

DEPARTMENT OF THE AIR FORCE
Headquarters 377th Air Base Wing (AFMC)

ENVIRONMENTAL

30 May 95

MEMORANDUM FOR HQ AFMC/CEVR (MR. ALAN WAITE)

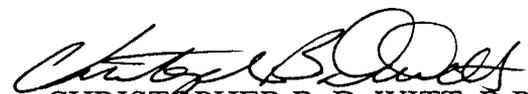
FROM: 377 ABW/EMR
2000 Wyoming Blvd SE
Kirtland AFB NM 87117-5659

K-afb
VII



SUBJECT: Decision Document

1. The attached decision document (DD) finishes three sites under the IRP: RW-21, Radioactive Burial 7; SD-25, Tijeras Arroyo Drainage Ditch; and WP-57, NMERI Pits.
2. This is an internal Air Force document and should in no way be construed as an EPA or NMED regulatory requirement. The purpose of the DD is to record sites that are either in final CMI or, for various reasons, will no longer receive DERA funding.


CHRISTOPHER B. DeWITT, R.P.G.
Chief, Restoration Branch
Environmental Management Division

Attachment:
Decision Document

cc:
EPA Region 6 (Ms. Morlock)
~~NMED-HRMB (Mr. Pullen)~~

ORIGINAL report w/ entry/REMOVAL of SWAN's file

KAFB1629



U.S. AIR FORCE
INSTALLATION RESTORATION PROGRAM (IRP)
DECISION DOCUMENT

SITES

RW-21	Radioactive Burial 7
SD-25	Tijeras Arroyo Drainage Ditch
WP-57	NMERI Pits

Prepared For:

AIR FORCE MATERIEL COMMAND
ENVIRONMENTAL MANAGEMENT DIRECTORATE
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

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377th AIR BASE WING
KIRTLAND AIR FORCE BASE, NEW MEXICO

April 1995

TABLE OF CONTENTS

1.0 INSTALLATION	1
2.0 INTRODUCTION	1
3.0 SITE IDENTIFICATION	1
3.1 Site Name and Description	1
3.2 Site Location and Setting	1
4.0 BACKGROUND	2
4.1 Site Identification History	2
4.2 Site Studies and Investigations	3
4.3 Finished Site History	4
5.0 SUMMARY AND CONCLUSIONS.	5
5.1 Radioactive Burial 7 (RW-21)	5
5.2 Tijeras Arroyo Drainage Ditch (SD-25)	5
5.3 NMERI Pits (WP-57)	5
6.0 REFERENCES	6

FIGURES

1. Location of Kirtland AFB, Albuquerque, New Mexico	7
2. Site Locations	8

ATTACHMENTS

1. U.S. EPA Approval Letter for No Further Action at the NMERI Pits, (WP-57), 5 December 1995	9
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1.0 INSTALLATION

Kirtland Air Force Base (KAFB) is located in central New Mexico southeast of and contiguous to the City of Albuquerque. The base occupies approximately 52,887 acres and is bordered by Albuquerque to the north and northwest, the Isleta Indian Reservation to the south, state owned lands to the west, and the Cibola National Forest to the east (Figure 1). The basic mission of KAFB is to provide research and development for Air Force programs, weapons storage, and training.

2.0 INTRODUCTION

The objective of this decision document is to finish three of KAFB's Installation Restoration Program (IRP) sites. Environmental investigations conducted at these sites show they pose no risk to human health and the environment, and should therefore be given no further consideration under the IRP.

3.0 SITE IDENTIFICATION

3.1 Site Name and Description

RW-21	Radioactive Burial 7
SD-25	Tijeras Arroyo Drainage Ditch
WP-57	New Mexico Engineering Research Institute (NMERI) Pits

3.2 Site Location and Setting

Radioactive Burial Site 7 (RW-21) is located in the northeast portion of KAFB within the boundaries of the Manzano Weapons Storage Area, approximately 1 mile from the base boundary (Figure 2). The site covers an area of $\frac{1}{4}$ acre, and consists of two small excavations and associated excavated soil piles enclosed by a chain-link fence. The site is underlain by a thin veneer of weathered granite which rests upon unweathered bedrock at a depth of about 8 feet below ground surface. The site lies at an elevation of 6300 feet in the Manzanita Mountains, an uplifted block of Precambrian granite and granite gneiss. Groundwater flow at the site is controlled by fractures in the granite. Depth to groundwater at the site is unknown.

The Tijeras Arroyo Drainage Ditch (SD-25) is an open drainage channel in the northwest corner of the base. At its confluence with Tijeras Arroyo the site is approximately $\frac{1}{4}$ mile from the base boundary (Figure 2). The drainage ditch bisects Landfill 1 (LF-01), a 55-acre abandoned landfill which is also an IRP site and a Solid Waste Management Unit (SWMU 6-1) listed in Appendix I of the KAFB RCRA Part B Permit. The ditch flows

intermittently and receives stormwater runoff from the Albuquerque International Airport runways and KAFB hangar facilities, eventually draining into Tijeras Arroyo about one mile downstream from Landfill 1. Tijeras Arroyo eventually drains into the Rio Grande about four miles downstream from the western base boundary. The site is underlain by unconsolidated alluvial sediments of the Santa Fe Group. The depth to groundwater beneath the site is approximately 400 feet.

The NMERI Pits (WP-57) are located on the south end of the base approximately 1 mile from the southern base boundary (Figure 2). The site was formerly used by the New Mexico Engineering Research Institute to study blast effects on various types of instruments. The site consists of two main blast pits that cover ½ acre and several other small surface disturbances. The site is underlain by unconsolidated alluvial sediments of the Santa Fe Group. Depth to groundwater is estimated to be 100 feet.

4.0 BACKGROUND

4.1 Site Identification History

Radioactive Burial 7 (RW-21) was first identified as an IRP site during the Phase I Records Search conducted by Engineering Science Inc., in 1981. Records indicate the site was used by the U.S. Army as a low-level radioactive waste burial from at least July 1959 until December 1963. No records exist prior to July 1959; however, based on the operational history of Manzano Base, waste disposal may date to as early as 1949. A total of 449 cubic feet of low-level radioactive waste was buried at the site between 1959 and 1963, including swipes, gloves, butcher paper, protective clothing, respirator cartridges, and dust collected in vacuum cleaners. The waste material was generated as a result of weapons maintenance activities. Burial criteria required radiation of less than 200 mr/hr at a distance of 1 foot from the surface of any material to be buried. Wastes may also have included small amounts of solvents, as well as lead and cadmium. The wastes were contained in 15-inch by 15-inch by 8-inch cardboard boxes and disposed of in trenches at the site. The buried waste was excavated and disposed of at an off-site location, although the exact date of removal or the ultimate disposal location is not known. The site was identified as an Area of Concern (AOC 6-A) during the 1988 RCRA Facility Assessment (RFA) conducted by A.T. Kearney Consultants, a U.S. EPA contractor. The site is currently listed as AOC 6-A in Appendix IV of the KAFB RCRA Part B Permit.

The Tijeras Arroyo Drainage Ditch (SD-25) was identified as an IRP site as a result of a Special Condition stipulated in the 1988 KAFB RCRA Part B Permit to investigate the drainage area from Landfill 1 (SWMU 6-1) and the Tijeras Arroyo floodplain. The U.S. EPA did not add this site to the RCRA Part B Permit as a SWMU.

The NMERI Pits (WP-57) were identified as an IRP site in July 1994 as a result of a records search conducted by base Environmental Management personnel. A drawing identifying "waste piles" in the area was discovered in the Base Civil Engineers files. In accordance with the KAFB RCRA Part B Permit, the site was reported to the U.S. EPA as a potential SWMU by a letter dated 12 July 1994.

4.2 Site Studies and Investigations.

Periodic surface radiation surveys at RW-21 (Radioactive Burial 7) conducted prior to 1980 did not detect radiation levels above background (Engineering Science, 1981). A RCRA Facility Investigation (RFI) was conducted at the site in 1994 to determine the nature and extent of any releases of hazardous or radioactive constituents to the environment. A surface radiation survey was conducted using Ludlum Model 19 and 12 meters. No radiation above background levels was detected. Soil samples were taken from the excavations and the associated spoil piles, and analyzed for volatile organic compounds, lead, cadmium, and soil moisture. Radiological analyses included gross alpha, gross beta, gamma spectroscopy, and tritium. No radiological or chemical contaminants were detected above natural background concentrations. Soil analyses for gross alpha resulted in background levels ranging from 46p Ci/g to 39 pCi/g and background levels of 36 pCi/g for gross beta. The range of alpha particle concentrations from the environmental samples was 9.4 to 39 pCi/g, and 22 to 36 pCi/g for beta particle concentrations. Results of gamma spectroscopy analyses revealed an absence of radiological migration of waste material. The RFI concluded that no exposure hazards exist at the site and recommended no further action other than backfilling the trenches to eliminate the physical hazard associated with open excavations.

Surface soil, sediment and surface water samples were collected at SD-25 (Tijeras Arroyo Drainage Ditch) as part of the 1993 Stage 2 RFI for LF-01 (Landfill 1, SWMU 6-1). Soil and sediment samples were analyzed for volatile organic compounds, semi-volatile organic compounds, ICP metals, mercury, chromium, nitrogen, explosives and total petroleum hydrocarbons. The only analyte reported above action level in soil and sediment samples was beryllium; however, these concentrations of beryllium are considered to be naturally occurring on Kirtland AFB. Surface water samples were analyzed for total petroleum hydrocarbons, halogenated volatile organic compounds, aromatic volatile organic compounds, semi-volatile organic compounds, total-recoverable and dissolved-metals screen, arsenic, lead, mercury, chromium, selenium, total dissolved solids, common anions, nitrogen, and explosives. No analytes were reported above action levels in the surface water samples.

A SWMU assessment was conducted at the NMERI Pits (WP-57) in August 1994. Seven borings were drilled at the site to evaluate potential contamination at two former blast pits and three surface disturbances. Soil samples were analyzed for RCRA metals, volatile organic compounds, semi-volatile organic compounds, explosives, and total petroleum hydrocarbons. The samples from the surface disturbance sites were analyzed for the same parameters with the exception of explosives. The analytical results from the SWMU assessment revealed no analytes above natural background concentrations. The pits do not pose any physical hazards due to shallow depths and gentle side slopes

4.3 Finished Site History

The RFI Report for Radioactive Burial 7 (RW-21) was submitted to the U.S. EPA in December 1994. The report concluded that the previously buried material had been successfully excavated and no residual waste was left at the site that would pose an exposure hazard to human health or the environment. The report recommended no further action at the site other than to fill in the open excavations and grade the site. As of this date the EPA has not completed their review of the RFI report. Funding to accomplish the site grading was secured in FY95. The base expects to execute the contract to grade the site in the third or fourth quarter in FY95.

The Tijeras Arroyo Drainage Ditch (SD-25) is not listed as a separate SWMU on the KAFB RCRA Part B Permit. Results from the Stage 2 RFI at Landfill 1 (LF-01, SWMU 6-1) indicate that surface soils, sediments and surface water in the ditch are not contaminated. The site is located within the boundaries of Landfill 1, which is undergoing corrective action under the KAFB RCRA Part B Permit. There is concern that the drainage channel could have an adverse impact on the LF-01 site by erosion or degradation of stormwater runoff quality by landfill leachate. A Military Construction Project (MHMV 963010) is planned for FY96 to divert the stormwater drainage around the Landfill 1 site in order to address these concerns. In the interim the channel has been lined with concrete rubble and approximately 10 feet of clean fill has been placed on the eastern portion of Landfill 1 (LF-01).

The SWMU Assessment Report for the NMERI Pits (WP-57) was submitted to the U.S. EPA on 3 October 1994, and recommended no further action at the site. The U.S. EPA concurred in a letter dated 5 December 1994 that no further action was required at the site (Attachment 1).

5.0 SUMMARY AND CONCLUSIONS

The three IRP sites discussed in this decision document are considered finished for the following reasons:

5.1 Radioactive Burial 7 (RW-21) was investigated and found to have no radioactive or chemical contaminants above background concentrations. The site poses no threat to human health or the environment.

5.2 The Tijeras Arroyo Drainage Ditch (SD-25) is not listed as a SWMU on the KAFB RCRA Part B Permit, and lies within the boundaries of Landfill 1 (LF-01 and SWMU 6-1). Preliminary sampling at SD-25 revealed no contamination at the site; however, any additional investigation or remediation required at the site will be accomplished in conjunction with Landfill 1. Project MHMV-963010 will reroute the storm drainage carried by the ditch around Landfill 1.

5.3 The NMERI Pits (WP-57) were investigated and found to be free of any contamination above naturally occurring background concentrations. The site poses no threat to human health or the environment and the U.S. EPA has concurred with the Air Force recommendation for no further action at the site.


SCOTT E. STREIFERT, Lt Col, USAF
Director
Environmental Management Division


CHARLES H. PEREZ
Brigadier General, USAF
Commander

6.0 REFERENCES

1. (1988) A.T. Kearney Inc., Preliminary Review/Visual Site Inspection, Kirtland AFB, NM.
2. (1981) Engineering Science Inc., Installation Restoration Program, Phase I Records Search, Kirtland AFB, NM.
3. (1988) Kirtland AFB, Part B RCRA Permit, Module IV.
4. (1993) U.S. Geological Survey, RCRA Facility Investigation, Stage 2A, Vol.1, Technical Report.

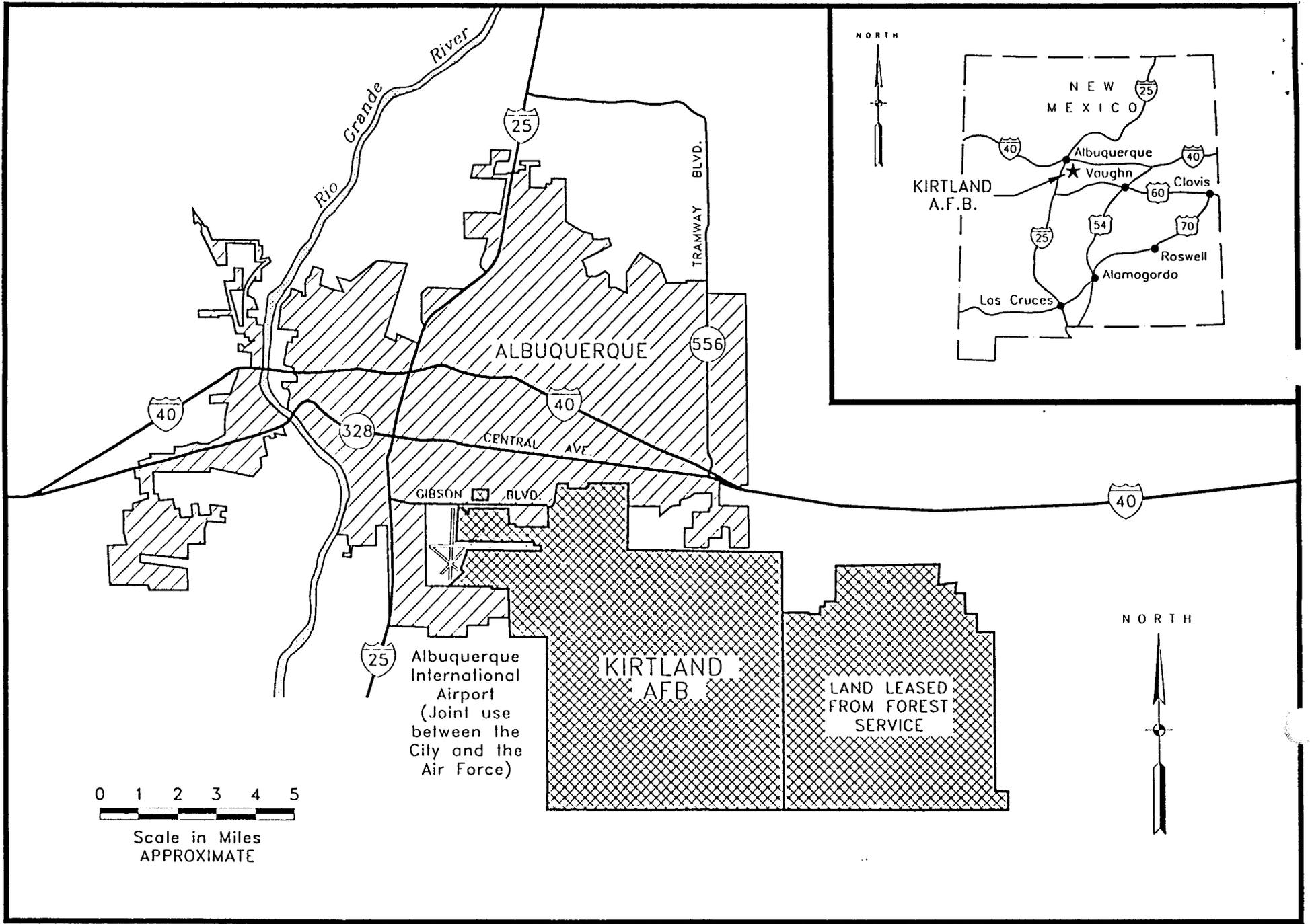


FIGURE 1 LOCATION OF KIRTLAND AFB, ALBUQUERQUE NEW MEXICO

LEGEND

———— KIRTLAND AFB PROPERTY BOUNDARY

----- PROPERTY WITHDRAWN BY KIRTLAND AFB OR LEASED THROUGH OTHER AGREEMENT

SITES

LF-01 LANDFILL 1

RW-21 RADIOACTIVE BURIAL 7

SD-25 DRAINAGE DITCH TIJERAS ARROYO

WP-57 NMERI PITS

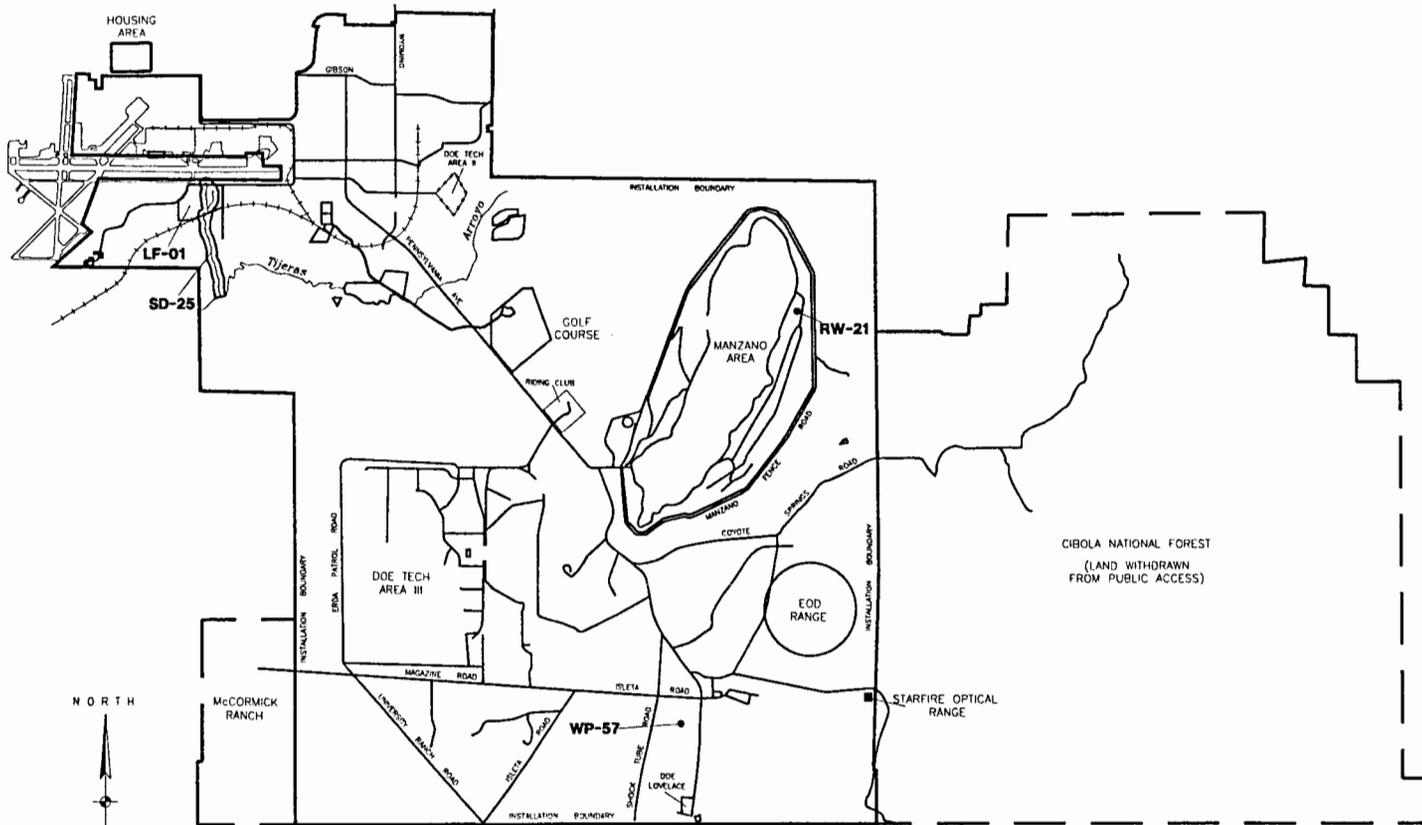


FIGURE 2 LOCATIONS



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

DEC 05 1994

Rec'd
12 Dec 94

File
10-46-2

Mr. Christopher DeWitt, Acting Chief
Restoration Branch
Environmental Management Division
377 ABW/EM
2000 Wyoming Boulevard SE
Kirtland Air Force Base, NM 87117-5659

Dear Mr DeWitt:

The Environmental Protection Agency (EPA) has completed a review of your October 3, 1994, Solid Waste Management Unit (SMWU) Assessment Report on pits and surface anomalies located near the former New Mexico Engineering Research Institute site, Building 57000 area.

Based upon the sampling information and site descriptions provided, the EPA has concluded that the pits and surface anomalies are not SWMUs and should therefore, not be added to Kirtland's RCRA/HSWA permit.

Please contact Nancy Morlock of my staff at (214) 665-6650 if you have any questions or need additional information.

Sincerely yours,

for David Velig...
William K. Honker, P.E., Chief
RCRA Permits Branch

cc: Mr. Benito Garcia, Chief
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department

