	✓	No contaminants of concern were identified.	No further action as per Decision Document.
PCB Transformer Locations	Transformers locations 162, 163, 164, 197, and 198		✓	✓	✓	Risk of these sites is 7×10^{-6} due to PCB 1260 in soil, which is only slightly higher than the low end of the acceptable risk range, but still within the acceptable range. No hazard was calculated because no reference dose is available for PCB 1260. Soil in concrete vault at this location contained 3.8 ppm PCB.	Soil in concrete vault will be cleaned out and properly disposed of as a removal action to comply with State of Oregon's background level rule.
SITES THAT DO NOT FALL UNDER AN OU							
Site 23	Building 5 Waste Oil Tank		✓			This site was evaluated in the UST survey.	See UST survey.
Site 24	Building 10 Waste Oil Tank		✓			This site was evaluated in the UST survey.	This UST has been removed.
Site 42	Former UST Locations		✓			This site was evaluated in the UST survey.	No USTs were confirmed at these locations.
Site 43	Former Gas Station		✓			This was evaluated in the UST survey.	See UST survey.

APPENDIX E

► CONCEPTUAL SITE MODEL DATA SUMMARIES ◀

There are no conceptual site models for UMDA. If they are developed in the future they will be presented here.

This page intentionally left blank.

APPENDIX F

► ANCILLARY BCP MATERIALS ◀

- Table F-1, BCP Distribution List
- Summary of Environmental Justice Issues at UMDA
- Figure 3-3, Suitable Property for Transfer

This page intentionally left blank.

► TABLE F-1, BCP DISTRIBUTION LIST ◀

This page intentionally left blank.

TABLE F-1. BCP DISTRIBUTION LIST

Name	Title	Address
Mark Daugherty	BEC/Remedial Project Manager	UMDA Attn: BEC Hermiston, Oregon 97838
Harry Craig	BCT, USEPA Representative	USEPA Oregon Operations Center 811 SW Sixth Avenue Portland, Oregon 97204
Bill Dana	BCT ODEQ Representative	Department of Environmental Quality 811 SW Sixth Avenue Portland, Oregon 97204
Charles Lechner	Technical Oversight	Commander U.S. Army Environmental Center (USAEC) Attn: SFIM-AEC-BCA Aberdeen Proving Ground, MD 21010-5401
Jeff Rodin	USEPA Project Manager	USEPA Region X, HW 124 1200 6th Avenue Seattle, WA 98101
Mike Nelson	Technical Manager	Commander USACE, Seattle District Attn: CENPS-EN-GT-HW (M. Nelson) 4735 East Marginal Way So. P. O. Box C-3755 Seattle, WA 98124-2255
Fred McLaren	DoD Base Transition Coordinator	BTC - UMDA c/o Tooele Army Depot Attn: SDSTE-BRACO Tooele, UT 84074-5000
James Kluge	BCP Document Coordinator	Commander USACE, Seattle District Attn: CENPS-EN-GT-GE (J. Kluge) 4735 East Marginal Way So. P. O. Box C-3755 Seattle, WA 98124-2255
Alex Byler	UMDA Reuse Task Force Chairman	Chairman, UMDA Reuse Task Force 222 SE Dorian Pendleton, Oregon 97801
Current Commander	Commander	Commander U.S. Army Depot System Command Attn: AMSDS-IN-E Chambersburg, PA 17201-4170
Larry Anderson	Program Manager	Commander USACE North Pacific Attn: CENPD-PM-MP (Larry Anderson) 220 NW 8th Avenue, P.O. Box 2870 Portland, OR 97208-2870

TABLE F-1. BCP DISTRIBUTION LIST**Continued**

Name	Title	Address
J. Reasoner	Program Manager	Commander USACE North Pacific Attn: CENPD-PM-RE (J. Reasoner) 220 NW 8th Avenue, P.O. Box 2870 Portland, OR 97208-2870
A. Coburn	Corps Project Manager	Commander USACE, Seattle District Attn: CENPS-PM (A. Coburn) 4735 East Marginal Way S., P.O. Box C-3755 Seattle, WA 98124-2255

► ENVIRONMENTAL JUSTICE ISSUES AT UMDA ◄

This page intentionally left blank.

ENVIRONMENTAL JUSTICE ISSUES AT UMDA

There has been growing concern during the past decade about the effect of environmental pollution on particular population groups. A movement to ensure environmental justice for all individuals is the outgrowth of a widespread belief that minority and low-income communities bear a disproportionately high risk of exposure to health hazards related to contamination or pollution.

The President issued Executive Order 12898 on Environmental Justice on February 11, 1994. The Order and its accompanying Presidential memorandum marked a significant step toward focusing the attention of Federal agencies on concerns of environmental justice. The order requires certain Federal agencies, including the DoD, to the greatest practicable and permitted by law, to make environmental justice part of their missions by identifying and addressing disproportionately high and adverse health or environmental effects on minority and low-income populations.

At realigning (and ultimately closing) installations such as UMDA, considerations of environmental justice must be examined in the content of cleanup activities, including their relationship to plans for reuse of land and community redevelopment initiatives. The decision-making processes for establishing cleanup priorities, determining relative risk, developing reuse plans, and other actions related to installation closure, must ensure that environmental protection and environmental justice are adequately addressed.

The Defense Environmental Response Task Force (DERTF) of the DoD formed the Environmental Justice Subworking Group (EJ SWG) to determine whether concerns related to environmental justice are being adequately addressed at installations affected by BRAC. The EJ SWG has identified a number of significant issues related to environmental justice that are applicable to environmental restoration at BRAC installations. These include:

- ▶ Outreach
- ▶ Cultural Resources
- ▶ Risk Assessment
- ▶ Cleanup Priorities
- ▶ Risk Communication
- ▶ Epidemiology
- ▶ Natural Resources
- ▶ Brownfield or Urban Revitalization
- ▶ Deed and Lease Restrictions.

UMDA has proactively addressed many of these issues in its current BRAC environmental restoration, compliance, and natural resources strategies. UMDA's approach for addressing each

of the EJ SWG issue areas is summarized below and is also addressed in context, in applicable sections of the BCP.

Outreach. UMDA has an active outreach program. A PIRP was prepared and released in October 1990. The plan establishes the procedures for effective communication with all elements of the surrounding community on environmental issues. A RAB has been formed at the installation and meets monthly to promote public involvement and provide a forum for public input on the UMDA IRP. During the formation of the RAB, particular attention was placed on ensuring balanced community representation. Public hearings are conducted to obtain community input on particular environmental documents including EISs and PPs. The installation also keeps community members informed through the issuance of Fact Sheets and newsletters and the maintenance of information repositories.

Cultural Resources. Investigations conducted at UMDA to date have not identified any religious sites or sacred lands at the installation which could have environmental justice impacts.

Risk Assessment. The baseline risk assessment conducted during the RI did not discriminate in its evaluation of risk. An exposure pathway analysis was conducted to identify all potential on-site or off-site receptor population. The risk assessment then calculated risk caused by each restoration site and installation total risk for each of the identified receptor populations. The potential for varying patterns of consumption or other risk factors relative to particular population groups in the UMDA area were considered in the RI risk assessment exposure pathway analysis. This ensured that the risk assessment accurately evaluated risk for all potential receptor populations.

Cleanup Priorities. The prioritization of environmental restoration at the UMDA versus other BRAC installations is conducted on a programmatic level by the DA and DoD. The U.S. Army is working in partnership with Howard University to identify U.S. Army installations located near minority and low-income communities so that environmental justice can be incorporated in the prioritization process.

On an installation basis, the UMDA RI and the Comprehensive (Community Reuse) Plan provide the basis for determining cleanup priority. The RI risk assessment identified site-specific and installation total risks to on-site and off-site populations. This information was evaluated in conjunction with community reuse goals presented in the Umatilla Army Depot Comprehensive Plan.

Risk Communication. Issues relative to human health risks are fully disclosed to the public through the various outreach activities conducted by the installation.

Epidemiology: The most current risk assessment data and epidemiological studies were utilized in the preparation of the UMDA RI Risk Assessment. The potential for differences in contaminant impacts based on racial or demographic differences in receptor populations were considered in the risk assessment.

Natural Resources. The baseline risk assessment conducted during the RI evaluated potential contaminant pathways to on-site and off-site receptors.

Brownfield and Urban Revitalization. UMDA is located in a rural area in eastern Oregon. In order to maximize the reuse opportunities for UMDA, the UMDA Redevelopment Task Force was established to plan and implement reuse of UMDA in a manner that mitigates the negative impacts of installation closure and meets the communities long term goals. Full community participation was solicited in the reuse planning process by establishing broad-based community representation on the UMDA Task Force and by conducted numerous public meetings to obtain community input.

No-cost public conveyance and donation of property disposal mechanisms which could benefit the urban development of the area will be conducted prior to other forms of property transfer, as part of the established DoD disposal process.

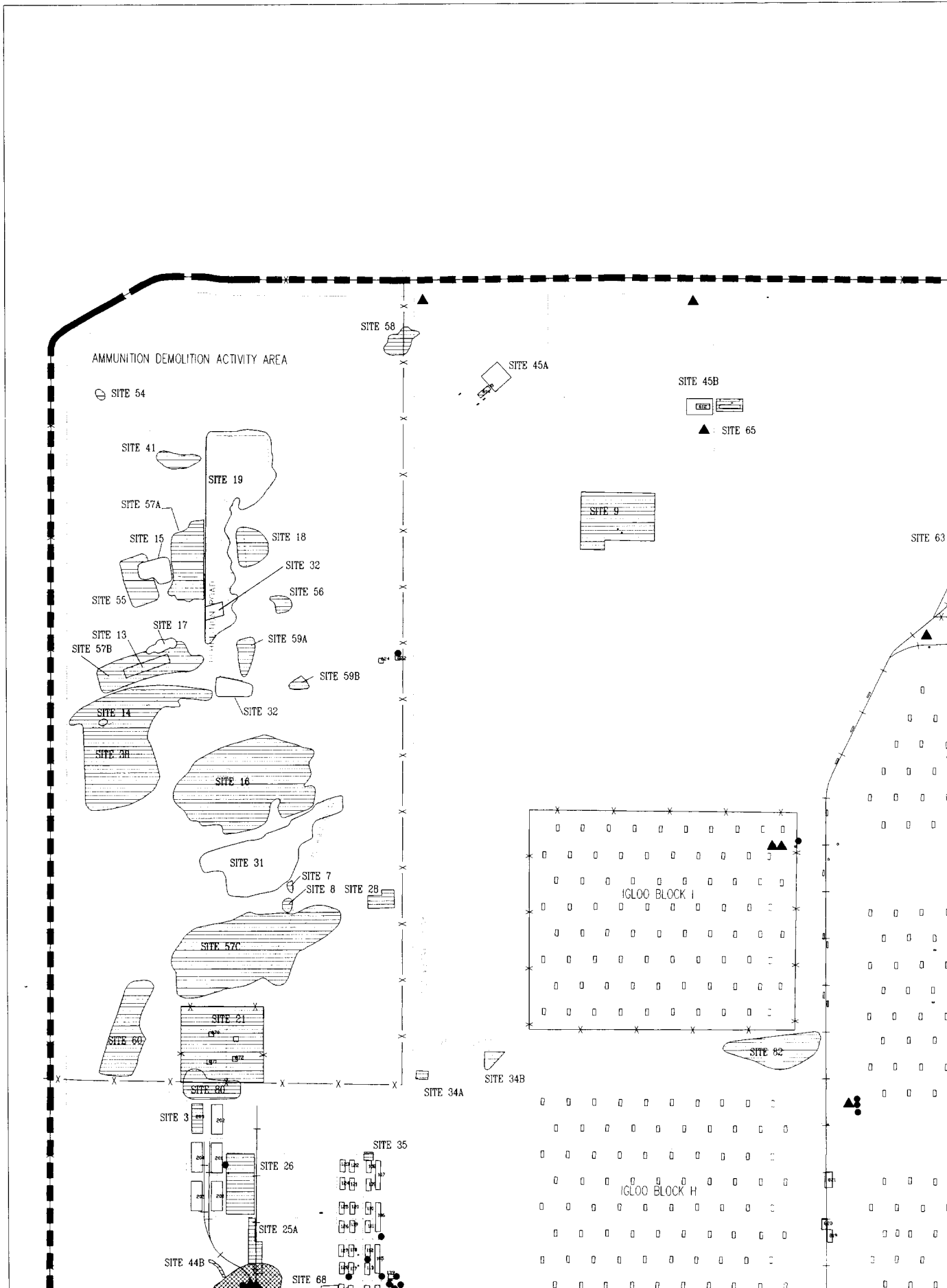
Deed and Lease Restrictions. A Disposal Plan or Report of Excess is being prepared that will outline potential deed and lease restrictions on the property based upon factors including environmental condition. Small, small disadvantaged and minority-owned business impacts from potential deed and lease restrictions will be considered in the disposal plan for UMDA.

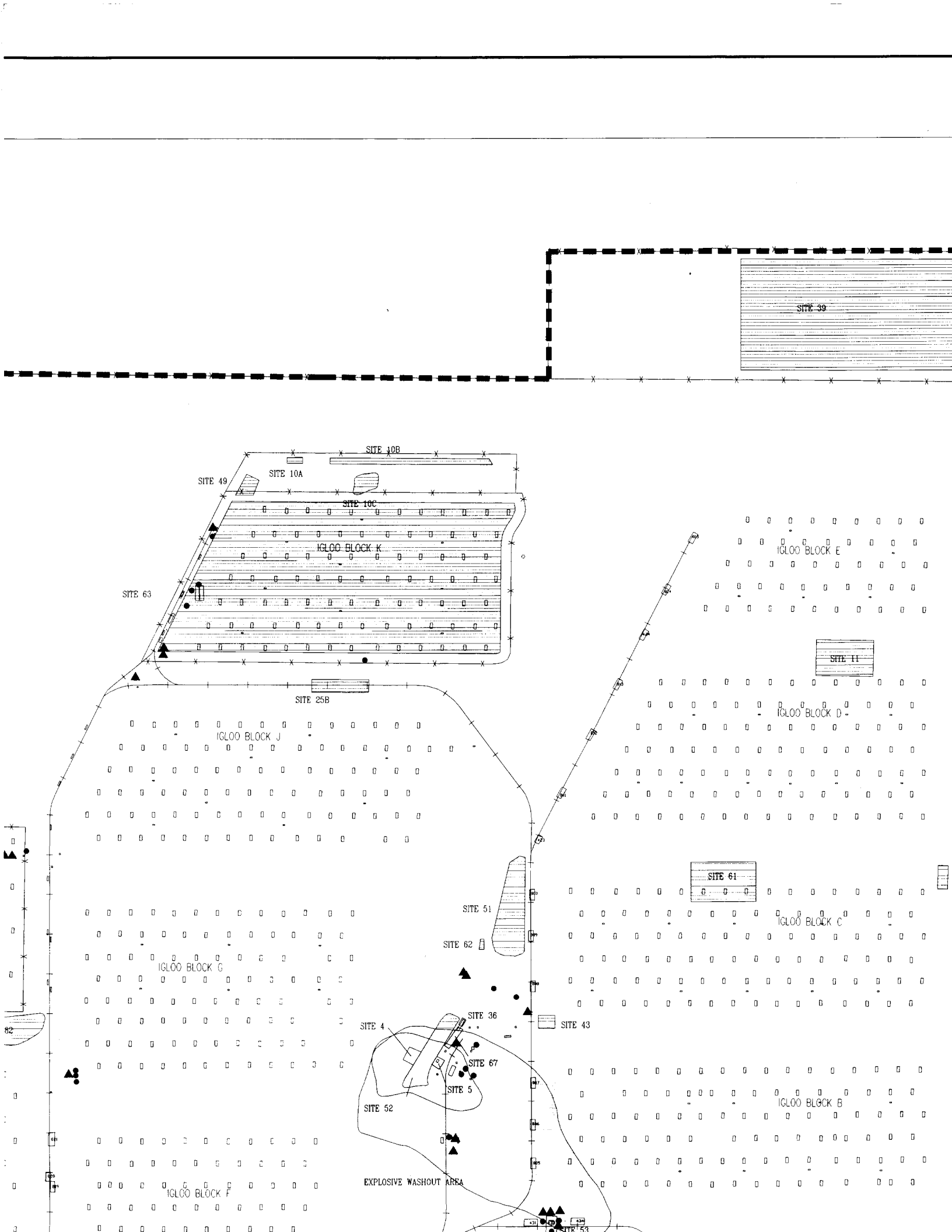
This page intentionally left blank.

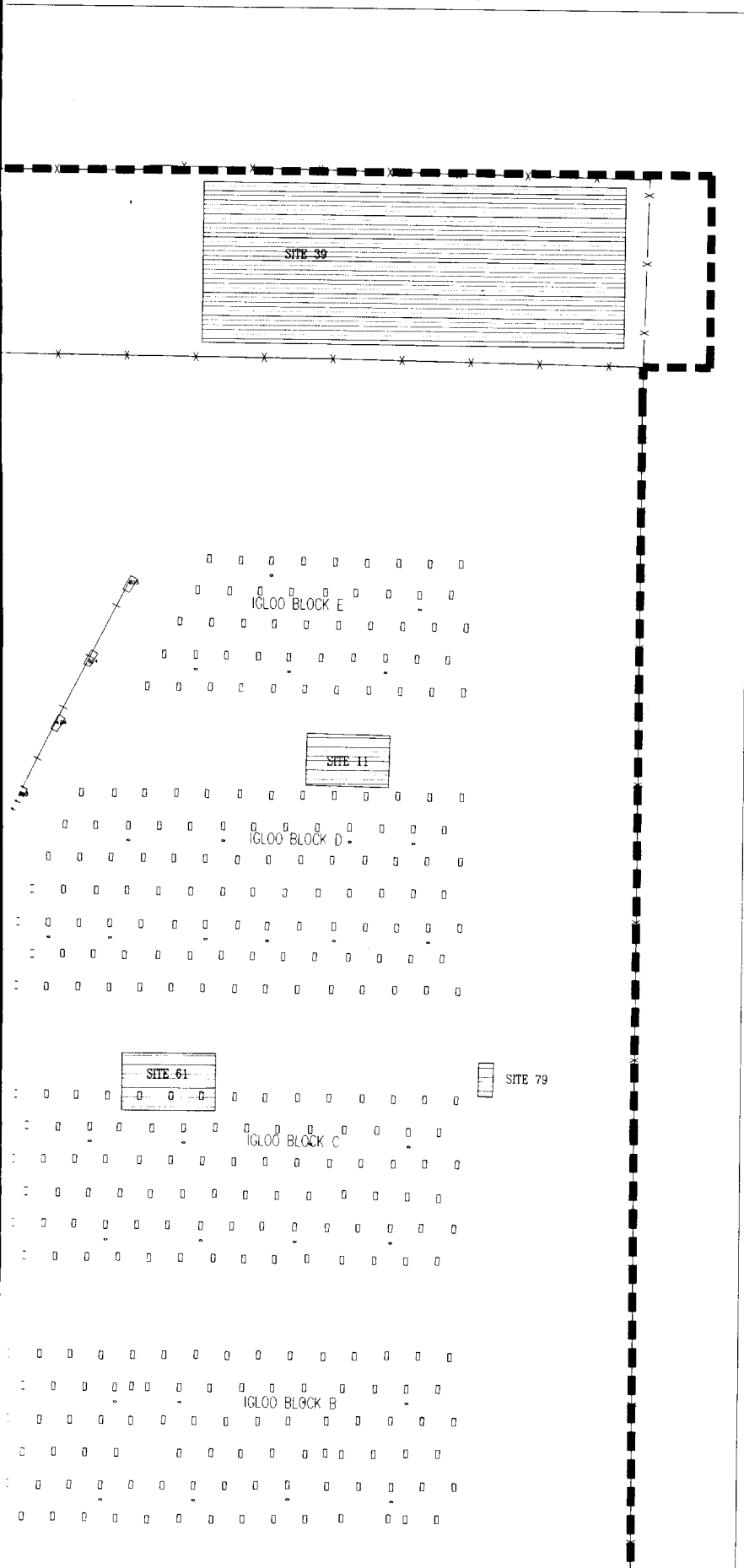
Figure 3-3 Suitable Property for Transfer

This page intentionally left blank.

REVISION	DATE
0	12/23/94







--- Installation Boundary

- - - Administration Area Boundary

+ + + Railroad

- x - Fence

● Current or Former UST

▲ Current or Former AST

 CATEGORY 1 PROPERTY
Property where no hazardous substance or POL storage/release has occurred

 CATEGORY 2 PROPERTY
Hazardous substance or POL currently and/or historically stored; no release

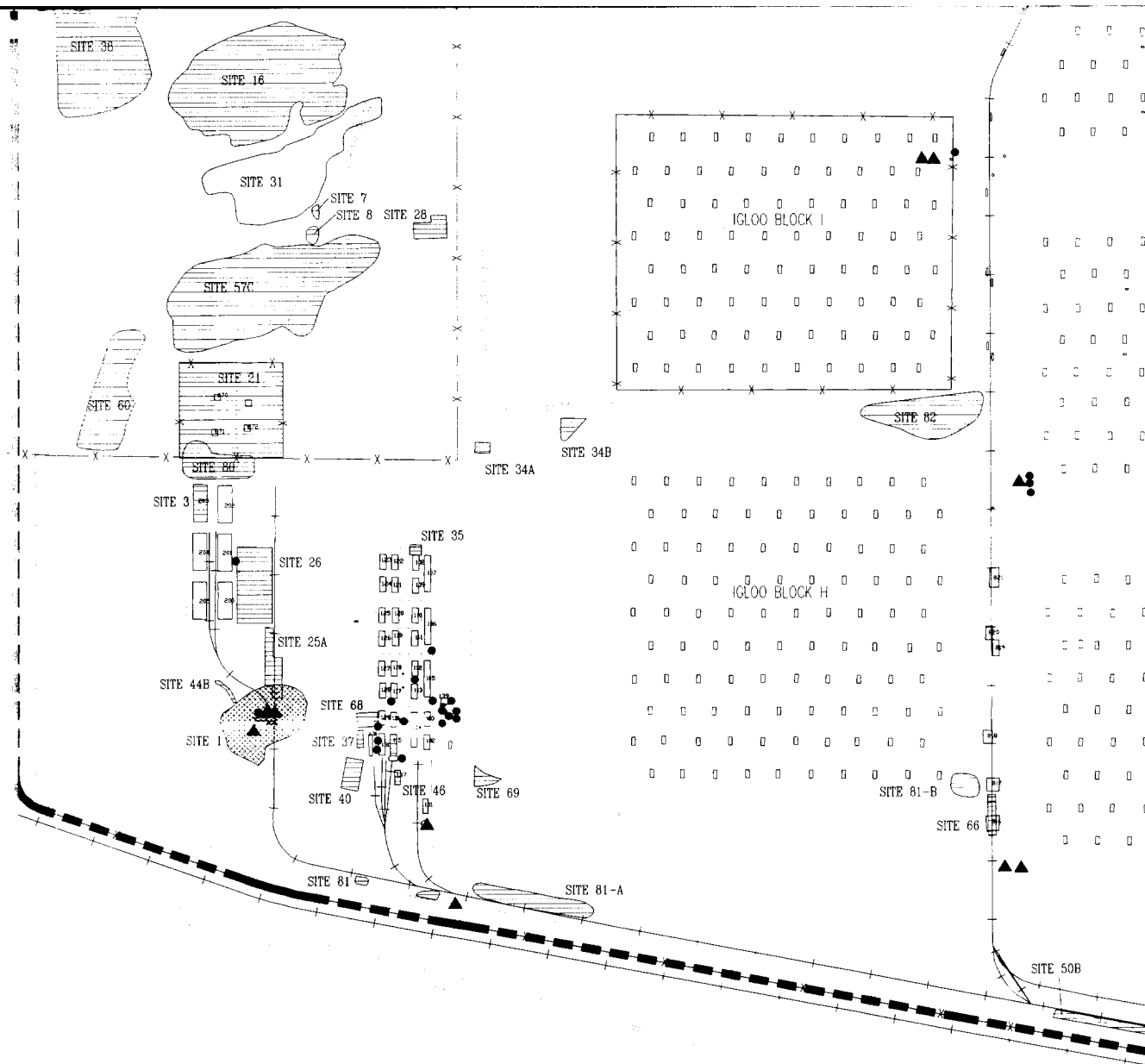
 CATEGORY 3 PROPERTY
Hazardous Substance or POL Release; below action level

 CATEGORY 4 PROPERTY
Hazardous substance or POL release; all remedial actions have been taken

 CATEGORY 5 PROPERTY
Hazardous substance or POL release; not all remedial actions have been taken

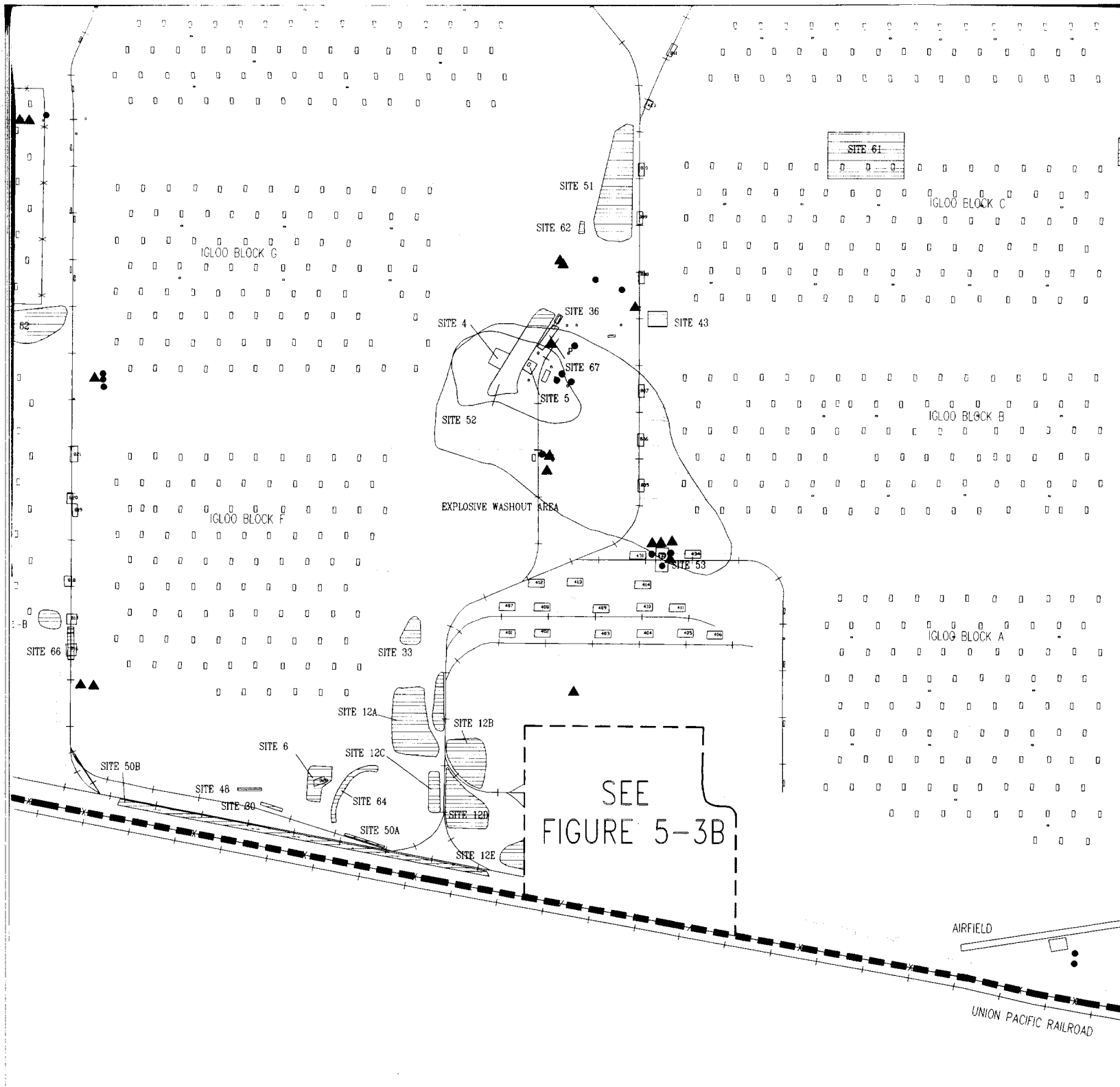
 CATEGORY 6 PROPERTY
Hazardous substance or POL release; areas adequately evaluated; no remedial actions have been taken

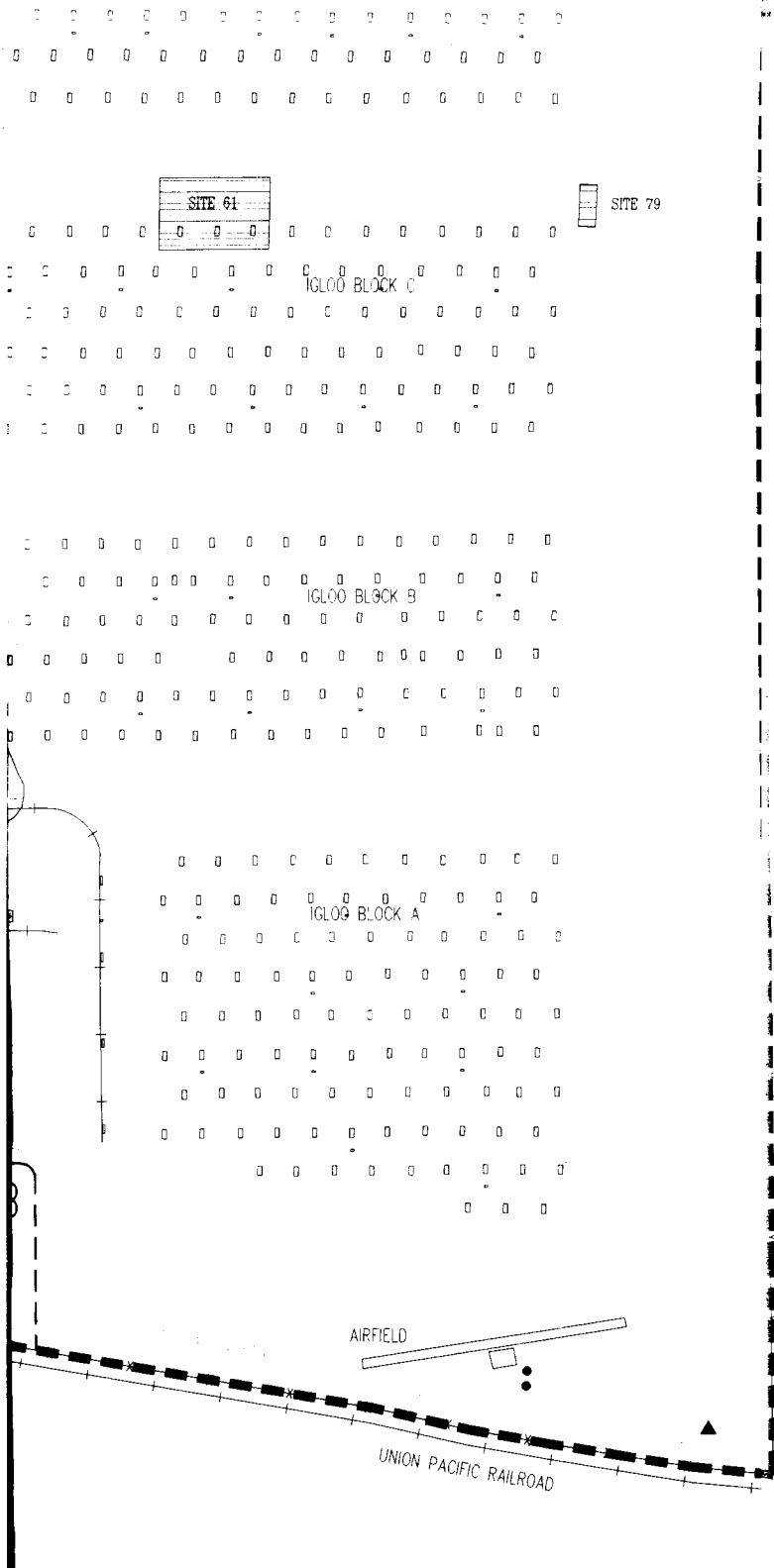
 CATEGORY 7 PROPERTY
Areas unevaluated or requiring additional evaluation



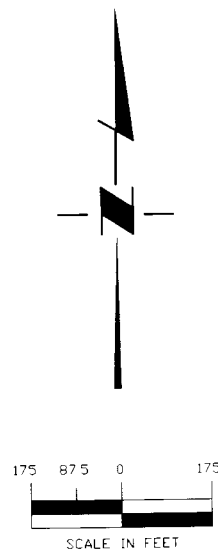
- NOTES: (1) Site, Area, and Plume boundaries and UST/AST locations are approximate.
- (2) This map categorizes property based on storage and/or release of CERCLA hazardous substances and/or POL. It does not identify the presence of environmental conditions such as asbestos and lead-based paint containing structures, radionuclides, radon, or PCB containing equipment which may also affect the disposal and reuse of property. The presence of these conditions categorizes property as "CERFA qualified" and is shown in the Environmental Condition of Property Map, Figure 3-2 of the BCP.
- (3) The entire ADA Area is presumed to have UXO present. The ROD for the ADA Area indicates that a UXO survey of the area will be conducted. In addition, the U. S. Army will conduct a UXO survey of Site 39 to address safety concerns.

Source: CERFA Report for Umatilla Depot Activity, Dec. 1993
Enhanced Preliminary Assessment for Umatilla Depot Activity, Vol. 3, April 1990





-  **CATEGORY 1 PROPERTY**
Property where no hazardous substance or POL storage/release has occurred
-  **CATEGORY 2 PROPERTY**
Hazardous substance or POL currently and/or historically stored; no release
-  **CATEGORY 3 PROPERTY**
Hazardous Substance or POL Release; below action level
-  **CATEGORY 4 PROPERTY**
Hazardous substance or POL release; all remedial actions have been taken
-  **CATEGORY 5 PROPERTY**
Hazardous substance or POL release; not all remedial actions have been taken
-  **CATEGORY 6 PROPERTY**
Hazardous substance or POL release; areas adequately evaluated; no remedial actions have been taken
-  **CATEGORY 7 PROPERTY**
Areas unevaluated or requiring additional evaluation



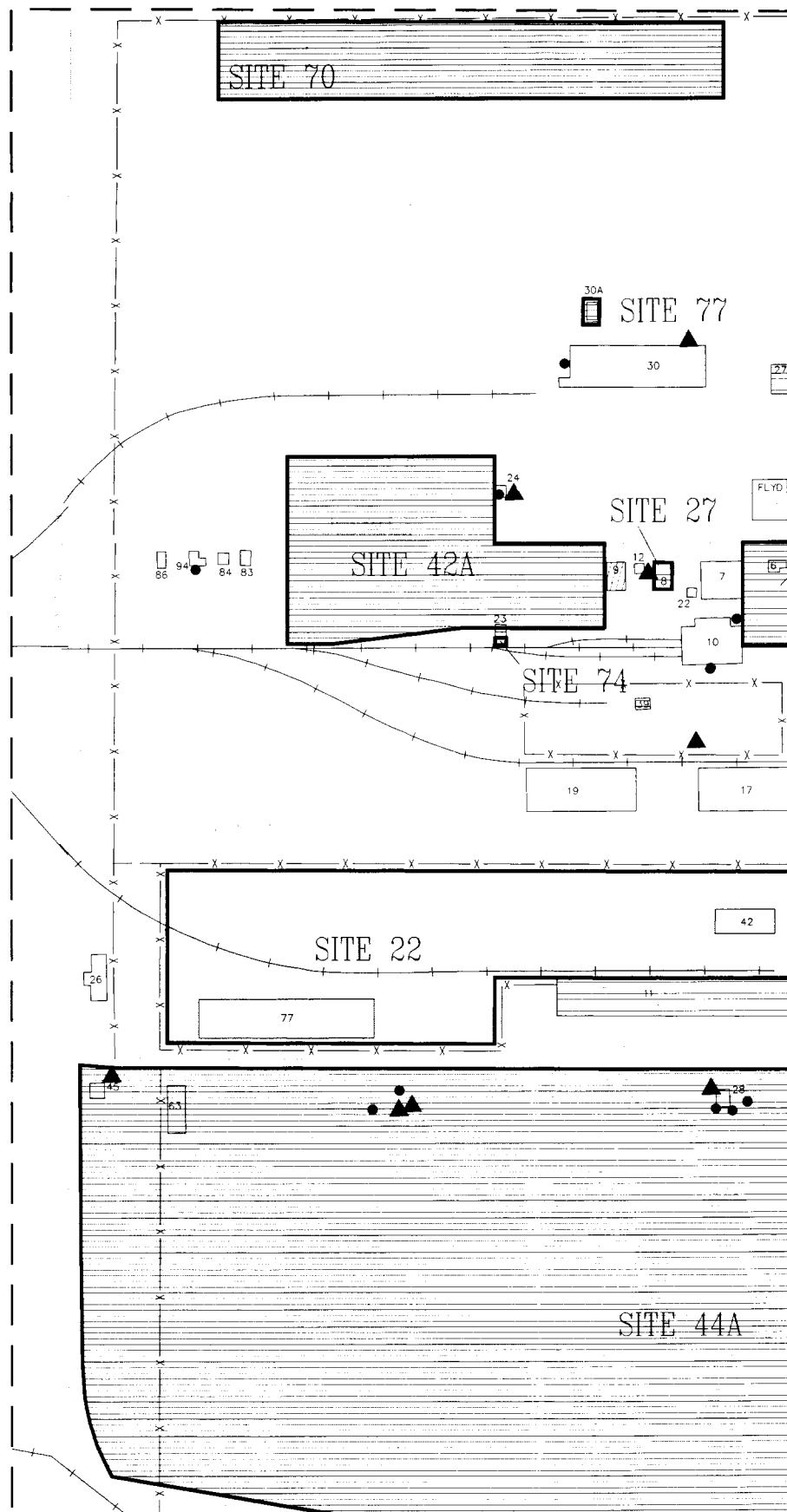
EARTH TECH

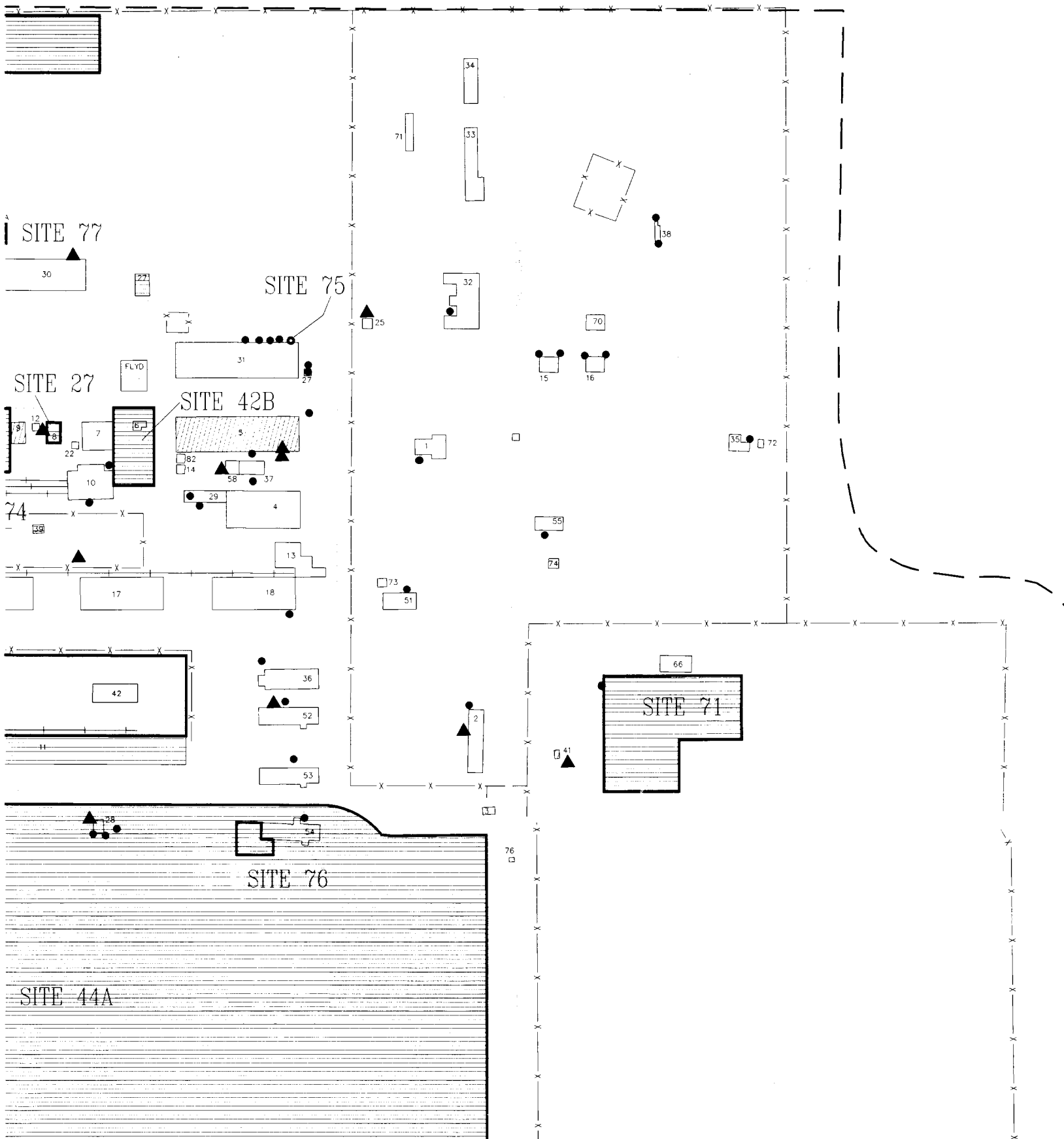
1420 KING STREET SUITE 600, ALEXANDRIA, VIRGINIA 22314

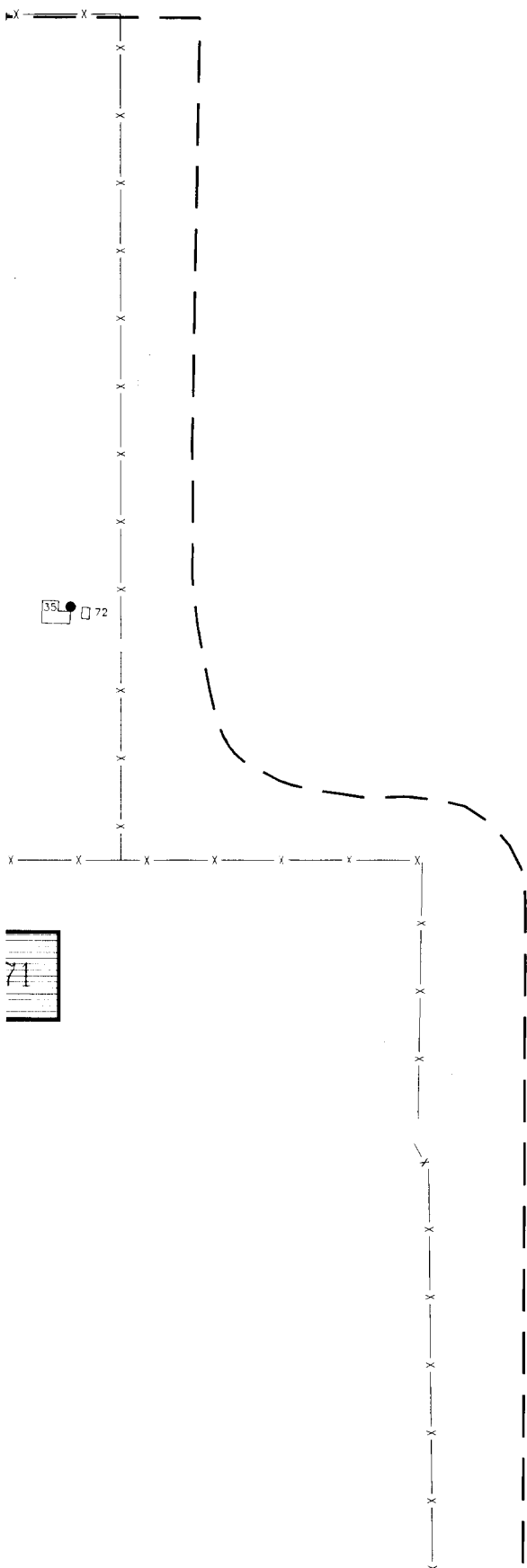
FIGURE 3-3A
SUITABLE PROPERTY FOR TRANSFER MAP
UMATILLA ARMY DEPOT ACTIVITY
HERMISTON, OREGON

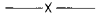
DRAWN BY: MTM,LCB	DESIGNED BY: N/A	SCALE: 1" = 175'
CHECKED BY: GC	APPROVED BY: TH	DATE: 12/23/94
TETC PROJECT NUMBER 949002-04	DRAWING NUMBER SHEET 1 OF 1	REV. NO. 0

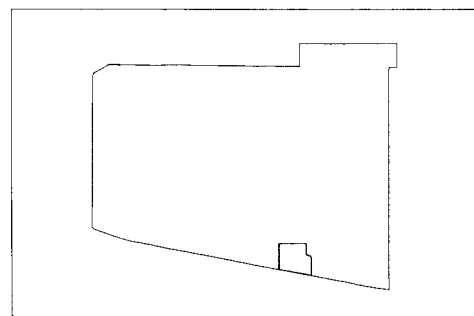
REVISION	DATE
0	12/23/94



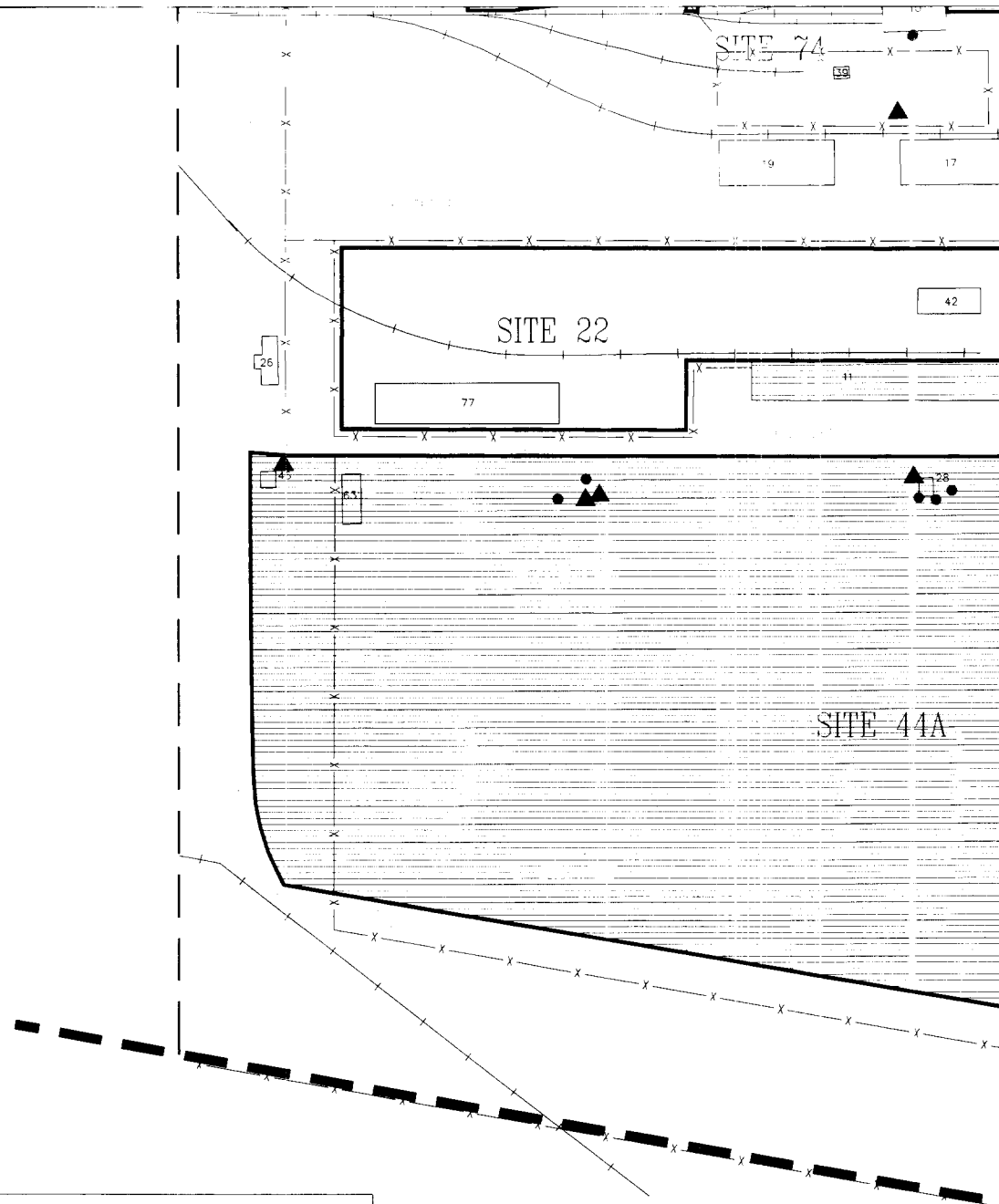




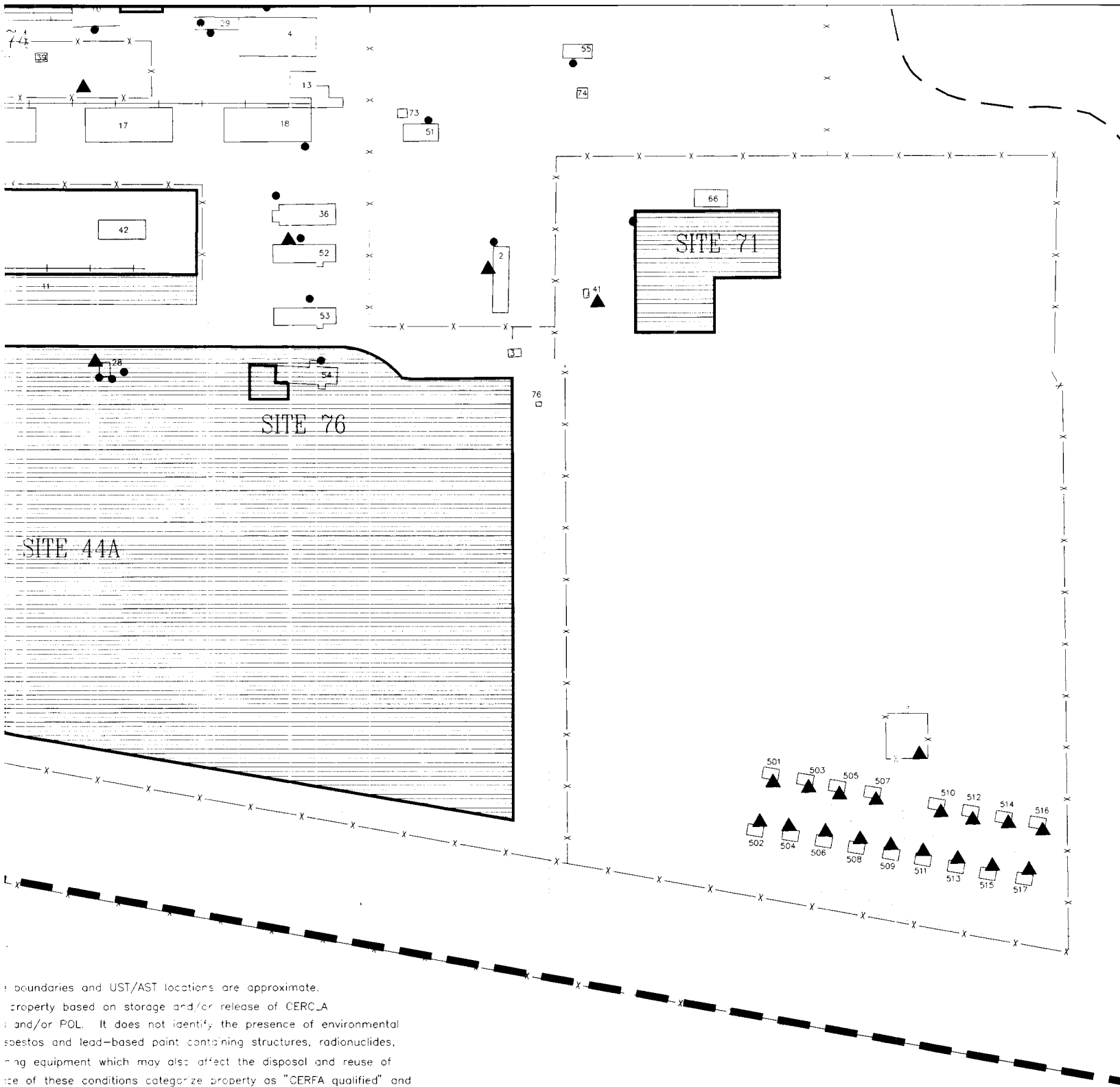
-  Installation Boundary
-  Administration Area Boundary
-  Railroad
-  Fence
-  Current or Former UST
-  Current or Former AST
-  **CATEGORY 1 PROPERTY**
Property where no hazardous substance POL storage/release has occurred
-  **CATEGORY 2 PROPERTY**
Hazardous substance or POL currently or historically stored; no release
-  **CATEGORY 3 PROPERTY**
Hazardous Substance or POL Release; below action level
-  **CATEGORY 4 PROPERTY**
Hazardous substance or POL release; all remedial actions have been taken
-  **CATEGORY 5 PROPERTY**
Hazardous substance or POL release; not all remedial actions have been taken
-  **CATEGORY 6 PROPERTY**
Hazardous substance or POL release; areas adequately evaluated; no remedial actions have been taken
-  **CATEGORY 7 PROPERTY**
Areas unevaluated or requiring additional evaluation



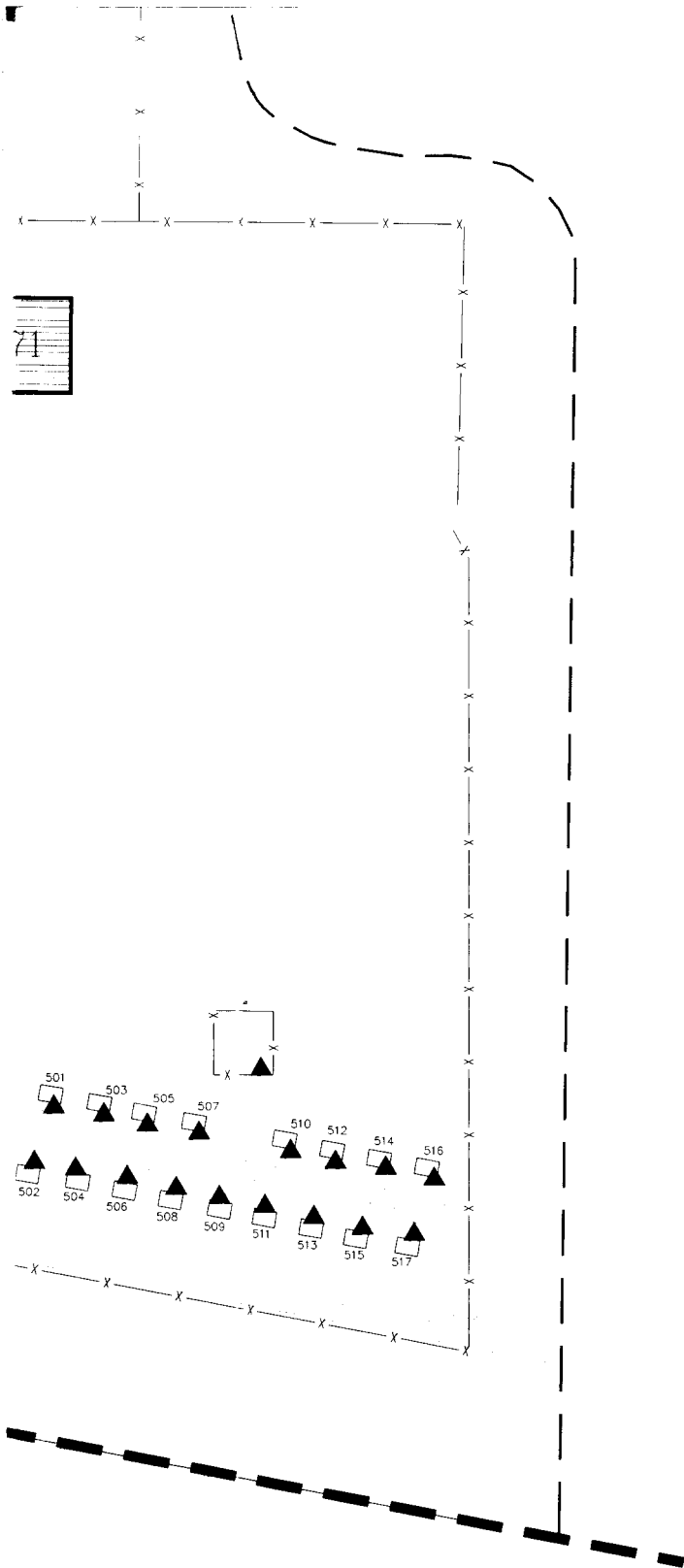
Sources: CERFA Report for Umatilla Depot Activity, Dec. 1993
Enhanced Preliminary Assessment for Umatilla Depot Activity, Vol. 3, April 1990



- NOTES: (1) Site, Area, and Plume boundaries and UST/AST
(2) This map categorizes property based on storage of hazardous substances and/or POL. It does not show conditions such as asbestos and lead-based paint, radon, or PCB containing equipment which may be present on property. The presence of these conditions are shown in the Environmental Condition of Property Report.



Boundaries and UST/AST locations are approximate.
Property based on storage and/or release of CERCLA
and/or POL. It does not identify the presence of environmental
hazards such as asbestos and lead-based paint containing structures, radionuclides,
or other equipment which may also affect the disposal and reuse of
the property. These conditions categorize property as "CERCLA qualified" and
are shown on the Environmental Condition of Property Map, Figure 3-2 of the BCP.



—X— Fence

● Current or Former UST

▲ Current or Former AST

 CATEGORY 1 PROPERTY
Property where no hazardous substance
POL storage/release has occurred

 CATEGORY 2 PROPERTY
Hazardous substance or POL currently
or historically stored; no release

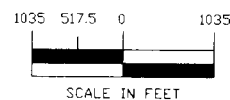
 CATEGORY 3 PROPERTY
Hazardous Substance or POL Release;
below action level

 CATEGORY 4 PROPERTY
Hazardous substance or POL release;
all remedial actions have been taken

 CATEGORY 5 PROPERTY
Hazardous substance or POL release;
not all remedial actions have been taken

 CATEGORY 6 PROPERTY
Hazardous substance or POL release;
areas adequately evaluated; no
remedial actions have been taken

 CATEGORY 7 PROPERTY
Areas unevaluated or requiring
additional evaluation



EARTH TECH

1420 KING STREET SUITE 600, ALEXANDRIA, VIRGINIA 22314

FIGURE 3-3B
SUITABLE PROPERTY FOR TRANSFER MAP
UMATILLA ARMY DEPOT ACTIVITY
ADMINISTRATION AREA
HERMISTON, OREGON

DRAWN BY: MTM/LCB DESIGNED BY: N/A SCALE: 1" = 1035'

CHECKED BY: GC APPROVED BY: TH DATE: 12/23/94

TETC PROJECT NUMBER 949002-04 DRAWING NUMBER SHEET 1 OF 1 REV. NO. 0