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Mr. Mark Mercier  
U.S. Army Corps of Engineers  
Omaha District  
ATTN: CEMRO-ED-EA (Mercier)  
215 North 17th Street  
Omaha, NE 68102-4978

Subject: TERC Contract No. DACW45-94D-0003, Delivery Order 01, WAD 01 and Delivery Order 08, WAD 01 -- Transmittal of Draft Final 1995 Long-Term Groundwater Monitoring Report, Holloman AFB, New Mexico

Dear Mr. Mercier:

Enclosed for your use are four copies of the above-referenced report. Additional submittals are noted in the list below.

If you have any questions regarding the enclosed report or require additional information, please call me at (303) 980-3598 or Chuck Schick at (505) 242-3113.

Sincerely,  
Foster Wheeler Environmental Corporation

Ronald E. Versaw, P.E.  
Delivery Order Manager, Holloman AFB

REV/lrw  
Attachments

Page 2  
June 24, 1996  
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cc: W. Neff, USAF-Holloman AFB (3 copies)  
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21 Feb 97

STEVE,

I heard you didn't have a copy of the  
1995 LTM Report so here it is. We will be  
out sampling again around August or September.  
LET ME know if you have any questions.

WARREN



**LIBRARY COPY**



*Headquarters, Air Combat Command  
Langley Air Force Base,  
Virginia*

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***DRAFT FINAL  
1995 LONG TERM GROUNDWATER  
MONITORING REPORT***

***JUNE 1996***

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*49 CES/CEV  
Holloman Air Force Base,  
New Mexico*

**DRAFT FINAL  
1995 LONG TERM GROUNDWATER MONITORING REPORT  
HOLLOMAN AIR FORCE BASE, NEW MEXICO**

Prepared for:

49 CES/CEV  
Holloman Air Force Base, NM

and

HQ ACC/ESVR  
Langley Air Force Base, VA



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Under Contract No. DACW-45-94-D-0003  
Delivery Order No. 1, Work Authorization Directive 1,  
and Delivery Order 8, Work Authorization Directive 1:

U.S. Army Corps of Engineers  
Omaha District  
Omaha, Nebraska

June 1996

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**APPENDIX F -- Daily Quality Control Reports (DQCR)**

## LIST OF ACRONYMS

AFB	Air Force Base
AGE	Aerospace Ground Equipment
AOC	Area of Concern
BEC	Base Environmental Coordinator
BHC	Hexachlorocyclohexane
BRA	Baseline Risk Assessment
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CDAP	Chemical Data Acquisition Plan
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
CNFA	Conditional No Further Action
DDD	4,4-dichlorodiphenyldichloroethane
DDE	4,4-dichlorodiphenyldichlorethylene
DL	Detection Limit
DOT	Department of Transportation
DPT	Direct Push Technology
DQCR	Daily Quality Control Report
DRMO	Defense Reutilization and Marketing Office
E-Line	Electric Line
EPA	Environmental Protection Agency
ft/ft	feet/feet
FSP	Field Sampling Plan
GTEL	GTEL Environmental Laboratories
ICV	Initial Calibration Verification
IDW	Investigation-Derived Waste
IRP	Installation Restoration Program
LCS	Laboratory Control Sample
LIMS	Location Information Management System
LPH	Liquid Phase Hydrocarbons
LTM	Long Term Groundwater Monitoring
MCLs	Maximum Concentration Levels
mg/kg	Milligrams per Kilogram
mg/l	Milligrams per Liter
MOBBS	Mobile Bare Base Squadron
MRD	Missouri River Division
MS	Matrix Spike

**LIST OF ACRONYMS (continued)**

MSD	Matrix Spike Duplicate
MSL	Mean Sea Level
NA	Not Applicable/Not Established
NMED	New Mexico Environment Department
NMWQCC	New Mexico Water Quality Control Commission
NOI	Notice of Intent
PA/SI	Preliminary Assessment/Site Investigation
PCB	Polychlorinated Biphenyls
%	Percent
PID	Photoionization Detector
POL	Petroleum, Oils, and Lubricants
ppb	parts per billion
PPE	Personal Protection Equipment
ppm	parts per million
PR	Percent Recovery
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RCRA	Resource, Conservation and Recovery Act of 1976
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RPD	Relative Percent Difference
SSHPP	Site Safety and Health Plan
SOPs	Standard Operating Procedures
TAL	Target Analyte List
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TOX	Total Organic Halogens
TPH	Total Petroleum Hydrocarbons
TRPH	Total Recoverable Petroleum Hydrocarbons
ug/kg	Micrograms per Kilogram
ug/l	Micrograms per Liter
us/cm	Microsiemens per Centimeter
USACE	United States Army Corps of Engineers
UST	Underground Storage Tank
WMP	Waste Management Plan

## 1.0 INTRODUCTION

### 1.1 Purpose and Project Objective

This report presents the results of the 1995 Long Term Groundwater Monitoring (LTM) Program for selected Resource, Conservation and Recovery Act of 1976 (RCRA) and Installation Restoration Program (IRP) sites at Holloman Air Force Base (AFB), New Mexico (Figure 1-1). The LTM Program consists of the collection of groundwater samples for site-specific analyses once every two years for a period of 10 years. The purpose of the LTM Program is to fulfill requirements by U.S. Environmental Protection Agency (EPA) Region VI and New Mexico Environment Department (NMED) to conditionally close out the sites in the program. The LTM Program is also conducted to monitor the effectiveness of remedial actions. Site SD-08 is under remediation, and an RI/FS is being conducted at sites OT-44 and OT-45. The 1995 sampling event was the first round of sampling for the sites in the LTM Program. The primary objective of this round of samples was to establish a baseline against which to compare future sampling results.

The LTM Program is being conducted at the following sites (Figures 1-2 and 1-3):

LF-01	Main Base Landfill
LF-10	Old Main Base Landfill
SD-08	Refuse Collection Truck Washrack
LF-19	Golf Course Landfill
LF-21	West Area Landfill No. 2
LF-22	West Area Landfill No. 1
LF-23	MOBBS Landfill
OT-44	Building 301 Aircraft Maintenance Hangar
OT-45	Aerospace Ground Equipment (AGE) Refueling Station
SS-48	Military Gas Station

DP-30 & SD-33 Grease Trap Disposal Pits  
SS-56 West Ramp Fuel Spill

## 1.2 Document Organization

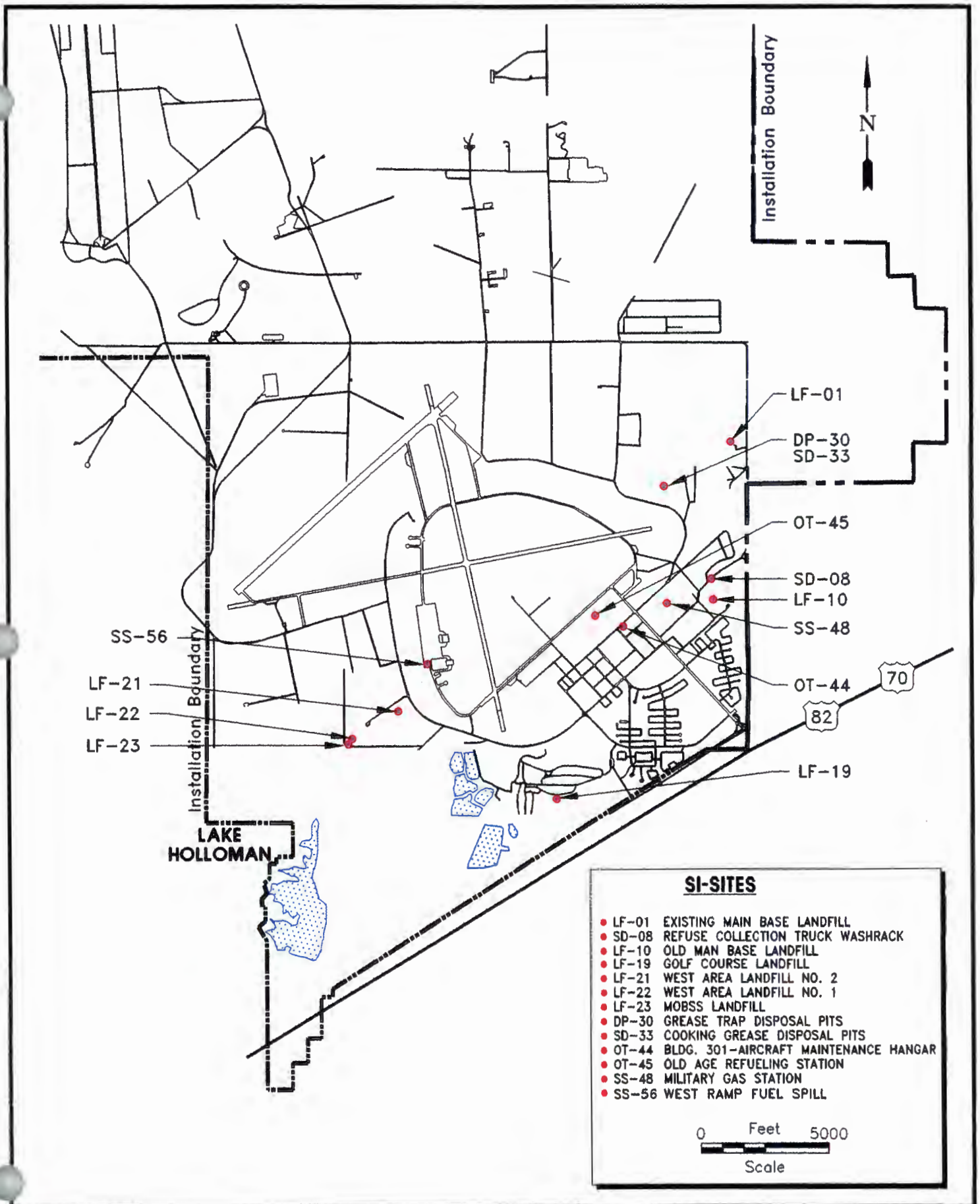
The scope of work performed at each site is briefly discussed in this report. Detailed explanations and protocols are provided in the Final Chemical Data Acquisition Plan (CDAP) for the project (EBASCO/Groundwater Technology, July 1995). The LTM CDAP is divided into three volumes:

Volume I - Field Sampling Plan (FSP);  
Volume II - Quality Assurance Project Plan (QAPP); and  
Volume III - Site Safety and Health Plan (SSHP).

Specific variations in the original sampling plans due to field conditions are identified in Sections 2.0, 3.0, 4.0, and 5.0 of this report.

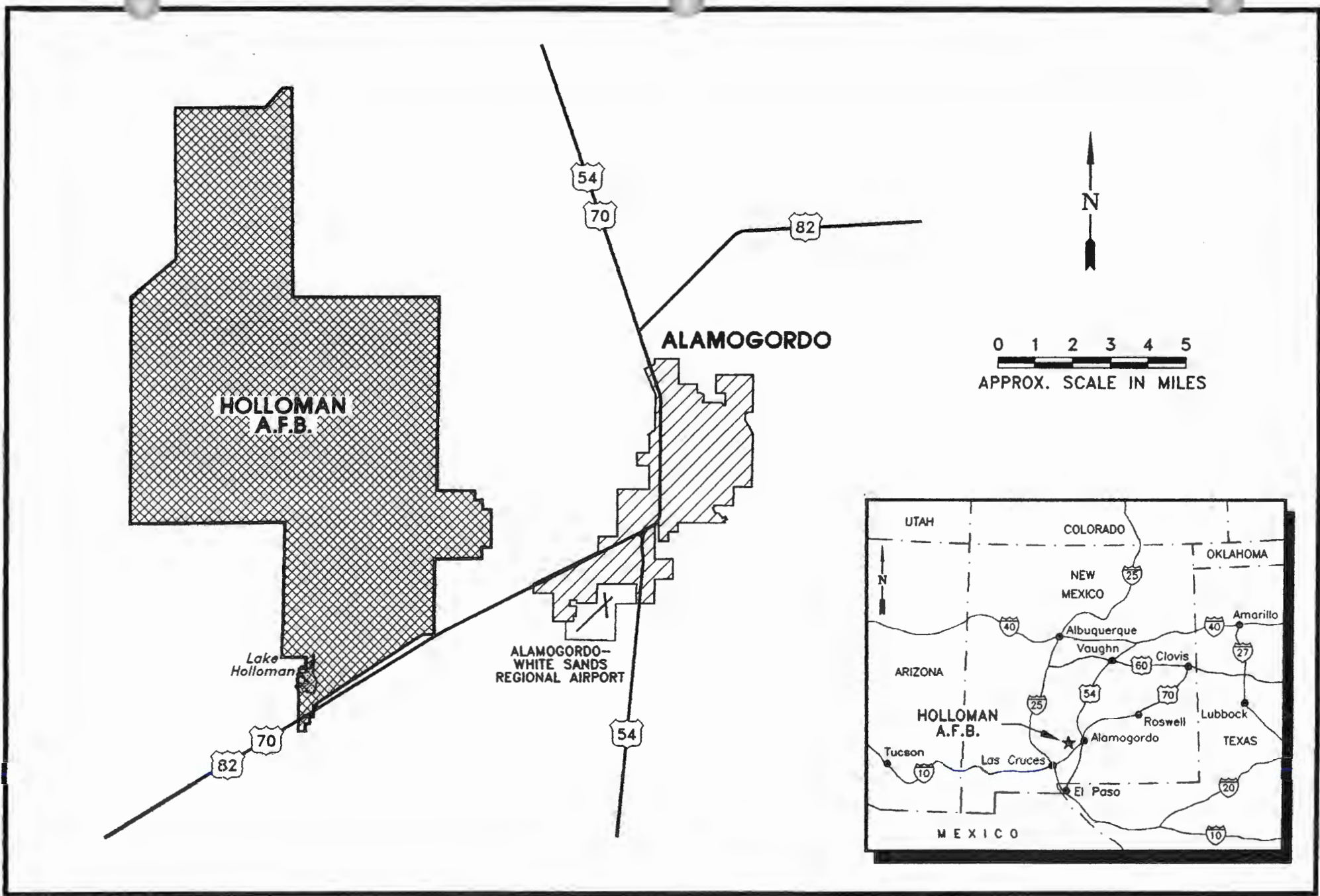
The 1995 LTM Report includes discussions of results from the groundwater monitoring and sampling conducted. This report is organized as follows:

Section 2 Sampling Procedures;  
Section 3 Site-Specific Long Term Monitoring Results;  
Section 4 Waste Management Procedures;  
Section 5 Quality Control Summary Report; and  
Section 6 References.



2201FA

**FIGURE I-2, FACILITY MAP  
1995 LTM PROGRAM, HOLLOMAN AIR FORCE BASE**



2201SITE

**FIGURE I-1, SITE LOCATION  
1995 LTM PROGRAM, HOLLOMAN AIR FORCE BASE**



**TO VIEW THE MAP AND/OR  
MAPS WITH THIS DOCUMENT,  
PLEASE CALL THE  
HAZARDOUS WASTE BUREAU  
AT 505-476-6000 TO MAKE AN  
APPOINTMENT**