



**DEPARTMENT OF THE AIR FORCE**

HEADQUARTERS 49TH FIGHTER WING (ACC)  
HOLLOMAN AIR FORCE BASE, NEW MEXICO

05 JUN 1996

MEMORANDUM FOR DISTRIBUTION

FROM: 49 CES/CEV  
550 Tabosa Avenue  
Holloman AFB NM 88330-8458



SUBJECT: Installation Restoration Program Management Action Plan

1. Attached for your use are replacement pages to update the Management Action Plan (MAP) for Holloman AFB. The MAP is a living document which summarized the status of Holloman's environmental restoration program, including the Installation Restoration Program (IRP) and portions of the RCRA Corrective Action Program (RCAP).
2. If you have any questions, please contact Warren Neff or Jennifer Mosle at (505) 475-5395.

  
HOWARD E. MOFFITT  
Deputy Base Civil Engineer

Attachments:

1. Distributioun List
2. Summary of replaced pages
3. Management Action Plan, May 1996 (replacement pages)

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# *Management Action Plan*

*Rational National Standards Initiative  
Holloman Air Force Base  
New Mexico*



DCN 94-670-008-01  
RCN 670 008-06-03

MANAGEMENT ACTION PLAN

HOLLOMAN AIR FORCE BASE  
ALAMOGORDO, NEW MEXICO

May 1996

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## ACRONYMS

ACC	Air Combat Command
ACL	Alternate concentration limits
ACP	Accelerated Cleanup Program
AFB	Air Force Base
AFSC	Air Force Systems Command
AGE	Aerospace ground equipment
ANSC	Area of no suspected contamination
AOC	Area of concern
ARARs	Applicable or relevant and appropriate requirements
ASCII	American Standard Code for Information Interchange
AVGAS	Aviation gasoline
BBMS	Bare Base Mobility Squadron
BCP	Base Comprehensive Plan
BGL	Below ground level
BRAC	Base Realignment and Closure Agency
BTEX	Benzene, toluene, ethylbenzene, and xylenes
BX	Base Exchange
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEVR	Civil Engineering Environmental Restoration
CORA	Cost of Remedial Action
CMI	Corrective Measures Implementation
CMS	Corrective Measures Study
CNFA	Conditional No Further Action
CRP	Community relations plan
CSM	Conceptual site model
DD	Decision document
DPM	Defense Priority Model
DPSVE	Dual Phase Soil Vapor Extraction
DRMO	Defense Reutilization and Marketing Office

## ACRONYMS

(Continued)

DSMOA	Defense and State Memorandum of Agreement
ECD	Electron Capture Detector
EOD	Explosive Ordnance Division
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
FFA	Federal Facilities Agreement
FFCA	Federal Facilities Compliance Agreement
FPD	Flame Photometric Detector
FPTA	Fire Protection Training Area
FS	Feasibility study
ft	Foot or feet
FY	Fiscal Year
GC/MS	Gas Chromatography/Mass Spectrometry
GFAA	Graphite Furnace Atomic Absorption
GIS	Geographical Information System
HARM	Hazard Assessment Rating Methodology
HDPE	High-Density Polyethylene
HQACC	Headquarters Air Combat Command
HML	Hazardous Materials Laboratory
HWMU	Hazardous waste management unit
HSWA	Hazardous and Solid Waste Amendments
HTH	High-Test Hypochlorite
IC	Ion Chromatography
ICPES	Inductively Coupled Plasma Emission Spectroscopy
IM	Information Measure
IPMS	Independent Performance Management System
IR	Infrared Spectrometry
IRA	Interim remedial action
IRP	Installation Restoration Program

## ACRONYMS

(Continued)

IRPIMS	IRP Information Management System
IWFNA	Inhibited white fuming nitric acid
IRFNA	Inhibited Red Fuming Nitric Acid
JPX	1:1 JP-4 and UDMH
LNAPL	Light Nonaqueous Phase Liquid
LTM	Long-term monitoring
LTO	Long-term operation
LOX	Liquid oxygen
MAP	Management Action Plan
MEIL	Methyl Ethylketone
MEK	Methyl Ethyle Ketone
MGD	Million gallons per day
mg/kg	Milligrams per kilogram
MIBK	Methylisobutyl Ketone
MOGAS	Motor gasoline
NA	Not Applicable
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NFA	No Further Action
NMED	New Mexico Environment Department
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O&M	Operation and maintenance
OCP	Organochlorine Pesticides
OPP	Organophosphorous Pesticides
OUs	Operable Units
O/WS	Oil/Water Separator
PA	Preliminary assessment

## ACRONYMS

(Continued)

PCBs	Polychlorinated biphenyls
PCE	Tetrachloroethylene
PDI	Pre-Design Investigation
POL	Petroleum, oil, and lubricants
PP	Proposed plan
PPE	Pathways, Parameters, and Equations
ppm	Parts Per Million
PRL	Primate Research Laboratory
QA	Quality assurance
QC	Quality control
QVE	Quality Value Engineering
RA	Remedial action
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RD	Remedial design
RDBMS	Relational database management system
RFA	RCRA facility assessment
RFI	RCRA facility investigation
RI	Remedial investigation
RNSI	Rational National Standards Initiative
RPM	Remedial Project Manager
SC	Site Closed
SI	Site investigation
SVE	Soil Vapor Extraction
SVOC	Semivolatile Organic Compounds
SWMU	Solid waste management unit
TAC	Tactical Air Command
TAL	Target Analyte List
TCA	Tetrachloroethane

## ACRONYMS

(Continued)

TCE	Trichloroethylene
TERC	Total Environmental Restoration Contract
TM	Technical manager
TOX	Total organic halogens
TPH	Total Petroleum Hydrocarbons
TPM	Technical Project Manager
TRC	Technical Review Committee
TRPH	Total recoverable petroleum hydrocarbons
TSCA	Toxic Substances Control Act
UDMH	Unsymmetrical dimethylhydrazine
USAF	United States Air Force
UST	Underground storage tank
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
VCA	Voluntary Corrective Action
VOC	Volatile organic compound
WAA	Waste Accumulation Area
WIMS-ES	Work Information Management System - Environmental Subsystem

## **1.0 INTRODUCTION**

As a result of past waste and resource management practices at Holloman Air Force Base (AFB) (also referred to as the Base), some areas have become contaminated by various toxic and/or hazardous compounds. In response, a number of environmental restoration projects have been initiated at the Base. In addition, ongoing efforts to comply with applicable laws and regulations ensure that present waste and resource management practices are carried out in a manner that protects human health and the environment.

This Management Action Plan (MAP) summarizes the current status of the Holloman AFB environmental restoration and associated environmental compliance programs and presents a comprehensive strategy for implementing response actions necessary to protect human health and the environment. This strategy integrates activities being performed under both the Installation Restoration Program (IRP) and the associated environmental compliance programs to support full restoration of the Base. In particular, the solid waste management units (SWMUs) investigated under the Resource Conservation and Recovery Act (RCRA) corrective action program are discussed and evaluated in detail. The MAP is a dynamic document that will be updated regularly to incorporate newly obtained information and reflect the completion or change in status of any remedial actions (RAs). This MAP was prepared with information available as of May 1996.

This MAP is a planning document. Information and estimates presented on costs, schedules, and RAs do not necessarily represent those that have been or will be approved by the United States Air Force (USAF) or state and federal regulatory agencies. It is necessary to

make certain assumptions and interpretations to develop the estimates. As additional data become available, estimates could be dramatically altered. This would then be reflected in future updates to the MAP.

Chapter 1 describes the objectives of the environmental restoration program, explains the purpose of the MAP, introduces the current project team that manages the program, and provides a brief history of the Base.

Chapter 2 summarizes the condition of property and discusses the Basewide source discovery and status and includes both current and future land use maps for the Base.

Chapter 3 summarizes the current environmental program status and past history of the Holloman AFB IRP, RCRA corrective action program, other associated environmental compliance programs, community relations activities that have occurred to date, and the environmental condition of Base property.

Chapter 4 summarizes the Basewide strategy for conducting environmental restoration programs, including the IRP sites and corrective action program.

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 by the Holloman AFB project team and presents a strategy for resolving these issues.

## **1.1 Environmental Response Objectives**

Listed as follows are the objectives of the Holloman AFB environmental restoration program.

- Protect human health and the environment.
- Comply with existing statutes and regulations.
- Meet Federal Facilities Compliance Agreement (FFCA) schedules and/or commitments in other agreements that may be introduced later.
- Complete remedial investigations (RIs) as soon as practicable for each IRP site.
- Identify all potential source areas.
- Establish areas of no suspected contamination (ANSCs).
- Initiate removal actions where necessary to control, eliminate, or reduce risks to manageable levels.
- Characterize risks associated with releases of hazardous substances, pollutants, contaminants, or hazardous wastes.
- Develop, screen, and select RAs that reduce risks in a manner consistent with statutory requirements.
- Implement RAs specified in signed decision documents (DDs) for the sites addressed under the IRP.
- Implement the accelerated cleanup program.

- Implement and maintain the Basewide long-term monitoring (LTM) program to ensure the future reliability of all removals for RAs implemented under the IRP.
- Conduct periodic quality value engineering (QVE) audits of the long-term operation (LTO)/LTM programs to ensure continued cost-benefit of risk management decisions.

## **1.2 Purpose of the Management Action Plan**

The purpose of this MAP is to summarize the status of Holloman AFB's environmental restoration program and provide a comprehensive long-range strategy for conducting both the environmental restoration and associated compliance programs. In addition, it defines the status of efforts to resolve scientific and technical issues so that continued progress and implementation of scheduled activities can occur. The Holloman AFB project team will use this MAP to plan, direct, and monitor environmental response actions and schedule activities needed to resolve technical, administrative, and operational issues.

## **1.3 Project Team and Restoration Advisory Board**

The Holloman AFB project team has been established and is led by the Base remedial project manager (RPM). The project team meets or communicates regularly to resolve technical and policy issues, to conduct program reviews, and to reach consensus on procedural, organizational, and operational issues. Table 1-1 lists the team members and specifies their roles and responsibilities.

**Table 1-1**

**Current Holloman AFB Project Team Members**

<b>CORE TEAM MEMBERS</b>		
<b>Name</b>	<b>Role/Organization</b>	<b>Phone/FAX</b>
Warren Neff	Remedial Project Manager/ Holloman AFB	(505) 475-5395/ (505) 475-7015
Lowell Seaton	Project Manager/EPA Region VI	(214) 655-8304/ (214) 655-6660
Julie Jacobs	Project Manager/ NMED CERCLA DSMOA, Groundwater Protection and Remediation Bureau	(505) 827-2754/ (505) 827-2965
Steve Pullen	Project Manager/NMED RCRA DSMOA, Hazardous and Radioactive Materials Bureau	(505) 827-1558/ (505) 827-1544
Jim Hendricks	Project Manager/USACE- Albuquerque	(505) 479-6095/ (505) 479-4297
Jim Haggins	Project Manager/HQACC ESVR	(804) 764-6249/ (804) 764-5339
Tom Zink	Project Manager/USACE-Omaha	(402) 221-7711/ (402) 221-7838
Mark Mercier	Technical Manager/USACE-Omaha	(402) 221-7666
Ron Versaw	TERC Program Manager/Foster Wheeler Environmental Corp.	(303) 980-3598/ (303) 980-3539
Dan Holmquist	Site Manager/Foster Wheeler Environmental Corp.	(505) 479-2668/ (505) 479-2081

- AFB = Air Force Base
- CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
- DSMOA = Defense and State Memorandum of Agreement
- EPA = U.S. Environmental Protection Agency
- HQACC = Headquarters Air Combat Command
- NMED = New Mexico Environment Department
- RCRA = Resource Conservation and Recovery Act
- TERC = Total Environmental Restoration Contract
- USACE = U.S. Army Corps of Engineers

The Restoration Advisory Board (RAB) has been established as a forum for public participation in the IRP at the Base. Table 1-2 lists the active board members and the objective and goals of the RAB.

#### **1.4 Brief History of Holloman Air Force Base**

Holloman AFB is located in south-central New Mexico, about 75 miles north-northeast of El Paso, Texas (see Figure 1-1). The Base covers approximately 59,827 acres. Highway 70, which runs in a southwesterly-northeasterly direction, provides most of the southern boundary; the other sides of the Base are bordered by open land (see Figure 1-2).

The Base is located in the Tularosa Basin, which is bounded by the San Andres Mountains to the west and the Sacramento Mountains to the east. The Basin's interior plain has low relief, with altitudes ranging from about 4,000 feet in the southwest to about 4,400 feet in the northeast. The surrounding mountains rise to altitudes of 7,000 feet to 12,000 feet.

The climate in the Tularosa Basin is arid, with low annual rainfall and low relative humidity. Mean annual precipitation is 7.9 inches, mostly from thunderstorm activity from May through October. The mean annual lake evaporation rate is approximately 67 inches.

The Tularosa Basin is a bolson, or a basin that has no surface drainage outlet. The bolson fill in the Tularosa Basin is derived from the erosion of limestone, dolomite, and gypsum in the surrounding mountains. Groundwater occurs in unconfined conditions in the unconsolidated bolson deposits beneath the Base and is designated as unfit

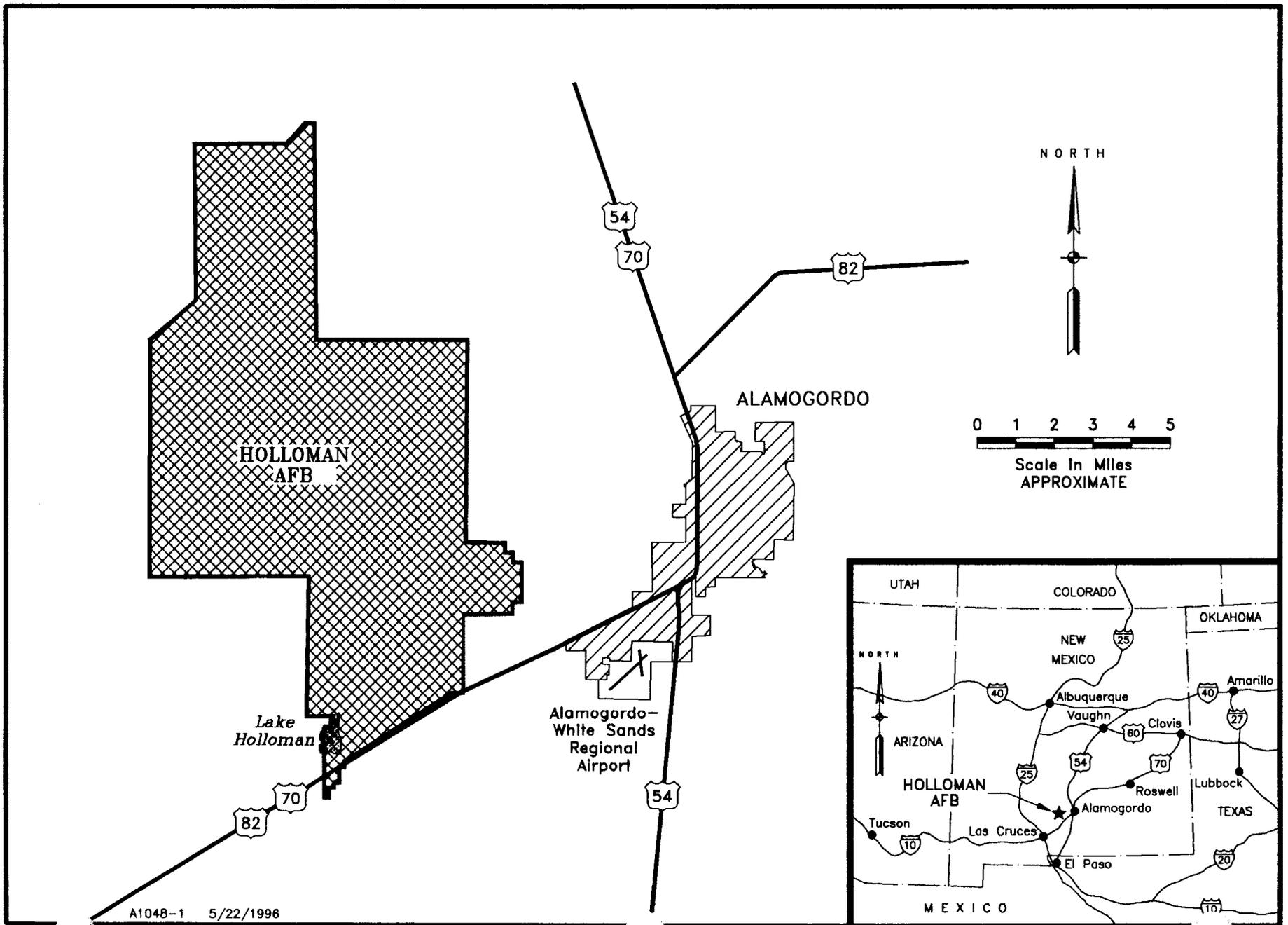
**Table 1-2**

**Restoration Advisory Board**

Name	Role/Organization	Phone
Daniel King Col. Donald E. Belche	Co-Chair/Mayor of Alamogordo Co-Chair/49 FW/EM	(505) 439-4205 (505) 475-7831
<b>OBJECTIVE:</b> Provide a forum for public participation in the environmental issues on the Base.		
<b>GOALS:</b> <ul style="list-style-type: none"><li>• Obtain community review and comment on technical documents relating to environmental studies at the Base.</li><li>• Obtain community review and comment on restoration activities at the Base.</li><li>• Provide a mechanism to accelerate the IRP program.</li><li>• Keep the public informed about environmental issues on the Base through public RAB meetings.</li><li>• Provide a forum for community comment.</li> <li>• Meet biannually</li></ul>		

IRP = Installation Restoration Program  
RAB = Restoration Advisory Board

FIGURE 1-1. LOCATION OF HOLLOWAN AFB  
ALAMOGORDO, NEW MEXICO



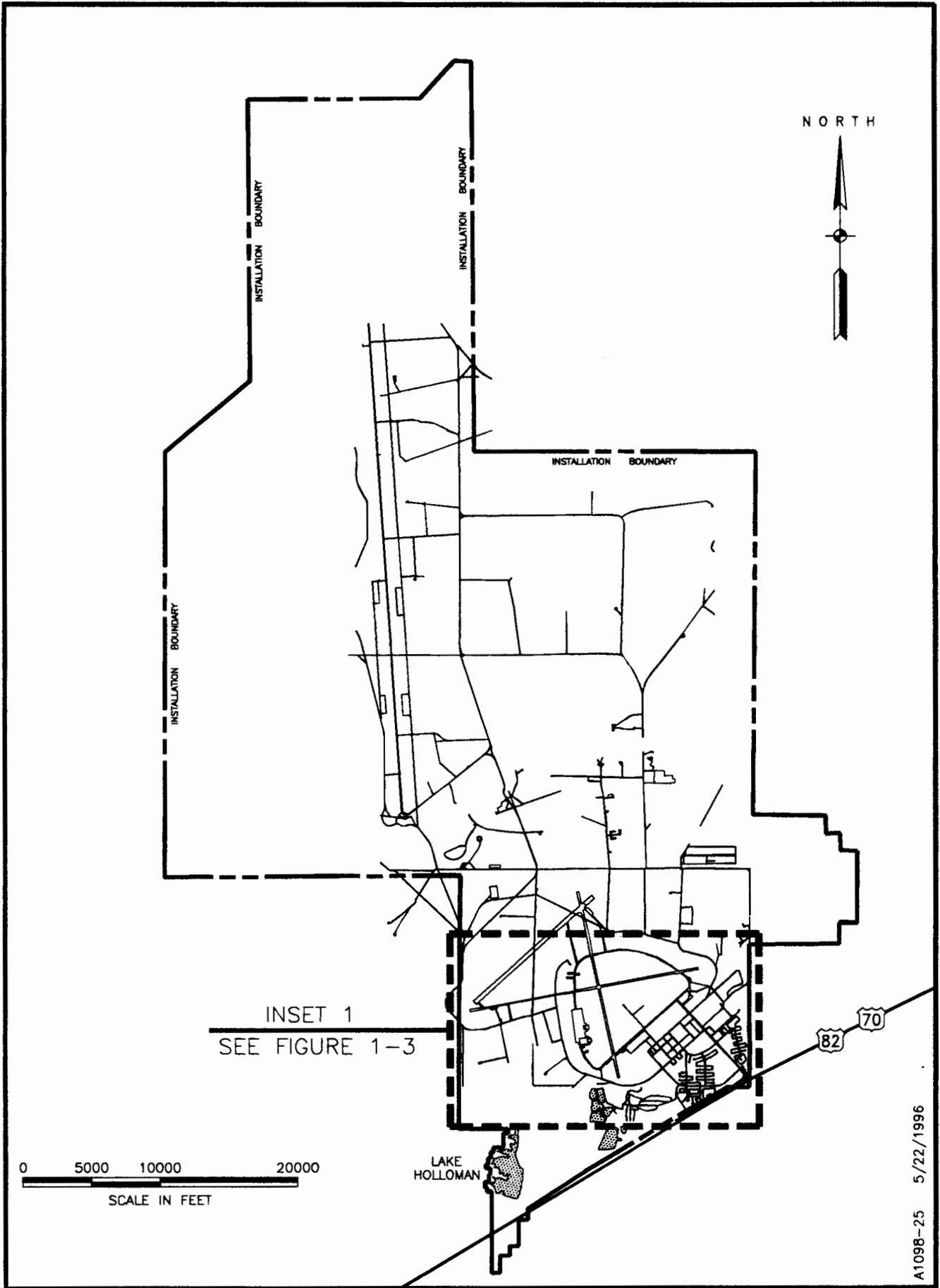


FIGURE 1-2. HOLLOMAN AFB BOUNDARY MAP

for human consumption because it exceeds New Mexico human health standards for total dissolved solids and sulfate.

The buildings in the main Base area are shown in Figure 1-3. The nearest residential and commercial area is the City of Alamogordo, which is located 7 miles east of Holloman AFB. Several off-Base (satellite) installations are also operated by the Base (see Figure 1-4):

- Silver City Radar Site (deactivated late 1980s)
- El Paso Radar Site (deactivated late 1980s)
- Boles and San Andres Well Field Area
- Bonito Lake

Holloman AFB, formerly Alamogordo Army Airfield, was initiated as a temporary facility during World War II, with construction commencing on 6 February 1942. At the end of World War II, the airfield was briefly inactivated. The Base was transferred to the Air Material Command in March 1947. The mission of Holloman AFB at that time was to "provide facilities and accomplish development and testing of pilotless aircraft, guided missiles, and allied equipment in support of the Air Material Command Research and Development Program." To support this mission, quantities of petroleum, oil, and lubricants (POL), solvents, and protective coatings were used with resultant wastes generated.

In 1951, when the Air Research and Development Command was formed, Holloman AFB was placed under the guidance of the Air Force Missile Test Center. The next year the Base was named as one of the development centers of the Air Research and Training Development Command and became Holloman Air Development Center. Five years later, Holloman was designated as the Air Force Missile Development Center under the Air Force Systems Command (AFSC). On 1 January

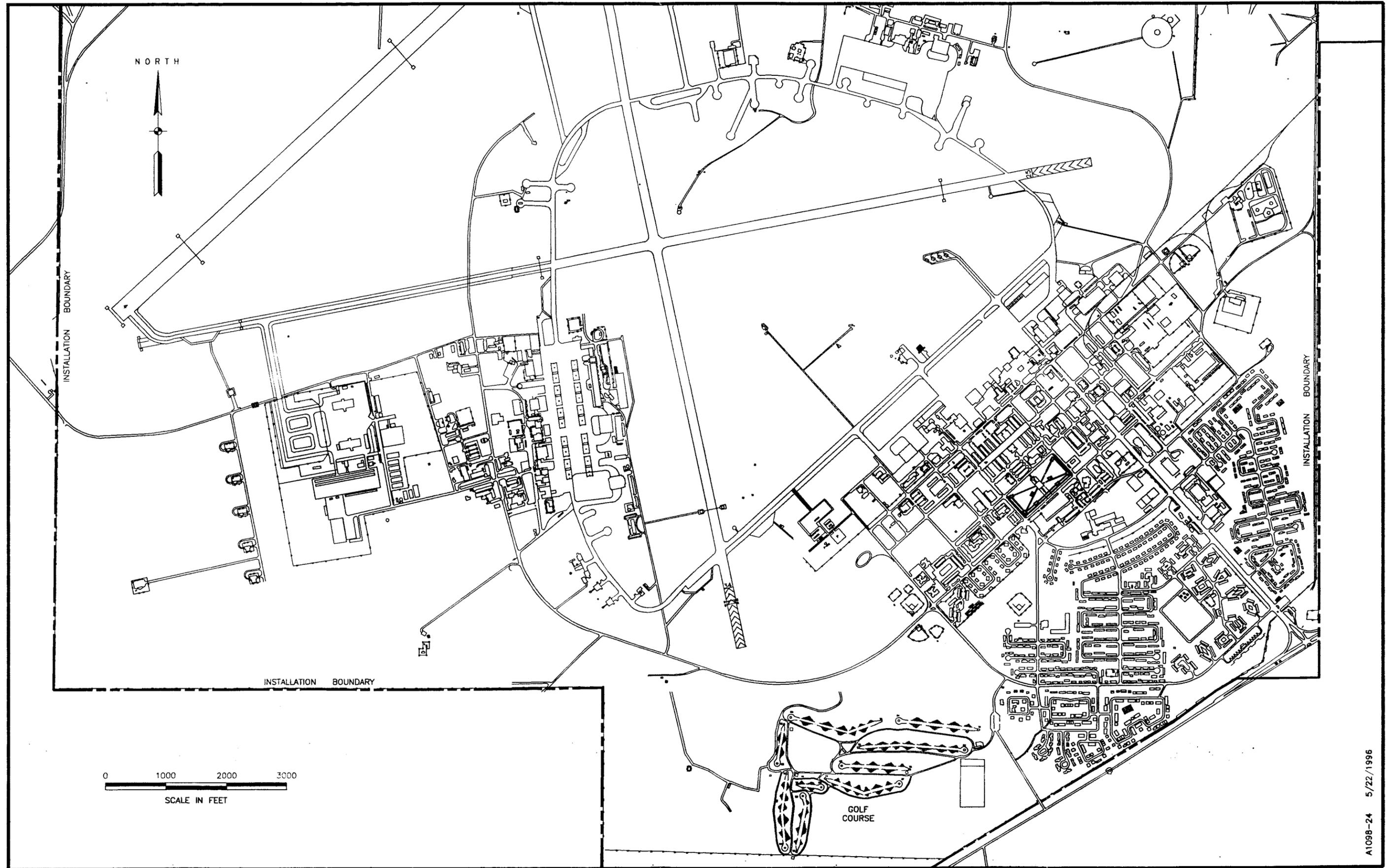
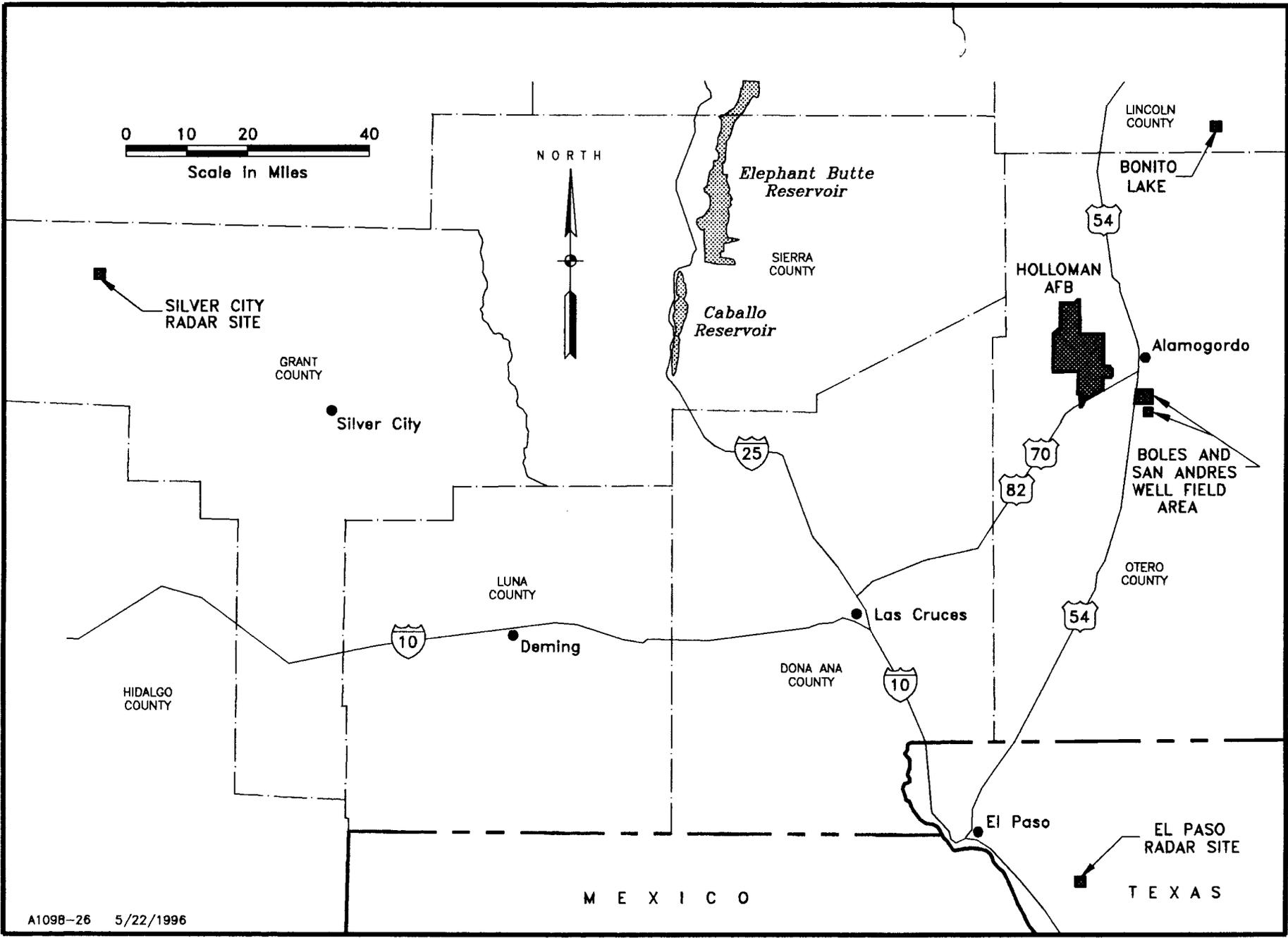


FIGURE 1-3. FACILITIES AND BUILDINGS  
IN MAIN BASE AREA

FIGURE 1-4. HOLLOMAN AFB SATELLITE FACILITIES



1971, the Base was transferred from AFSC to Tactical Air Command (TAC), with the 49th Tactical Fighter Wing assuming host responsibilities. Six years later, the 479th Tactical Training Wing was assigned to Holloman AFB. The 833rd Air Division was reactivated on 1 December 1980 and became operational at Holloman AFB.

TAC organizations at Holloman included the 49th Tactical Fighter Wing, the 479th Tactical Training Wing, and the 4449th Mobility Support Squadron.

Holloman AFB was transferred from the TAC to the Air Combat Command (ACC) on 1 June 1992. The history of Base operations is summarized in Table 1-3.

The Base is not currently on the National Priorities List (NPL). A Phase I records search was conducted in August 1983. At this time, the 60 IRP sites at Holloman AFB are in various stages of the IRP process, with 38 sites designated as closed.

There are also several tenant organizations at Holloman AFB, the most significant being the 46th Test Group. Major on-Base tenant organizations are listed in Table 1-4.

Several contractors operate facilities at Holloman AFB. Major contractors are listed in Table 1-5. It is not believed that any contractors will conduct RAs at the Base. The contractor list was developed from information supplied by the Real Property Department.

**Table 1-3**  
**History of Base Operations At Holloman AFB**

<b>Period</b>	<b>Types of Operations</b>	<b>Activities</b>	<b>Hazardous Substance Activities</b>
Pre-1942	Rangeland	None	None
1942-1945	Alamogordo Army Airfield	Unknown	Unknown
1945-1947	Inactive	None	None
1947-1951	Air Material Command	Testing pilotless aircraft, guided missiles, and allied equipment	Petroleum, oil, and lubricants (POL), solvents, and protective coatings
1951-1952	Air Force Missile Test Center	Testing pilotless aircraft, guided missiles, and allied equipment	POL, solvents, and protective coatings
1952-1957	Holloman Air Development Center	Testing pilotless aircraft, guided missiles, and allied equipment	POL, solvents, and protective coatings
1957-1971	Air Force Missile Development Center	Testing pilotless aircraft, guided missiles, and allied equipment	POL, solvents, and protective coatings
1971-1992	Tactical Air Command	49 <sup>th</sup> Tactical Fighter Wing, 479 <sup>th</sup> Tactical Training Wing, 833 <sup>rd</sup> Air Division, and 4449 <sup>th</sup> Mobile Support Squadron	POL, solvents, protective coatings, and radionuclides
1992-Present	Air Combat Command	49 <sup>th</sup> Tactical Fighter Wing, 479 <sup>th</sup> Tactical Training Wing, 833 <sup>rd</sup> Air Division, and 4449 <sup>th</sup> Mobile Support Squadron	POL, solvents, protective coatings, and radionuclides

AFB = Air Force Base  
POL = Petroleum, Oil, and Lubricants

**Table 1-4****On-Base Tenant Units at Holloman AFB**

<b>Organization</b>	<b>Facility</b>
46th Test Group	10086 & Multi
746th Test Squadron [Guidance]	1265, 1263, 1261, 1259, 1257, 1087
846th Test Squadron [Track]	1179, 1174, 1173, 1187, 1161, 1166, 1176
586th Flight Test Squadron	1028, 1025, 1021, 1026
RATSCAT Division	7000
4th Space Surveillance Squadron	1061, 1062, 1063
Detachment 2, 21st Ops Group	1061, 1062, 1063
Aerospace Fuels Laboratory (OL SA-ALC)	837
Air Force Audit Agency, Detachment 230	841
Area Defense Council, Detachment QD3F	302
Army Air Operations Directorate (STEWS-AA)	1083, 1079, 1071, 1003
Army and Air force Exchange (AAFES)	787, 649, 18, 19
Atmospheric Science Division (AMSTE) [Army]	1196
US Army Corps of Engineers (CESWA-CO)	841
Defence Commissary Agency (DECA)	787
Defense Finance and Accounting Services (DFAS-DE)	29
Defense Investigative Services	302
Defense Mapping Agency Aerospace (DMAAC)	841
Defense Printing Service	839

**Table 1-4****On-Base Tenant Units at Holloman AFB****(Continued)**

<b>Organization</b>	<b>Facility</b>
Defense Reutilization and Marketing Office (DRMO)	111, 112, 113, 115
Detachment 1, 57th Wing	811
Detachment 1, 82nd Aerial Target Squadron	1080
Detachment 1, 147th Fighter Group	1049, 1051
Detachment 4, 50th Weather Squadron	912, 910, 911
AF OSI, Detachment 225	523
Directorate of Info Management - WSMR (STEWS-IM)	1154, 1108, 1001, 1150, 1155
DynCorp LANDAIR [Army]	841, 844, 897, 1103, 842, 1512, 1180
National Range Operations - WSMR (STEWS-NRO)	1102, 904
Phillips Laboratory (OL-AB)	850
Physical Science Laboratory [Army]	1060
US Post Office	785
NASA	574
German Air Force Tactical Training Center	318

**Table 1-5**

**Holloman AFB Contractors**

<b>Contractor</b>	<b>Contact Point</b>	<b>Building Number</b>	<b>Comments</b>
<b>GENERAL AIR FORCE CONTRACTORS</b>			
Waste Services Contractors, Inc.	Mr. Ben Barreras	NA	
H-K Moving & Storage DBA Kachhina Moving & Storage	Ms. Janice Pratt (505) 434-2959	NA	
Desert Laundry - Cleaners, Inc.	(915) 778-5231	NA	
Safety Kleen	Mr. Bill Caballero (505) 883-9663 or Dave Woodson (505) 757-9131	NA	
American Linen Supply	(505) 526-6641	NA	
International Amethyst Group	(602)378-6181	NA	
Dyncorp Aerospace Operation	(817) 732-4481	NA	
Unique Janitorial Service, Inc.	Mr. Wille White (505) 434-5023 Randy Jackson (505) 434-1250	NA	
Scott Cable TV	Mr. Bill Mason (505) 437-3101	NA	
Snake River Physicians, Inc.	Dr. Carol Rodgers (505) 434-4232 Shane Kelly 1-800-688-5008	NA	
Miracle Water Co.	(505)437-6124	NA	
Kentucky Bldg. Maintenance, Inc.	(513) 231-8100	NA	
Environmental Tectonics Corp.	Mr. Steven Aronold (505) 434-3960 or (505) 479-2171	NA	
Speedy Food Service, Inc.	(505) 479-7561	NA	
Planning Design & Research Engineers, Inc.	Dr. Upadyaya (615) 269-4119	NA	
Contell Cellular	Mr. Bill Wilson (505) 434-6173	NA	
Culligan Water Conditioning	Mr. Matthew Shaw (505) 437-6500	NA	
Westar Corporation		NA	
EMI Technologies		NA	
<b>CONTRACTORS FOR 46TH TEST GROUP</b>			
EG & G (RATSCAT)	Mr. Floyd Amburgey	7001	Alamogordo Radar Site
Lockheed Support Systems	Mr. Donald Severson	1179	Holloman AFB
Tracor		1080	Holloman AFB
<b>ARMY CONTRACTORS AT HOLLOMAN AFB</b>			
Dyncorp Data Collection	Mr. Buryhill (505) 679-1895	841	
Dyncorp Radar Division	Mr. Lefer-Stisaon (505) 679-2138	841	
GNM Services	Mr. Mikiseel (505) 679-2878	1001	

NA = Not applicable

## 1.5

### Key Regulatory Dates/Action

- On 23 August 1985, Holloman AFB was served with a Notice of Violation (NOV) for the sewage lagoons (WP-49) by the U.S. Environmental Protection Agency (EPA).
- On 4 February 1987, Holloman AFB was served with a NOV for the sewage lagoons (WP-49) by the EPA.
- On 20 December 1988, the FFCA was signed between the Air Force, EPA, and New Mexico Environment Department (NMED).
- Quarterly progress reports (required by the FFCA) on the lagoons began to be submitted. The first was submitted to the EPA on 5 April 1989. They have been submitted every quarter since.
- On 7 June 1991, the Post Closure Care Permit Application for the sewage lagoons, which included the closure plan and the delay-of-closure plan, was submitted to NMED and EPA.
- In September 1988, a RCRA facility assessment (RFA) was completed at all identified SWMUs at Holloman AFB.
- On 22 August 1991, the RCRA Part B permit was obtained. Quarterly progress reports have been submitted since the permit was issued.
- In September 1991, Holloman AFB was required to commence the corrective action program required in the Hazardous and Solid Waste Amendments (HSWA) of their RCRA permit.
- In July 1991, the Table 1 SWMUs work plan was completed.
- In June 1992, the Table 1 RCRA Facility Investigation (RFI) report was completed.

- In March 1993, the Table 2 SWMUs work plan was completed.
- In July 1993, the Permit Modification request was completed (HSPA Tables).
- In 1995, the Table 2 SWMUs RFI was completed.
- In April 1994, the Table 3 SWMUs work plan was completed.
- In June 1995, the Table 1 SWMU Phase II RFI was completed.
- In July 1995, the Table 3 SWMUs RFI was completed.

## **2.0           CONDITION OF PROPERTY**

### **2.1           Basewide Source Discovery and Assessment Status**

#### **2.1.1       Installation Restoration Program Sites**

Forty-three sites were identified in the August 1983 Phase I records search. An additional 13 sites were added since 1983 as the result of further studies and discoveries. An additional two sites (LF-58—Incinerator/Landfill and SS-57—Officer's Club) were added to the Installation Restoration Program (IRP) in 1992, and the final two sites, SS-59—T-38 Test Cell Fuel Spill and SS-60—Building 828 Fuel Spill, were added to the IRP in 1994.

Thirty-eight of the 60 sites are closed (15 closed in April 1993; 14 in September 1994; and 9 in 1995). Conditions for site closeout will need to be met at some of the sites. The conditions involve remediation of soil with concentrations of total recoverable petroleum hydrocarbons (TRPH) > 1,000 parts per million (ppm); removal of debris at the closed landfills; and/or long-term groundwater monitoring at sites where waste may be left in place. Remediation of soils with TRPH > 1,000 ppm is accomplished by excavation, bioventing, or soil vapor extraction. Capping is a condition of site closeout at Sites SD-08 and OT-14. These sites have been investigated and will be remediated in fiscal year (FY) 1996. The remaining sites are in various stages of the IRP process as described in Chapter 3.0. Appendix A, Chapter A2.0 provides site descriptions for each of the IRP sites.

A listing of all historical IRP deliverables for Holloman AFB is presented in Appendix B, Table B-1. Appendix B, Table B-2 identifies the sites within each historical deliverable for the Holloman Air Force Base (AFB) IRP. Appendix B, Table B-3 provides the updated Bound

Document Inventory as of May 1996. Table 2-1 provides the historical Holloman AFB IRP cost summary by phase.

### **2.1.2 Solid Waste Management Units**

A summary of the status of the solid waste management Units (SWMUs) in the corrective action process is provided below. Table 1 SWMUs have all undergone a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI); four have undergone a Corrective Measures Study (CMS) and are proposed for Corrective Measures Implementation (CMI), and the remainder are currently proposed for No Further Action (NFA). An RFI has been completed on all Table 2 SWMUs except SWMU 184. The RFI report was submitted to EPA Region VI in October 1994. Most SWMUs were recommended for NFA except for SWMUs recommended for Conditional No Further Action (CNFA) (SWMUs 22, 36, 40, 118, 123, 126, 128, 129, 136, and 138), SWMUs associated with the Fire Training Area (IRP Site FT-31), (SWMUs 39, 127, and 135), SWMU 75 (removed from the RFI) and SWMU 183. The Table 3 SWMUs RFI was conducted under a RCRA Corrective Action Program. An RFI report was submitted in July 1995 for the Table 3 SWMUs, which recommended NFA or CNFA for those 23 SWMUs described. Five SWMUs were also recommended for NFA as a result of a prescreening test performed for the approved Table 3 RFI work plan. The remaining Table 3 SWMUs were recommended for voluntary corrective action (SWMUs 3, 8, 10, and 18), CMS/CMI (AOC-V), RA (SWMUs 229 and 230), or RFI (SWMU 231).

For SWMUs that are also IRP sites, the phases are generally synchronized (e.g., RFI and remedial investigation [RI] phases). Some IRP sites have, however, been closed, whereas the RCRA SWMUs have

Table 2-1

Historical Holloman AFB IRP Cost Summary by Phase<sup>a</sup>

Year <sup>b</sup>	PA/SI	RI/FS	RD	RA	IRA	LTO/LTM	NFRAP	Totals
FY 1984	196.0							196.0
FY 1985								0.0
FY 1986				528.1				528.1
FY 1987		1,509.5						1,509.5
FY 1988		225.6		4,489.8				4,715.4
FY 1989				3,217.9				3,217.9
FY 1990		340.3	260.5	273.7		293.6		1,168.1
FY 1991	443.5	2,050.4	20.0	608.3		333.5		3,455.7
FY 1992	889.4	8.7	58.6	72.0	10.2	123.3		1,162.2
FY 1993		1,274.2	374.3	82.9	132.9	81.3		1,945.6
FY 1994	500.3	3,753.2	301.1	909.7	183.5	174.2		5,822.0
FY 1995		20.0	3,809.0	1,820.7	962.5	617.0		7,229.2
FY 1996						300.0		300.0
<b>Total</b>	<b>2,029.2</b>	<b>9,181.9</b>	<b>4,823.5</b>	<b>12,003.1</b>	<b>1,289.1</b>	<b>1,922.9</b>	<b>0.0</b>	<b>31,249.7</b>

<sup>a</sup> All amounts are in thousands.

<sup>b</sup> Year funds allocated.

AFB = Air Force Base

FY = Fiscal Year

IRA = Interim Remedial Action

IRP = Installation Restoration Program

LTM = Long-Term Monitoring

LTO = Long-Term Operation

NFRAP = No Further Response Actions Planned

PA/SI = Preliminary Assessment/Site Investigation

RA = Remedial Action

RD = Remedial Design

RI/FS = Remedial Investigation/Feasibility Study

remained in the RFI phase. This is primarily because those SWMUs are waiting for the EPA Region VI to complete the Statement of Basis Decision Documents (DDs). A permit modification request was submitted to EPA Region VI in July 1993, and a public meeting was held in Alamogordo in August 1993 to receive approval for NFA on 18 SWMUs. The next step is completion of the Statement of Basis DDs for 18 SWMUs. Permit modification requirements will be completed and public meetings will be held at least annually to finalize regulatory and public approval of the NFA and/or CMS decisions. The public meetings for permit modifications will be held, if possible, in conjunction with the scheduled Restoration Advisory Board (RAB) meetings. It is estimated that up to 30 SWMUs will receive the NFA decision in FY 1996. A public meeting is anticipated to be held in August 1996 pending approval of the Table 1, 2, and 3 RFIs.

## **2.2 Current and Future Land Use**

The Holloman AFB Base Comprehensive Plan (BCP) is intended to provide an organized, systematic, and comprehensive approach to both current and future Base planning and development. The BCP categorizes land-use classification on the basis of function. Listed below are the nine categories that characterize land use at the Base:

- **Airfield:** active and inactive runways, taxiways, and parking aprons.
- **Mission:** land-use areas directly related to the operation and maintenance of aircraft and training of their crews.
- **Industrial:** land-use areas for maintenance, storage, and supply functions not directly related to aircraft.

- Administrative: land-use areas reserved for administrative functions.
- Community: land-use areas designated for commercial activities, club facilities, indoor recreation, and community services.
- Medical: land-use areas occupied by hospitals, dental clinics, and veterinarian facilities.
- Housing: accompanied and unaccompanied, temporary and permanent housing areas.
- Recreation: land-use areas designated for outdoor recreation.
- Open space: conservation areas, undeveloped land, and required buffer space (i.e., safety clearances, security areas, and utility easements).

The BCP is a comprehensive planning tool that addresses a multitude of other installation requirements and assists in the long-range growth of the Base, including natural resources, environmental protection, land use, airfield operations, utilities, transportation, and architectural compatibility.

Of particular importance and significance to this Management Action Plan (MAP) is its role in environmental protection. The BCP provides a strategy for addressing proper hazardous waste management and recognizing the high priority of the IRP. Figure 2-1 is the present land-use map for the Base (present land use for the main Base area is in Figure 2-2) and Figure 2-3 is the future land-use map. Holloman AFB is surrounded by undeveloped rangeland.

For the three figures shown, the nine land-use categories are combined into four functional areas: