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NAS FORT WORTH
5090.3a

FINAL TECHNICAL MEMORANDUM RECOMMENDED NO FURTHER ACTION AT VISUAL
INFORMATION CENTER WORK STATION ACCUMULATION AREAS NAS FORT WORTH TX
4/1/1999
HYDROGEOLOGIC



**NAVAL AIR STATION
FORT WORTH JRB
CARSWELL FIELD
TEXAS**

**ADMINISTRATIVE RECORD
COVER SHEET**

AR File Number 476



Final
(See 28 Apr 99 letter from TRACC)

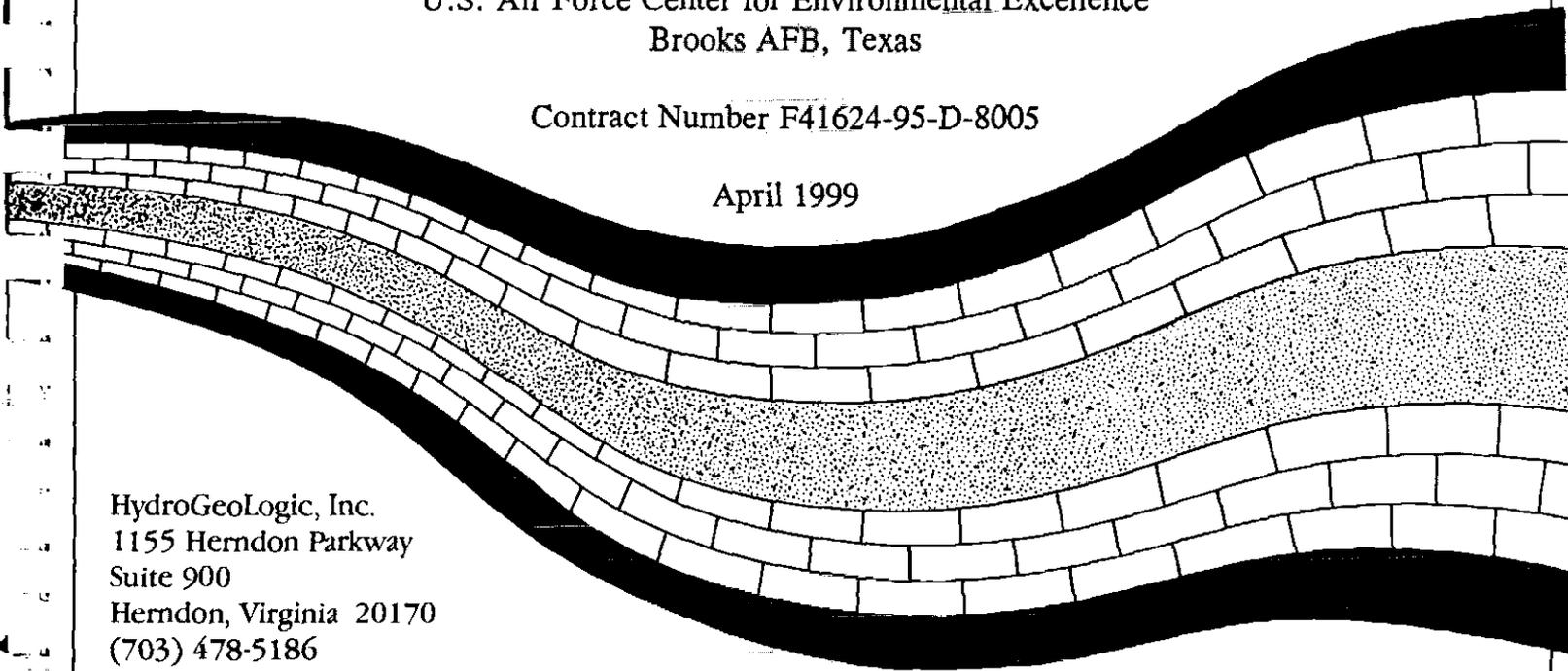
DRAFT TECHNICAL MEMORANDUM
RECOMMENDATION FOR NO FURTHER ACTION AT
SWMU 13, VISUAL INFORMATION CENTER WORK
STATION WASTE ACCUMULATION AREAS
NAS FORT WORTH JRB, TEXAS



Prepared for
U.S. Air Force Center for Environmental Excellence
Brooks AFB, Texas

Contract Number F41624-95-D-8005

April 1999



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(703) 478-5186

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RECOMMENDATION FOR NO FURTHER ACTION AT
SWMU 13, VISUAL INFORMATION CENTER WORK
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NAS FORT WORTH JRB, TEXAS**

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6. AUTHOR(S) HydroGeoLogic, Inc				
7. PERFORMANCE ORGANIZATION NAME(S) AND ADDRESS(S) HydroGeoLogic, Inc. 1155 Herndon Parkway, Suite 900 Herndon, VA 20170			8. PERFORMANCE ORGANIZATION REPORT NUMBER AFC001	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(S) AFCEE/ERD Brooks AFB, Texas 78235-5328			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
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13. ABSTRACT <i>(Maximum 200 words)</i> This document presents the recommendation for No Further Action at SWMU 13, Visual Information Center Work Station WAAs at the former Carswell Air Force Base, TX, based on the conclusion that a release of hazardous constituents handled at the site has not occurred.				
14. SUBJECT TERMS			15. NUMBER OF PAGES	
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LIST OF ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
AOC	area of concern
DRMO	Defense Reutilization and Maintenance Organizaion
HydroGeoLogic	HydroGeoLogic, Inc.
JRB	Joint Reserve Base
NAS	Naval Air Station
NFA	no further action
POTW	publicly owned treatment works
ppm	parts per million
RCRA	Resource Conservation and Recovery Act
RFA	RCRA facility assessment
RFI	RCRA facility investigation
SWMU	solid waste management unit
TM	Technical Memorandum
TNRCC	Texas Natural Resource Conservation Commission
TSD	treatment, storage, and disposal
VSI	visual site inspection
WAA	waste accumulation area

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**DRAFT TECHNICAL MEMORANDUM
RECOMMENDATION FOR NO FURTHER ACTION AT SWMU 13
VISUAL INFORMATION CENTER WORK STATION
WASTE ACCUMULATION AREAS
NAS FORT WORTH JRB, TEXAS**

1.0 INTRODUCTION

This technical memorandum (TM) is intended to provide justification for no further action (NFA) at solid waste management unit (SWMU) 13. The information provided in this TM includes a description of the site, its operational history, a description of the wastes generated, a description of past waste disposal operations, and a summary of the initial assessments conducted at the site. These initial assessments focused on recognizing potential contaminant sources from SWMU 13 along with the nature and extent of any possible contamination.

The results of the initial assessments have led to the conclusion that SWMU 13 poses no significant risk to the environment since a release of wastes handled at this unit did not occur. An analysis of the regulatory requirements associated with the wastes handled and discharged from SWMU 13, provided in this TM, supports the conclusion that NFA is required to obtain closure of SWMU 13.

1.1 BACKGROUND

On February 7, 1991, the former Carswell Air Force Base (AFB), currently realigned as Naval Air Station (NAS) Fort Worth Joint Reserve Base (JRB), Carswell Field, was issued a Resource Conservation and Recovery Act (RCRA) hazardous waste permit (HW-50289) by the Texas Natural Resource Conservation Commission (TNRCC). This permit requires a RCRA facility investigation (RFI) of all SWMUs and areas of concern (AOCs) listed in Permit Provision VIII in order to determine whether any hazardous constituents listed in 40 Code of Federal Regulations Part 264, Appendix IX have been released into the environment. SWMU 13, although not included in the original permit, was added to the list of SWMUs and AOCs requiring investigation by the TNRCC in a letter dated March 2, 1995. According to the letter, the magnitude of the investigation for SWMU 13 would depend on the unit's size, condition, site characteristics, and the constituents it managed. A copy of this permit and the March 1995 letter are included in Appendix A.

1.2 DESCRIPTION OF SWMU 13

SWMU 13 consisted of four waste accumulation areas (WAAs), within the Visual Information Center Work Station, located inside Building 1710 (A.T. Kearney, 1989). The location of SWMU 13 in relation to the base is illustrated in Figure 1.1. The WAAs inside Building 1710 existed from an unknown start-up date until approximately 1990. Photographic film was developed within Building 1710 at four work stations located within the versamat processing room, the black and

white film processing room, the black and white print processing room, and the color print processing room (Figure 1.2). A piece of processing equipment or a processing tank was utilized at each work station which was plumbed, via a sink or equipment drain, directly to an associated WAA which in turn was plumbed directly to a sanitary sewer drain. These WAAs were described as small, covered plastic containers used to catch waste from the processing equipment (A.T. Kearney, 1989). A site diagram of Building 1710 illustrates the locations of processing equipment or processing tanks at each of the four work stations within Building 1710, and the associated plumbing from each work station to the sanitary sewer (Figure 1.2). Photographs of former processing equipment are included as Figure 1.3.

1.3 WASTES GENERATED AT SWMU 13

Two types of waste, spent photo fixer and spent photo developer, were generated by the photo processing activities inside Building 1710.

Approximately 50 to 60 gallons of spent photographic film fixer were generated each month at SWMU 13 (A.T. Kearney, 1989). The spent film fixer contained microscopic metallic silver particles in an aqueous solution which may have also contained ammonium thiosulfate, sodium sulfite, or N-methylpyrrolidine (Eastman Kodak Company, 1999). The exact constituents of the photographic fixer solution used at SWMU 13 are undetermined. The photo fixer WAA was outfitted with a silver recovery apparatus. A photograph of this WAA is presented in Figure 1.4. After the silver was recovered from the photo fixer, the remaining fixer solution was diluted to a mixture of 3 parts water per 1 part waste and then discharged into the sanitary sewer. The recovered silver was transported to the Defense Reutilization and Maintenance Organization (DRMO). DRMO was responsible for coordinating transport of the waste for off-site recycling (A.T. Kearney, 1989).

An undetermined amount of spent photographic film developer was also generated each month inside SWMU 13. This photographic film developer solution typically contained a reducing agent (phenolic compound), an accelerator (alkaline compound), a preservative (sodium sulfite), and a restrainer (potassium bromide). The spent photo developer solution was diluted to a mixture of 3 parts water per 1 part waste and then discharged into the sanitary sewer (A.T. Kearney, 1989).

Figure 1.1
Location of SWMU 13



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Brooks AFB, Texas

Legend



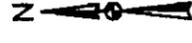
Building

Lake / Pond

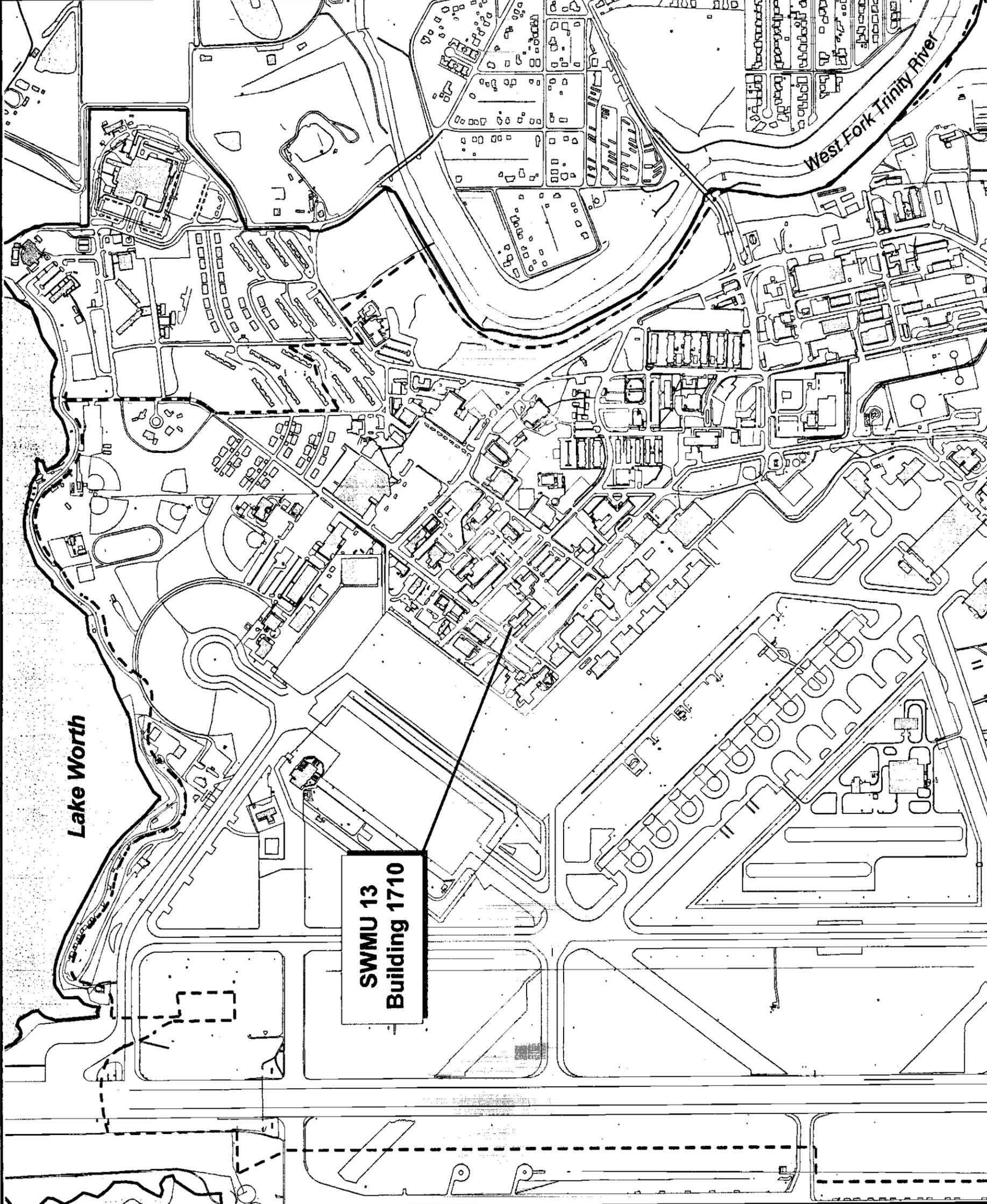
Surface Water

Former Carswell AFB Boundary

NAS Fort Worth JRB Boundary



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Project: AFC001-15BAAC
Created: 03/26/99 cfarmer
Revised: 04/07/99 jb
Map Source: HydroGeologic, Inc. GIS Database



Lake Worth

West Fork Trinity River

SWMU 13
Building 1710

Figure 1.2

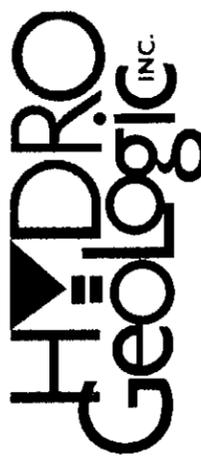
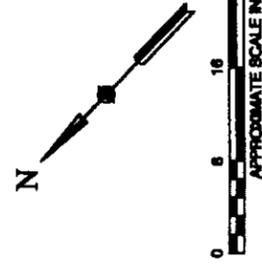
Building 1710 Layout



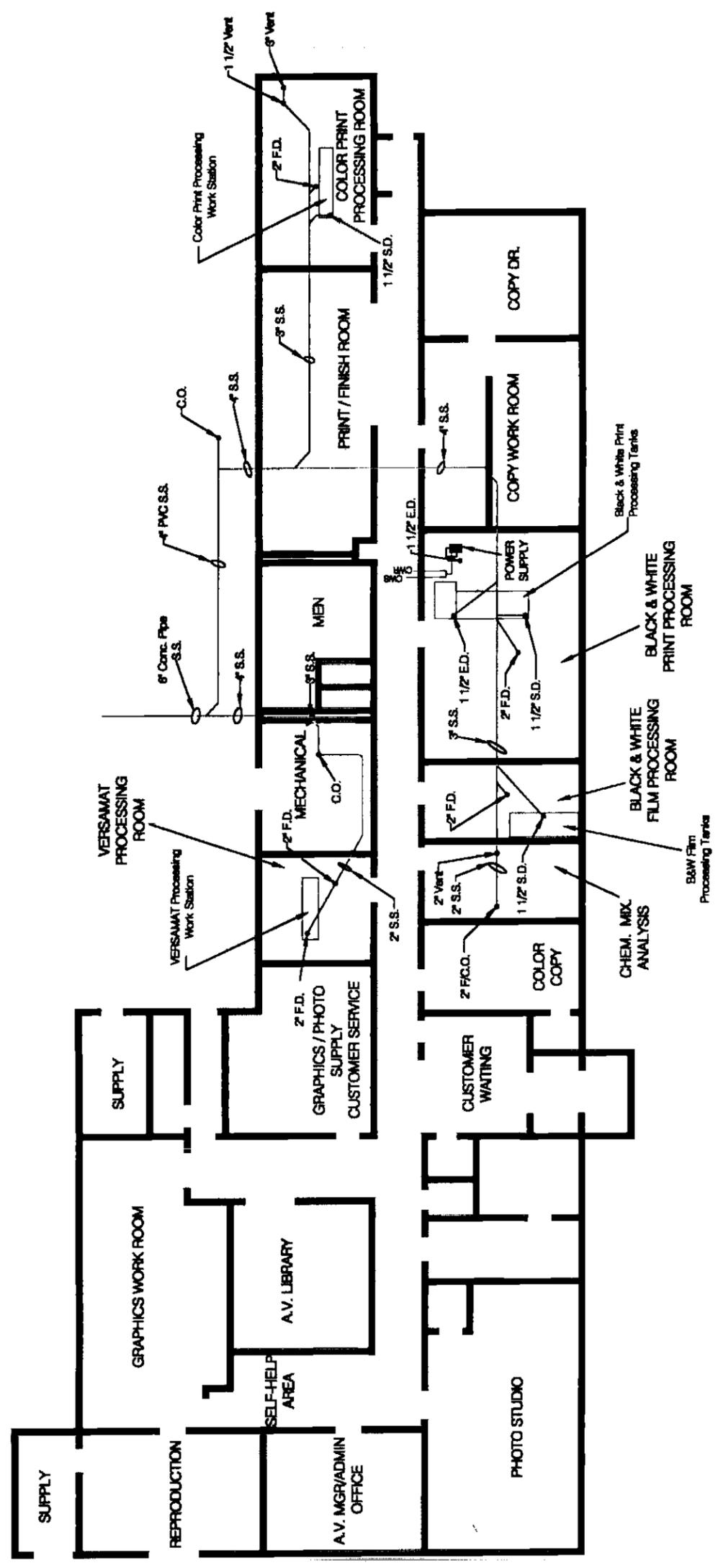
Air Force Center For
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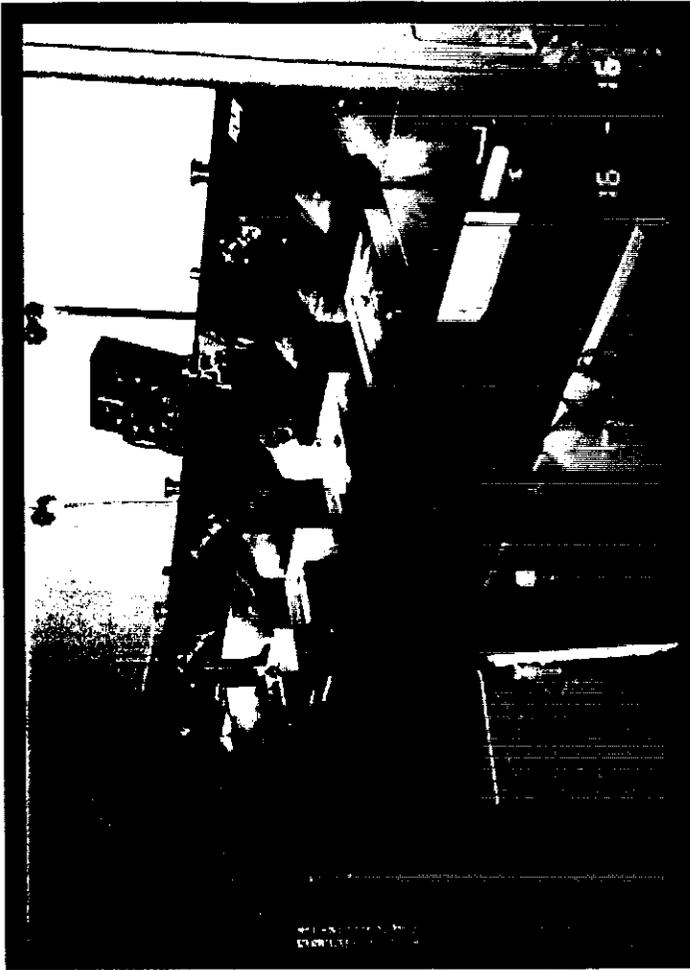
Legend

- Sanitary Sewer
- Drain / Vent
- S.S. - Sanitary Sewer
- C.O. - Clean Out
- F/C.O. - Floor Clean Out
- E.D. - Equipment Drain
- F.D. - Floor Drain
- S.D. - Sink Drain



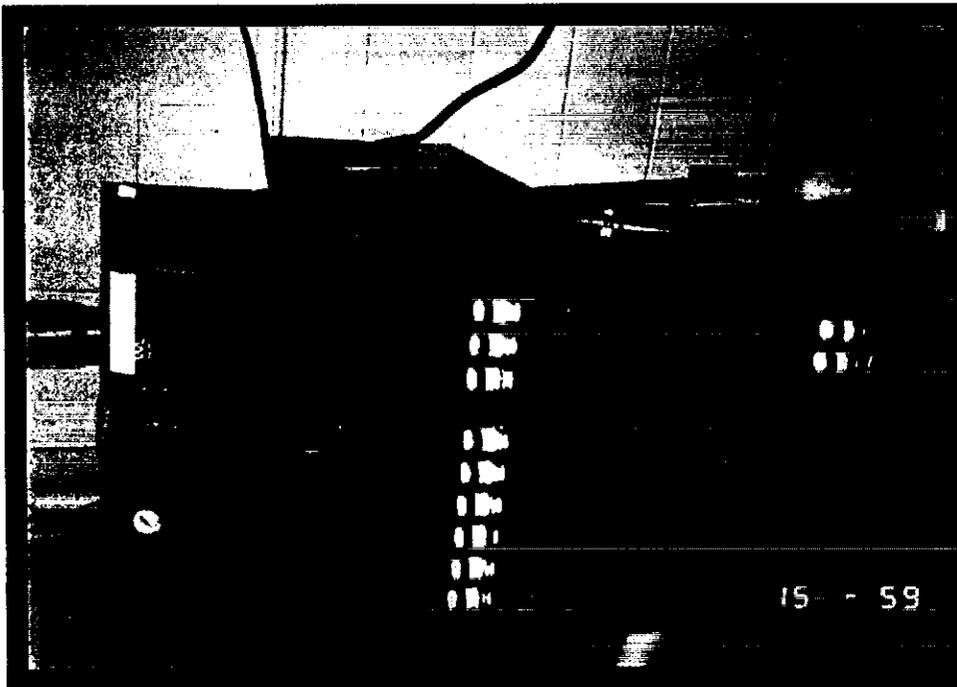
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siteplan_1710.dwg
Project: AFC001-15BAAC
Created: 03/29/99 jbelcher
Revised: 04/07/99 jb
Map Source: Strategic Air Command, 1982





12/13/89

Process tanks in the black and white film processing room.



12/13/89

Roll Film Developing Machine

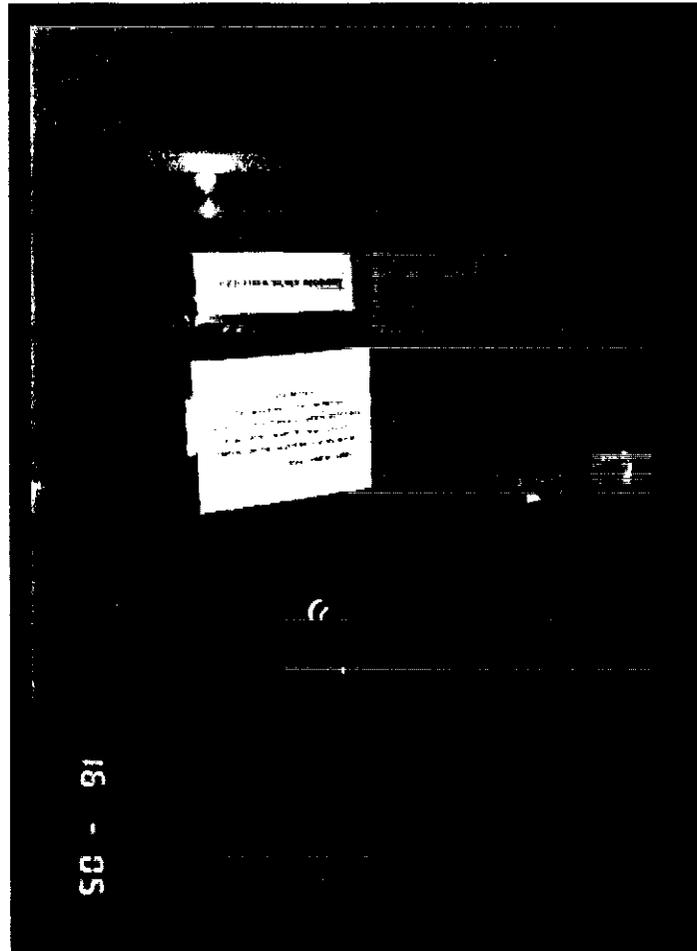
Figure 1.3
Processing Equipment Inside Building 1710



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Filename: X:\AFC001\15B44C\Report\Photo_1_3.cdr
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 Created: cfarmer 12/03/98
 Revised: 04/08/99 jb
 Source: HGL Database





12/13/89

Photographic Fixer WAA with Silver Recovery System

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Project: AFC001-15BAAC
Created: cfarmer 12/03/98
Revised: 03/26/99 cf
Source: HGI Database



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Figure 1.4
Photographic Fixer WAA
with Silver Recovery System

2.0 PREVIOUS INVESTIGATIONS AND REGULATORY REQUIREMENTS

The following sections discuss previous investigations conducted at SWMU 13 and regulatory requirements applicable for closure.

2.1 PREVIOUS INVESTIGATIONS

SWMU 13 was evaluated by A. T. Kearney during the preparation of a RCRA facility assessment (RFA) in 1989. A. T. Kearney recommended NFA for this site based on the conclusion that there was no documented unauthorized history of release from the site, there was no evidence of a release observed during the visual site inspection (VSI), and that the WAAs appeared to be well-managed. In addition, A. T. Kearney concluded that the potential for a release to the environment from SWMU 13 to soil, groundwater, surface water and air was low, based on the observations that the WAAs at SWMU 13 were located inside Building 1710 and that the waste generated from each work station was handled and disposed of throughout an enclosed system. Each piece of processing equipment at each work station was plumbed directly to a covered WAA container, which in turn was plumbed directly to a sanitary sewer drain (A. T. Kearney, 1989).

A. T. Kearney's description of SWMU 13 suggests that WAAs at the former Visual Information Center Work Stations were considered to be in compliance with the general design, construction, and operational requirements outlined in Section III, Parts A and B of Permit HW-50289. The enclosed WAA system was designed to prevent washout of any hazardous waste from the unit, and all equipment was observed to be maintained in good, functional condition.

SWMU 13 was evaluated again in 1996 by CH2M HILL during preparation of a site characterization summary report. CH2M HILL restated that there was no history or evidence of a release from this unit, that the work station WAAs no longer existed, and that NFA was recommended for this site (CH2M HILL, 1996).

2.2 REGULATION OF WASTES GENERATED AT SWMU 13

The silver-containing effluents discharged from image development processes or from silver recovery equipment are subject to regulation depending on how and where they are discharged, and how much pre-treatment (silver recovery) they have undergone. An untreated waste stream or post-treatment silver sludge that is collected and periodically transported to a silver recovery company or a waste treatment, storage, and disposal (TSD) facility may be regarded as a regulated hazardous waste under RCRA if it contains silver in excess of 5 parts per million (ppm) or exhibits any other properties that may render it hazardous (HQ AFCEE, 1998).

At SWMU 13, silver was recovered from the photo fixer prior to the spent photo fixer and the photo developer solutions being diluted and discharged into the sanitary sewer. The sanitary sewer system discharged to a publicly owned treatment works (POTW), where the effluent had to meet pretreatment requirements as determined by the POTW. The sanitary sewer system for Carswell AFB has been connected to the City of Fort Worth's treatment system since the base started operations in 1942. Currently, an RFI of the sanitary sewer (SWMU 66) is being

conducted by I.T. Corporation. Any release from the sanitary sewer system will be addressed as part of the SWMU 66 investigation.

3.0 RECOMMENDATION

SWMU 13 is recommended for NFA based on the conclusion that a release of hazardous constituents from the unit has not occurred. In addition, the 1989 RFA recommended NFA for SWMU 13, based on the observations that there was no evidence or history of release from the site, and that the site posed a low risk for release to the environment due to its enclosure within Building 1710, the covers on the WAAs, and the connection of the WAAs directly from the photographic processing equipment to the sanitary sewer system (A.K. Kearney, 1989). The 1996 investigation which evaluated the status of SWMU 13 after the WAAs had been removed from Building 1710, recommended that the site be declared NFA based on the conclusion that there was no evidence nor documented release from the unit (CH2M HILL, 1996). In addition, all wastes generated at SWMU 13 were considered to have been adequately managed prior to their discharge to the sanitary sewer.

4.0 REFERENCES

- A.T. Kearney, Inc., 1989, RCRA Facility Assessment PR/VSI Report.
- CH2M HILL, 1996, Site Characterization Summary Informal Technical Information Report.
- Eastman Kodak Company, 1999, Kodak: Aerial Imaging - Kodak Versamat Chemicals.
- HQ Air Force Center for Environmental Excellence, 1998, Silver Recovery from Photographic and Imaging Wastes, Pro-Act Fact Sheet.
- Texas Natural Resource Conservation Commission, 1995, Letter, Determination of a Need for an RFI and Current Condition Report.
- Texas Water Commission, 1991, Permit Number HW-50289, EPA I.D. Number 0571924042.
- The Earth Technology Corporation, 1993, Basewide Environmental Baseline Survey, Carswell Air Force Base, Texas.
- U.S. Air Force Occupational and Environmental Health Laboratory, Human Systems Division, 1989, Hazardous Waste Technical Assistance Survey, Carswell Air Force Base, TX.

APPENDIX A

**CARSWELL AFB HAZARDOUS WASTE PERMIT NO. HW-50289
AND
TNRCC LETTER DATED MARCH 2, 1995**

TEXAS WATER COMMISSION

476 18



B. J. Wynne, III, Chairman
John E. Birdwell, Commissioner
Cliff Johnson, Commissioner

John J. Vay, General Counsel
Michael E. Field, Chief Hearings Examiner
Brenda W. Foster, Chief Clerk

February 13, 1991

Allen Beinke, Executive Director

Dear Permittee: RE: U.S. DEPT OF AIR FORCE - CARSWELL, AFB; Permit HW50289

Enclosed is a copy of:

() 1. Permit for a wastewater treatment facility issued pursuant to Chapter 26 of the Texas Water Code. In order that you may comply with monitoring requirements of your permit, self-reporting forms and instructions will be forwarded to you from the Water Quality Division at an early date. If your facility is not yet operating, please use the attached Notification of Completion of Facilities form to advise this agency and our district office of the completion or placement in operation of proposed facilities in accordance with the special provision incorporated into the permit.

() 2. Amended permit for a wastewater treatment facility issued pursuant to Chapter 26 of the Texas Water Code. Please continue using the self-reporting forms you have on hand until new forms are forwarded by the Water Quality Division. If your facility is not yet operating, please use the attached Notification of Completion of Facilities form to advise this agency and our district office of the completion or placement in operation of proposed facilities in accordance with the special provision incorporated into the permit.

() 3. Renewal of a permit for a wastewater treatment facility issued pursuant to Chapter 26 of the Texas Water Code. If your facility is not yet operating, please use the attached Notification of Completion of Facilities form to advise this agency and our district office of the completion or placement in operation of proposed facilities in accordance with the special provision incorporated into the permit.

() 4. Permit for a hazardous or solid waste facility issued pursuant to Art. 4477-7, Texas Revised Civil Statutes. Your attention is directed to Commission Rule 335.5 which may be applicable to your facility.

() 5. Permit or amended permit for a waste disposal well or an injection well issued pursuant to Chapter 27 of the Texas Water Code. In accordance with the Texas Water Code, you must file a copy of the permit with the city and county health authorities.

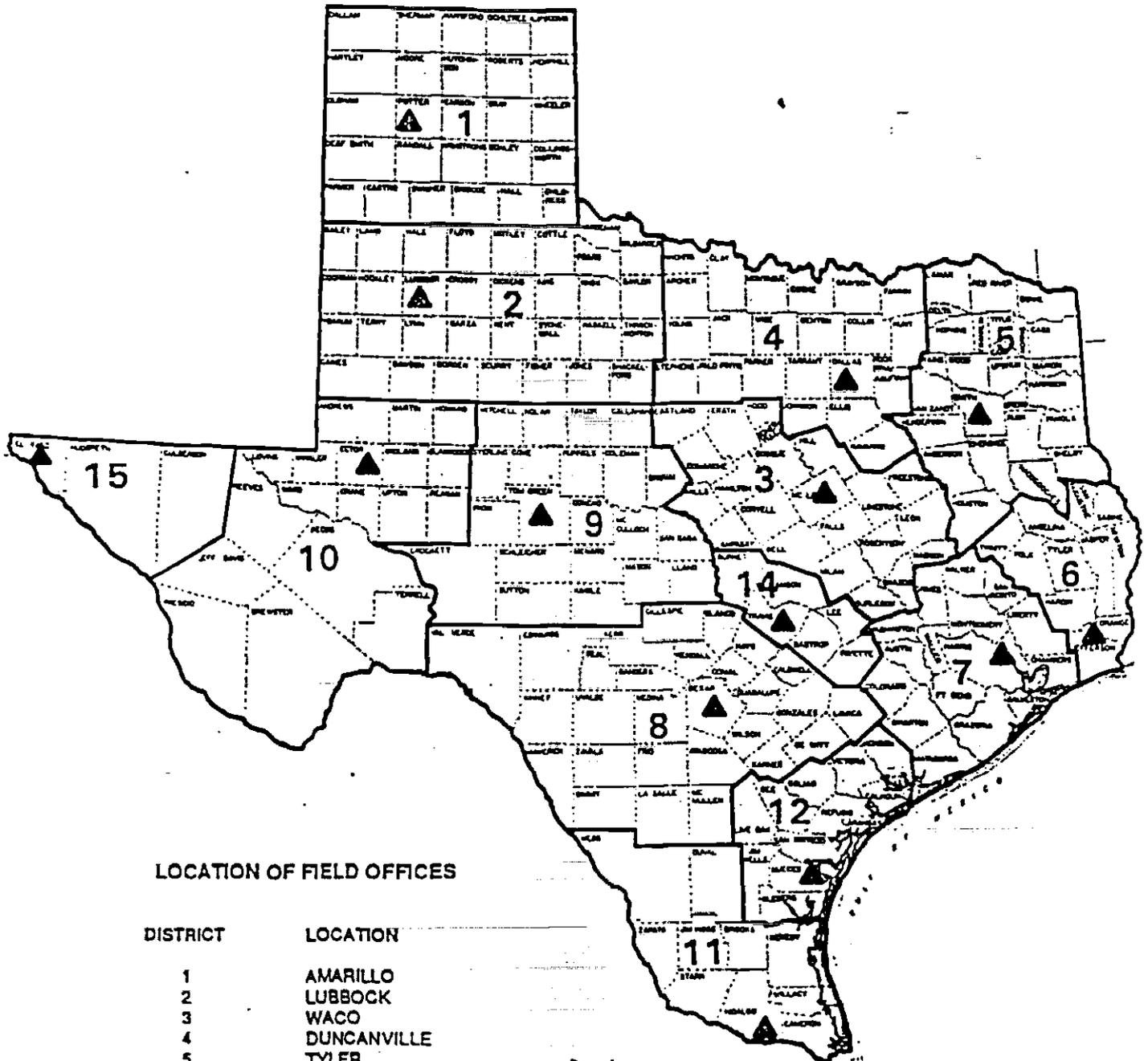
If there are any questions concerning this permit, please let us know.

Gloria A. Vasquez

Gloria A. Vasquez, Chief Clerk
cc w/enclosures:

All Parties
TWC District Office 4

15 FEB 1991



LOCATION OF FIELD OFFICES

DISTRICT	LOCATION
1	AMARILLO
2	LUBBOCK
3	WACO
4	DUNCANVILLE
5	TYLER
6	BEAUMONT
7	HOUSTON
8	SAN ANTONIO
9	SAN ANGELO
10	ODESSA
11	WESLACO
12	CORPUS CHRISTI
14	AUSTIN
15	EL PASO
TWC LAB	HOUSTON

**TEXAS WATER COMMISSION
FIELD OPERATIONS DIVISION
AREA OFFICES**

DISTRICT 1

3918 Canyon Drive
Amarillo, Texas 79109-4996
806/353-9251 (TEX-AN 8-862-0071)
Don Manning, District Manager

DISTRICT 2

3411 Knoxville, Suite 101
Lubbock, Texas 79413-2249
806/796-7092 (TEX-AN 8-840-1067)
Larry L. Smith, District Manager

DISTRICT 3

14000 Woodway Drive
Waco, Texas 76712-3193
817/751-0335 (TEX-AN 8-820-1465)
William F. Bowles, District Manager

DISTRICT 4

1019 N. Duncanville Rd.
Duncanville, Texas 75116-2201
214/298-6171 (TEX-AN 8-831-5650)
Charles D. Gill, District Manager

DISTRICT 5

2916 Teague Drive
Tyler, Texas 75701-3734
214/595-5466 (TEX-AN 8-831-5256)
John Witherspoon, District Manager

DISTRICT 6

4820 Ward Drive
Beaumont, Texas 77705-0328
409/842-9413 (TEX-AN 8-850-1383)
Keith Anderson, District Manager

DISTRICT 7

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Houston, Texas 77015
713/457-5191 (TEX-AN 8-730-0200 or 0300)
Gerald Hord, District Manager

TWC LABORATORY

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Houston, Texas 77015
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DISTRICT 8

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San Antonio, Texas 78232-5028
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and 820-1314)
Billy Boggs, District Manager

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San Angelo, Texas 76904
915/655-9479 or 655-1336
Kenneth W. Krueger, District Manager

DISTRICT 10

2626 J.B. Shepperd Parkway Blvd.
Bldg. B-129
Odessa, Texas 79761
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William F. Lockey, District Manager

DISTRICT 11

813 E. Pike Blvd.
Westlaco, Texas 78596-4935
512/968-3165 (TEX-AN 8-820-1826)
John Sturgis, District Manager

DISTRICT 12

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Corpus Christi, Texas 78415-5326
512/851-8484 (TEX-AN 8-820-1682)
Chip Volz, District Manager

DISTRICT 14

1700 South Lamar, Bldg. 1, No. 101
Austin, Texas 78704-3360
512/463-7803 (TEX-AN 8-255-7803)
W. John Young, District Manager

DISTRICT 15

7500 Viscount Blvd., Suite 147
El Paso, Texas 79925
915/778-9634 (TEX-AN 8-846-8183)
Hector Villa, District Manager

PERMIT NO. HW-50289
 EPA I.D. No. 0571924042
 NAME: U.S. Air Force/Carswell Air Force Base

CONTINUATION SHEET 2 OF 20

I. Size and Location of Facility

- A. Carswell Air Force Base occupies 2751 acres of land in urban Tarrant County, Texas. The Base is positioned along the south shore of Lake Worth and is bordered by the following entities: Fort Worth and Westworth on the east; Fort Worth and White Settlement on the south; White Settlement on the southwest; and Fort Worth and Air Force Plant 4 on the northwest. the location is further described as being in Segment 0806 of the Trinity River Basin (North Latitude 32°45'53", West Longitude 97°25'44").
- B. The site plan and accompanying field notes describing the waste management sites which were submitted in the application for Permit No. HW-50289 are hereby made part of this permit as "Attachments A and B", respectively.

II. Units and Operations Authorized

A. Wastes Authorized:

- 1. The permittee is authorized to manage hazardous industrial solid waste listed in the application and described herein, subject to the limitations provided herein. Authorized wastes may be received from off-site federal facilities.
- 2. Hazardous wastes authorized to be managed under this permit are limited as follows:

a. Hazard Code Groups (as prescribed by the U.S. Environmental Protection Agency regulations in effect upon the date of permit approval):

<input checked="" type="checkbox"/> Ignitable Waste (I)	<input checked="" type="checkbox"/> Acute Hazardous Waste (H)
<input checked="" type="checkbox"/> Toxic Waste (T)	<input checked="" type="checkbox"/> Toxicity Characteristic (TC)
<input checked="" type="checkbox"/> Corrosive Waste (C)	<input checked="" type="checkbox"/> Reactive Waste (R)

<u>b. Waste Descriptions</u>	<u>TWC Waste Class</u>	<u>Hazard Code</u>
(1) Acetic Acid	IH	C
(2) Acetone	IH	I
(3) Alcohol, Denatured	IH	I
(4) Amyl Alcohol	IH	I
(5) Aniline	IH	T
(6) Aqueous Liquids w/pH < 2	IH	C
(7) Aqueous Liquids w/pH > 12.5	IH	C
(8) Arsenic Acid	IH	C,H
(9) Battery Electrolyte	IH	C

PERMIT NO. HW-50289
 EPA I.D. No. 0571924042
 NAME: U.S. Air Force/Carswell Air Force Base

CONTINUATION SHEET 3 OF 20

[III.A.2.b.]

b.	<u>Waste Descriptions</u>	<u>TWC Waste Class</u>	<u>Hazard Code</u>
(10)	Batteries, dry cell	IH	TC,C,R
(11)	Batteries, Metal/electrolyte	IH	TC,C,R
(12)	Benzene	IH	T
(13)	Benzene, Hydroxy/Phenol	IH	T
(14)	Boric Acid	IH	C
(15)	Buthyl Alcohol	IH	I
(16)	Cadmium-bearing waste	IH	T
(17)	Carbon Disulphide	IH	T
(18)	Carbon Tetrachloride	IH	T
(19)	Chlorine	IH	R,T
(20)	Chloroform	IH	T
(21)	Chromium-bearing waste	IH	T
(22)	Corrosion Inhibitor	IH	T
(23)	Corrosive Liquid	IH	C
(24)	Cyclohexanone	IH	I
(25)	DDT	IH	T
(26)	Dichloride Ethylene	IH	I
(27)	Dichlorodifluoromethane	IH	T
(28)	Dichlorofluoromethane	IH	T
(29)	DS-2 Decontamination Agent	IH	R,C
(30)	Ethoxyethanol	IH	I
(31)	Ethyl Acetate	IH	T
(32)	Ethyl Alcohol	IH	I
(33)	Ethyl Benzene	IH	I,T
(34)	Ethyl Ether	IH	T
(35)	Formaldehyde	IH	T
(36)	Formic Acid	IH	T
(37)	Halogenated Solvent	IH	I
(38)	Heptane	IH	I
(39)	Hexachlorobenzene	IH	T
(40)	Hexahydrobenzene	IH	T
(41)	Hexane	IH	I
(42)	Hexanol	IH	I
(43)	Hydrazine or Diamine	IH	T,R
(44)	Hydrochloric Acid	IH	C
(45)	Ignitable Liquid and Solid Waste	IH	I
(46)	Isopentyl Alcohol	IH	I
(47)	Isopropyl Alcohol	IH	I
(48)	Iso-Butanol	IH	I
(49)	Lead-Bearing Waste	IH	T
(50)	Lithium Batteries	IH	R
(51)	Mercury-contaminated waste	IH	T,TC
(52)	Mercury Batteries	IH	TC
(53)	Methanol	IH	T,I
(54)	Methyl Ethyl Ketone	IH	T,I
(55)	Methyl Isobutyl Ketone	IH	T,I
(56)	Methylene Chloride	IH	T,I
(57)	Naptha Petroleum	IH	I
(58)	Methanol	IH	T

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[II.A.2.b.]

<u>Waste Descriptions</u>	<u>TWC Waste Class</u>	<u>Hazard Code</u>
(59) Nickel-Cadmium Batteries	IH	TC
(60) Nitric Acid	IH	C
(61) 2-Nitropropane	IH	I,T
(62) Non-halogenated Solvents	IH	T
(63) Oil, Metal-Contaminated	IH	TC
(64) Oxalic Acid Powder	IH	C
(65) Paint Filters	IH	I,T
(66) Paint-related Material	IH	I
(67) Paint Thinner	IH	I,T
(68) PD-680	IH	I,T
(69) Pentane	IH	I
(70) Pesticides	IH	C,T
(71) Petroleum-derived Fuel-Waste	IH	I,TC
(72) Phosphoric Acid	IH	C
(73) Photographic Chemicals	IH	T
(74) Potassium Cyanide	IH	R,H
(75) Pyridine	IH	T
(76) Reactive Waste	IH	R
(77) Rifle Bore Cleaner	IH	I
(78) Silver Nitrate	IH	TC
(79) Sodium Hydroxide	IH	C
(80) Sodium Nitrite	IH	R
(81) Stoddard Solvent	IH	I
(82) Sulfuric Acid	IH	C
(83) Tetrachloroethane	IH	T,C
(84) Tetrachloroethylene	IH	T
(85) Tetrachloromethane	IH	T
(86) Toluene	IH	T,I
(87) Trichloroethane-1,1,1	IH	T
(88) Trichloroethylene	IH	T
(89) Trichlorofluoromethane	IH	T
(90) Trichloromethane	IH	T
(91) Trichlorotrifluoroethane	IH	T
(92) Turpentine	IH	I
(93) Vinyl Chloride	IH	I
(94) Xylene	IH	I

B. Unit Authorized:

The permittee is authorized to operate the following unit for storage subject to the limitations contained herein. All waste management activities subject to permitting are to be confined to the following unit:

1. Container Storage Area, enclosed, capacity 29,700 gallons (NOR 02), identified as conforming storage unit in the application, for storage of the wastes described in Provision II.A.2.b.(1)-(94).

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[II.]

- C. The unit and operational methods authorized are limited to those described both herein and by the application and related plans and specifications which were included in the permit application submittals dated September 6, 1989, May 2, 1990, and August 21, 1990. Prior to constructing or operating any unit in a manner which differs from either the related plans and specifications or the limitations of this permit, the permittee is required to
1. Notify the TWC and submit plans and specifications for the proposed modification; and
 2. Receive written authorization of the Executive Director for such modification, if the Executive Director determines that a permit amendment or modification is not required by TWC rules.
- D. Authorization to begin operation of new units is contingent upon compliance with Provision II.E. and V.C.
- E. Any proposed unit modifications, addition of units, or expansion in capacity which has not been addressed by the terms of this permit must be authorized in accordance with TWC permit amendment or modification rules.

III. Unit Design, Construction, and Operation

- A. General Design, Construction, and Certification Requirements:
1. Unit design, construction, and operation must comply with this permit, TWC Rules, and be in accordance with the plans and specifications for design, construction and operation approved herein. All plans submitted with the application dated September 6, 1989, May 2, 1990, and August 21, 1990 are approved, subject to the terms of this permit and any other orders of the TWC which are hereby incorporated by reference and made a part of this permit.
 2. The facility shall be designed, constructed, operated, and maintained to prevent washout of any hazardous waste. At a minimum, all storm-water control structures shall be designed and constructed to prevent washout of any hazardous waste by a 100-year flood.
 3. The authorized unit shall be clearly identified as numbered in Provision II.B. At a minimum, unit identification signs must be conspicuously posted on the approaches to the permitted units indicating "TWC PERMIT UNIT NO. (from Provision II.B.)," (for example, the conforming storage unit shall be labelled "TWC PERMIT UNIT NO. 1").

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[III.]

B. General Operational Requirements:

1. The permittee shall comply with the requirements of Title 40, Code of Federal Regulations (40 CFR) §264.17.
2. The permittee shall within 24 hours remove any spilled hazardous waste and waste residues and shall take steps necessary to prevent surface-water contamination as a result of spills.
3. The permittee shall manage all wastes within the facility unit in a manner in which particulate emissions of waste to the air meet TACB and TWC requirements.
4. All contaminated water as identified by Provisions III.B.5., IV.B.2., and IV.B.3. shall be disposed of by the following method(s):
 - a. Removal to an on-site, authorized industrial solid waste unit;
 - b. Removal off-site to an authorized industrial solid waste management facility; and/or
 - c. Removal to an authorized wastewater treatment system.
5. The permittee shall ensure that any equipment which has come in contact with hazardous waste has been decontaminated prior to exiting the unit. At a minimum, all contaminated equipment shall be washed sufficiently to remove waste residues. All wash water generated shall be collected and disposed of in accordance with Provision III.B.4.
6. The annual site activity report required by Provision V.F. shall be submitted to the TWC Central Office and the TWC District 4 Office by January 25 of each year for the preceding year's activities. This annual report shall include, at a minimum, the following information:
 - a. All information and records required by 31 Texas Administrative Code (TAC) §335.154; and
 - b. Volume of all wastes stored at the facility unit authorized in Provision II.B.; and
 - c. A description of waste processing capabilities and capacities corresponding to each type of waste managed on-site.

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[III.B.]

7. The permittee shall ensure that all waste analyses utilized for waste identification or verification have been performed in accordance with methods specified in the current editions of "Test Methods for Chemical Analysis of Water and Wastes" or "Test Methods for the Evaluation of Solid Waste" (SW-846) or other methods which are officially approved by the United States Environmental Protection Agency (U.S.E.P.A.). The permittee shall utilize only laboratories which follow a quality control/quality assurance program conforming to the program specified in "Test Methods for the Evaluation of Solid Waste" (SW-846).
8. The permittee shall comply with inspection requirements of 40 CFR §264.15.
9. The permittee shall comply with the training requirements of 40 CFR §264.16.
10. All tanks, sumps, pumps, fire and spill control equipment, decontamination equipment, and all other equipment and structures authorized or required by this permit shall be maintained in good functional condition.
11. The permittee shall comply with the security requirements of 40 CFR §264.14.

C. Container Storage Area Design, Construction, and Operation Requirements:

The permittee shall comply with the following minimum requirements for the container storage areas authorized by Provision II.B.

1. The container storage areas shall be constructed and operated to comply with 40 CFR §§264.170-264.178.
2. In addition, within 30 days of permit issuance by the TWC, the permittee shall comply with the following minimum requirements for the container storage area authorized by Provision II.B.:
 - a. The permittee shall provide a minimum of 30" aisle spacing between double rows of drums;
 - b. Drums of 55 gallons or more capacity shall not be stacked more than three high;
 - c. Pallets shall be used between layers of stacked drums; and
 - d. Drums of incompatible wastes shall be separated by an impermeable barrier.

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[III.]

- D. The entire waste management facility shall be designed, constructed, operated, and maintained to prevent inundation of and discharges from the areas surrounding the facility components authorized by Provision II.B., subject to the following requirements:
1. Each receipt, storage, and processing area, including unloading areas, shall be provided with a drainage control system which will collect spills and incident precipitation in such a manner as to
 - a. Preclude the release from the system of any collected spills, leaks, or precipitation, except as provided in Provision III.D.2. This requirement shall be met by, at a minimum, providing a base and sides which are free of cracks or gaps and are sufficiently impervious to contain leaks, spills, or precipitation until the collected material is removed, and providing curbs or sides designed to withstand a full hydrostatic head;
 - b. Minimize the amount of rainfall that is collected by the system;
 - c. Prevent run-on into the system from non-storage and processing areas; and
 - d. Have sufficient capacity to contain the volume of the largest tank or 10% of the total tank and/or container capacity, whichever is greater, plus (for unenclosed areas) the volume of rainwater which would be collected by the 25-year, 24-hour rainfall event (7.5 in.).
 2. Collected spills, leaks, clean-up residues, and contaminated rainfall runoff including stormwater from all waste management containment areas shall be removed promptly after the spillage and/or rainfall event in as timely a manner as is necessary to prevent overflow of the collection system, by the following method(s):
 - a. Removal to an on-site authorized industrial solid waste unit;
 - b. Removal off-site to an authorized industrial solid waste management facility; and/or
 - c. Removal to an authorized wastewater treatment system.

IV. Closure

A. General Closure Requirements:

1. Facility closure shall commence whenever any of the following conditions exist:

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[IV.A.1.]

- a. Upon direction of the TWC or the Executive Director for violation of the permit, TWC Rules, or State Statutes;
 - b. Upon suspension, cancellation, or revocation of the terms and conditions of this permit concerning the authorization to store, process, or dispose of waste materials;
 - c. Upon abandonment of the site;
 - d. When necessary to comply with Provision VII.C.
2. The permittee shall submit a written request for a permit amendment or modification to authorize a change in operating plans, unit design, or the approved closure plan in accordance with the time frames of Provisions IV.A.3.a.-d. The written request shall include a copy of the amended closure plan for approval by the Executive Director. The permittee shall submit a written request for a permit amendment or modification to authorize a change in the approved closure plan whenever any of the following conditions exist:
- a. Changes in operating plans or facility design affect the approved closure plan;
 - b. There is a change in the expected year of final closure, if applicable;
 - c. In conducting partial or final closure activities, unexpected events require amendment of the approved closure plan;
 - d. Requested by the Executive Director under the conditions described in Provisions IV.A.2.a.-c.
3. The permittee shall submit a written request for a permit amendment or modification according to the following schedule:
- a. At least 60 days prior to the proposed change in unit design or operation which will affect the approved closure plan;
 - b. No later than 60 days after an unexpected event has occurred which has affected the closure plan;
 - c. No later than 30 days after an unexpected event has occurred, if the unexpected event occurs during the partial or final closure period; or
 - d. Within 60 days of the Executive Director's request pursuant to Provision IV.A.4.d., or within 30 days if the change in facility conditions occurs during partial or final closure.

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[IV.A.]

- 4. The permittee shall notify the Executive Director in writing at least 45 days prior to the date on which final closure of the facility is expected to begin. A copy of the notice shall be submitted to the TWC District 4 Office.
- 5. Within 60 days of the completion of final closure, the permittee shall submit to the Executive Director by registered mail, with a copy to the TWC District 4 Office, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan and the terms of this permit. The certification shall be signed by the permittee and by an independent registered professional engineer. Additional documentation supporting the independent registered professional engineer's certification shall be furnished to the Executive Director upon request.

B. Hazardous Waste Management Unit Area Closure Requirements:

- 1. All tanks, pumps, piping, and any other equipment or structures which have come in contact with waste shall either be decontaminated by removing all waste or disposed of at an authorized facility.
- 2. All wash water generated during decontamination activities shall be collected and disposed of in accordance with Provision III.B.4.
- 3. All hard-surfaced areas within the hazardous waste management unit areas shall be decontaminated and the wash water generated shall be collected and disposed of in accordance with Provision III.B.4.
- 4. Verification of decontamination shall be performed by analyzing wash water for the waste constituents which have been in contact with the particular item being decontaminated.

V. Standard Permit Conditions:

The permittee has a duty to comply with the Standard Permit Conditions under 31 TAC §305.125. Moreover, the permittee has a duty to comply with the following permit conditions:

- A. In order to continue a permitted activity after the expiration date of the permit the permittee shall submit a new permit application at least 180 days before the expiration date of the effective permit, unless permission for a later date has been granted by the Executive Director. Authorization to continue such activity will terminate upon the effective denial of said application.

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[V.]

- B. The permittee need not comply with the conditions of this permit to the extent and for the duration such noncompliance is authorized in an emergency order issued by the TWC.
- C. For a new facility or unit requiring permitting, the permittee shall not commence storage, processing or disposal of solid waste; and for a permitted facility or unit being modified, the permittee shall not process, store or dispose of solid waste in the modified portion of the facility or unit, until the following requirements have been satisfied:
1. The permittee has notified the local TWC District Office and submitted to the Executive Director by certified mail or hand delivery a letter signed by the permittee and a Texas registered professional engineer certifying that the facility or unit has been constructed or modified in compliance with the permit. Required certification shall be in the following form:
This is to certify that the construction of the following facility unit(s) authorized or required by TWC Permit No. HW-50289 has been completed, and that construction of said facility unit(s) has been performed in accordance with and in compliance with the design and construction specifications of Permit No. HW-50289. (Description of facility units and components with reference to applicable permit provisions).
 - a. The permittee must also submit notification and documentation materials as described in Permit Provision C.1. to the Director of Hazardous Waste Division, U.S.E.P.A., Region VI Office.
 2. The Executive Director has inspected the modified or newly constructed facility or unit and finds it is in compliance with the conditions of the permit; or within 15 days of submitting the letter required by Provision V.C.1., the permittee has not received notice from the Executive Director of an intent to inspect, prior inspection is waived and the permittee may commence processing, storage or disposal of solid waste.
- D. The following details shall be included as information which must be reported orally within 24 hours pursuant to 31 TAC §305.125(9):
1. Information concerning release of any solid waste that may cause an endangerment to public drinking water supplies.
 2. Any information of a release or discharge of solid waste, or of a fire or explosion from a facility unit, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include

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[V.D.2.]

- a. name, address, and telephone number of the owner or operator;
 - b. name, address, and telephone number of the facility;
 - c. date, time, and type of incident;
 - d. name and quantity of material(s) involved;
 - e. the extent of injuries, if any;
 - f. an assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and
 - g. estimated quantity and disposition of recovered material that resulted from the incident.
- E. The Executive Director may waive the five-day written notice requirement as specified in 31 TAC §305.125(9) in favor of a written report submitted to the TWC within 15 days of the time the permittee becomes aware of the noncompliance or condition.
- F. An annual report must be submitted covering facility activities during the previous calendar year.
- G. Emissions from this facility must not cause or contribute to a condition of "air pollution" as defined in §382.003 of the Texas Clean Air Act or violate §382.085 of the Texas Clean Air Act. If the Executive Director of the TACB determines that such a condition or violation occurs, the permittee shall implement additional abatement measures as necessary to control or prevent the condition or violation.
- H. The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.
- I. The permittee shall notify the TWC in writing within 10 days of the discovery of any release of hazardous waste or hazardous constituents that may have occurred from any solid waste management unit at the facility regardless of when the release occurred or may have occurred and regardless of when waste was placed in any unit. Release of hazardous waste or hazardous waste constituents from any solid waste management unit regardless of when waste was placed in that unit or when the release occurred, will constitute grounds for (1) a major permit amendment or modification pursuant to the Texas Solid Waste Disposal Act, TEXAS HEALTH AND SAFETY CODE, Chapter 361 (Vernon Supp 1990), as necessary to incorporate into the permit appropriate corrective action; (2) the adoption by the TWC of a ground-water compliance plan; or (3) other action deemed necessary

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[V.I.]

by the TWC. Pursuant to such permit amendment, modification, ground-water compliance plan, or other order or action, the permittee shall then take timely corrective action for such releases.

The permittee shall notify the Executive Director in writing of any newly identified Solid Waste Management Unit(s) (SWMU) (i.e., a new unit not specifically identified during the RFA, discovered during the course of field investigation, environmental audits, or other means), no later than fifteen (15) calendar days after discovery.

- * If the release appears to have caused off-site contamination, the Director of the Hazardous Waste Division of Region VI of the U.S.E.P.A. must be included in all release activities required by the permit.

J. Waste Minimization

The permittee shall certify annually by October 1 for the previous year ending August 31, that the permittee

1. has a program in place to reduce the volume and toxicity of all hazardous wastes which are generated by the permittee's facility operation to the degree determined to be economically practicable;
2. that the proposed method of treatment, storage, or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment. The waste minimization certification is to be included in the operating records; and
3. has surveyed its plant processes and other sources of hazardous waste and has identified those that are listed on the TWC Annual Waste Summary. Within 210 days of the effective date of this permit, the permittee shall submit to the Executive Director a list of Waste Minimization Projects ("WMPs") that it has determined through its waste minimization review program may be implemented within the next five years.

Annually thereafter, the permittee shall submit to the Executive Director on or before the anniversary date of the permittee's first listing of WMPs, a report setting forth the following information:

- a. The status of each listed WMP as of the date of the report including the quantity of each hazardous waste and the percentage of reduction together with a projection concerning the expected work or resources that may be devoted to each listed WMP during the next twelve months;

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[V.J.3.]

- b. If any WMP has been deleted from the list previously submitted, the reason for such deletion; and
- c. A listing of any new or changed WMP that permittee's review program has developed since the last annual report.

The Executive Director may require the permittee to submit a more detailed status report for a specific WMP if it is unclear to the Executive Director the reasons the permittee has taken a particular action in regard to such WMP.

- K. The permittee shall comply with 40 CFR §266.23(b).
- L. The permittee is required to meet all performance standards in this permit, regardless of whether the permit also contains a specific design or other requirement relating to the performance standard.
- *M. The permittee shall comply with the land disposal restrictions as found in 40 CFR Part 268 (Fed. Reg. November 7, 1986; June 4, 1987; July 8, 1987; August 17, 1988; June 23, 1989 and any subsequent applicable promulgations). Requirements include modifying the permittee's waste analysis plan, as necessary, to include analyses to determine compliance with applicable treatment standards or prohibition levels, pursuant to 40 CFR §§268.7(c) and 264.13(a).

VI. Incorporated Regulatory Requirements

- A. The following TWC regulations are hereby made provisions and conditions of this permit. Issuance of this permit with incorporated rules in no way exempts the permittee from compliance with any other applicable state statute and/or TWC Rule.
 - 1. 31 TAC Chapter 335 Subchapter A;
 - 2. 31 TAC Chapter 335 Subchapter B;
 - 3. 31 TAC §335.152;
 - 4. 31 TAC §§335.153-335.155; and
 - 5. 31 TAC §335.177.
- B. To the extent applicable to the activities authorized by this permit, the following provisions of 40 CFR Part 264, adopted by reference by 31 TAC §335.152, are hereby made provisions and conditions of this permit:

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[VI.B.]

1. Subpart B -- General Facility Standards;
2. Subpart C -- Preparedness and Prevention;
3. Subpart D -- Contingency Plan and Emergency Procedures;
4. Subpart E -- Manifest System, Recordkeeping, and Reporting;
5. Subpart G -- Closure and Post-closure; and
6. Subpart I -- Use and Management of Containers.

VII. Incorporated Application Materials

The permittee shall maintain the following documents at the facility and make them available for inspection by regulatory personnel.

A. Contingency Plan

The permittee shall follow the contingency plan, developed in accordance with 40 CFR Part §264, Subpart D, dated September 6, 1989, which is hereby approved subject to the terms of this permit and any other orders of the TWC. The contingency plan is hereby incorporated into this permit by reference as if set out fully herein. Any and all revisions to the plan shall become provisions and conditions of this permit upon the date of approval by the TWC.

B. Inspection Schedule

The permittee shall follow the inspection schedule, developed in accordance with 40 CFR §264.15, dated September 6, 1989, which is hereby approved subject to the terms of this permit and any other orders of the TWC. The inspection schedule is hereby incorporated into this permit by reference as if set out fully herein. Any and all revisions to the schedule shall become provisions and conditions of this permit upon the date of approval by the TWC.

C. Closure Plan

Facility closure shall be completed in accordance with the requirements of 31 TAC §335.152 and 40 CFR Part 264 Subpart G and the closure plan dated September 6, 1989, which is hereby approved subject to the terms of this permit and any other orders of the TWC. The closure plan is hereby incorporated into this permit by reference as if set out fully herein. Any and all revisions to the plan shall become provisions and conditions of the permit upon the date of approval by the TWC.

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[VII.]

D. Waste Analysis Plan

The permittee shall follow the waste analysis plan developed in accordance with 40 CFR §264.13, dated August 21, 1990, which is hereby approved subject to the terms of this permit and any other orders of the TWC. The waste analysis plan is hereby incorporated into this permit by reference as if set out fully herein. Any and all revisions to the plan shall become provisions and conditions of this permit upon the date of approval by the TWC.

VIII. RCRA Facility Investigation

The permittee shall conduct a RCRA Facility Investigation in order to determine whether hazardous constituents listed in 40 CFR Part 264, Appendix IX have been released into the environment from the following SWMUs:

Carswell# Unit No.	Description
-16	Building 1060 - Waste Accumulation Area ✓
18	Fire Training Area No. 1
19	Fire Training Area No. 2
20	Waste Fuel Storage Tank
21	Waste Oil Tank
22	Landfill No. 4
23	Landfill No. 5
24	Waste Burial Area
28	Landfill No. 1
-32	Building 1410 - Waste Accumulation Area ✓
-35	Oil/Water Separation System
-36	Building 1191 - Waste Accumulation Area ✓
53	Storm Water Drainage System
-61	Building 1320 - Power Production Maintenance Facility Waste Accumulation Area ✓
62	Landfill No. 6
63	Entomology Dry Well
64	French Underdrain System
65	Weapons Storage Area Disposal Site
67	Building 1340 - Oil/Water Separator
68	POL Tank Farm

*Unit numbers correspond to the nomenclature used in the RFA document for Carswell AFB.

- A. As a part of the facility investigation, the permittee shall submit three copies of a workplan to the Executive Director of the TWC for approval and/or modification, and one copy to the Executive Director, Hazardous Waste Management Division, U.S.E.P.A. Region VI, within 90 days from the issuance date of this permit by the TWC, which will address in detail the following items:

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[VIII.A.]

1. A plan view drawing of the facility at a scale of 1 inch equal to not more than 200 feet which clearly shows the following information:
 - a. the locations, surface area and estimated depths of soils contamination associated with all RFI units.
 - b. the locations of all RFI units.
 - c. all structures adjacent or nearby all RFI units such as concrete pads, gullies and roadways; and
 - d. the drawing date, its orientation and scale.

In consideration of the enormity of this facility, the use of match lines on partial maps will be permitted.

2. Procedures for investigating all RFI units which, at a minimum, include the following elements:
 - a. methods of locating areal extent of soil contamination; and
 - b. a hydrogeological evaluation of each unit area which reflects the following scope:
 - (1) Performance of a hydrogeologic assessment of the area to characterize the uppermost aquifer beneath the unit. The applicant must produce a soil boring program which determines the strata encountered, saturated intervals and direction of ground-water flow. The workplan must specify the spacing, depth and locations of boreholes. Samples from borings must be taken continuously from the surface to a depth of 20 feet and then at 5-foot intervals thereafter until ground water is reached. Samples shall be described as to color, soil type according to the Unified Soil Classification System, other visual characteristics such as structure, texture, mineral composition, moisture, etc., and any visual or olfactory evidence of contamination. The workplan should specify that soil borings be conducted with an Organic Vapor Analyzer (OVA) to augment the sense of smell. Sample description shall be performed by a qualified geologist or geotechnical engineer. Samples submitted for chemical analysis must be collected every 5 feet from the surface to the bottom of the borings and be analyzed in accordance with the United States Environmental Protection Agency publication SW-846, Methods for Evaluating Solid Waste (USEPA SW-846) for

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[VIII.A.2.b.(1)]

all Appendix IX constituents, unless a shorter list can be justified. If a shorter list is proposed the justification for same must be presented in the workplan.

- (2) Plans for installation of a ground-water monitoring system, based upon the results of the soil boring program, consisting of a minimum of one background well located hydraulically upgradient of the unit, removed a sufficient distance so as not to be affected by the unit, and at least three wells located on the down-gradient perimeter of the unit. Exploratory boreholes which are developed may be converted to monitor wells if they are appropriately drilled and located. The plan should include procedures for determining the ground-water gradient. More than three downgradient perimeter wells may be required to effectively sample the uppermost aquifer for hazardous constituents and additional background wells are recommended in order to provide an adequate sample population for determining if background values have been exceeded. Procedures for installation of monitor wells which include detailed completion methods shall be submitted in the workplan. The upper 20 feet of the upper flow zone of the uppermost aquifer must be sampled by wells. No monitor well screen length shall exceed 20 feet. Well construction and sampling materials shall be selected to avoid sample analysis interference. Monitor wells shall be logged during installation according to approved procedures which are outlined in the workplan. If existing wells are utilized as part of the ground-water monitoring system, the permittee shall provide sufficient boring data or conduct additional soil borings to provide the information which will characterize the wells.
- (3) Well development methods. Methods of well development shall be described to ensure that any fluids introduced by drilling are removed and samples are not influenced by drilling activities.
- (4) Exact procedures for sampling and analysis of soil and water samples. The workplan shall include provisions for sample collection, sample preservation and shipment, analytical procedures, and chain of custody control. Statistical methods must be submitted that will be used to determine if a statistically significant

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[VIII.A.2.b.(4)]

increase over background has occurred for soil and water samples. The plan shall include a schedule for collecting samples from monitor wells during 3 sampling events spaced at 2 month intervals and analyzed in accordance with USEPA SW-846 for all Appendix IX constituents, unless a shorter list can be justified. If a shorter list is proposed, the justification for same must be presented in the workplan.

- (5) A preliminary soils and ground-water report to be submitted as part of the workplan. This preliminary report shall contain, at a minimum, the following information regarding the soils and ground-water investigation:
 - (a) a site map having a one inch equals 50 feet scale; which depicts the locations of 1) all solid waste management units being investigated, 2) existing and proposed borings and monitor wells and 3) lines of proposed geologic cross-sections;
 - (b) plans and schedule for submitting the hydrogeologic information; and
 - (c) well construction diagram.
- (6) Four copies of Final Soils and Ground-water Report shall be submitted with the Facility Investigation report required by Provision VIII.D. which contains at a minimum the following information:
 - (a) contours of the ground-water surface based on measurements in piezometers and monitor wells, and apparent direction of ground-water flow;
 - (b) geologic cross-sections depicting the near-surface stratigraphy;
 - (c) logs of all soil borings and monitor wells; and
 - (d) results of analyses for soil and ground water.

3. The permittee may elect to certify that no wastes with Appendix IX constituents have been managed in an RFI unit or units in lieu of performing the investigation procedures noted in Provision VIII.A.2. provided that confirming data are submitted.

PERMIT NO. HW-50289
EPA I.D. No. 0571924042
NAME: U.S. Air Force/Carswell Air Force Base

CONTINUATION SHEET 20 OF 20

[VIII.A.]

4. A time schedule including significant accomplishments for conducting the RCRA Facility Investigation activities not to exceed twelve months in duration.
 5. A sample plan including sample locations, sampling methods, sampling equipment, sample handling procedures, analytical procedures, detection limits for each procedure, and sample quality assurance and quality control.
 6. A safety plan describing the known hazards and risks identifying levels of protective clothing to be worn, describing decontamination procedures and identifying any special requirement or training needs.
- B. The permittee shall immediately implement the approved work plan upon receipt of written approval from the Executive Director of the TWC.
- C. The permittee shall notify the TWC District 4 Office in Duncanville, Texas at least 10 days prior to any sampling activity in order to afford District personnel the opportunity to observe sampling procedures and split samples.
- D. The permittee shall submit three copies of an RCRA Facility Investigation report to the Executive Director, and one copy to the Director, Hazardous Waste Management Division, U.S.E.P.A. Region VI, within 60 days after the completion of the Facility Investigation. This report shall contain the results of all inspections, observations, evaluations and sampling events conducted as a part of the Facility Investigation along with all maps, drawings and cross-sections.
- E. If it is determined by the TWC that there has been a release to the environment of hazardous constituents listed in 40 CFR Part 264, Appendix IX, the permittee shall apply to the Executive Director of the TWC for an amendment or modification to this permit in order to initiate a further investigation and/or corrective action. If there is evidence of off-site contamination, the permittee shall also apply for a modification to this permit to the Director of the Hazardous Waste Management Division, U.S.E.P.A., Region VI.

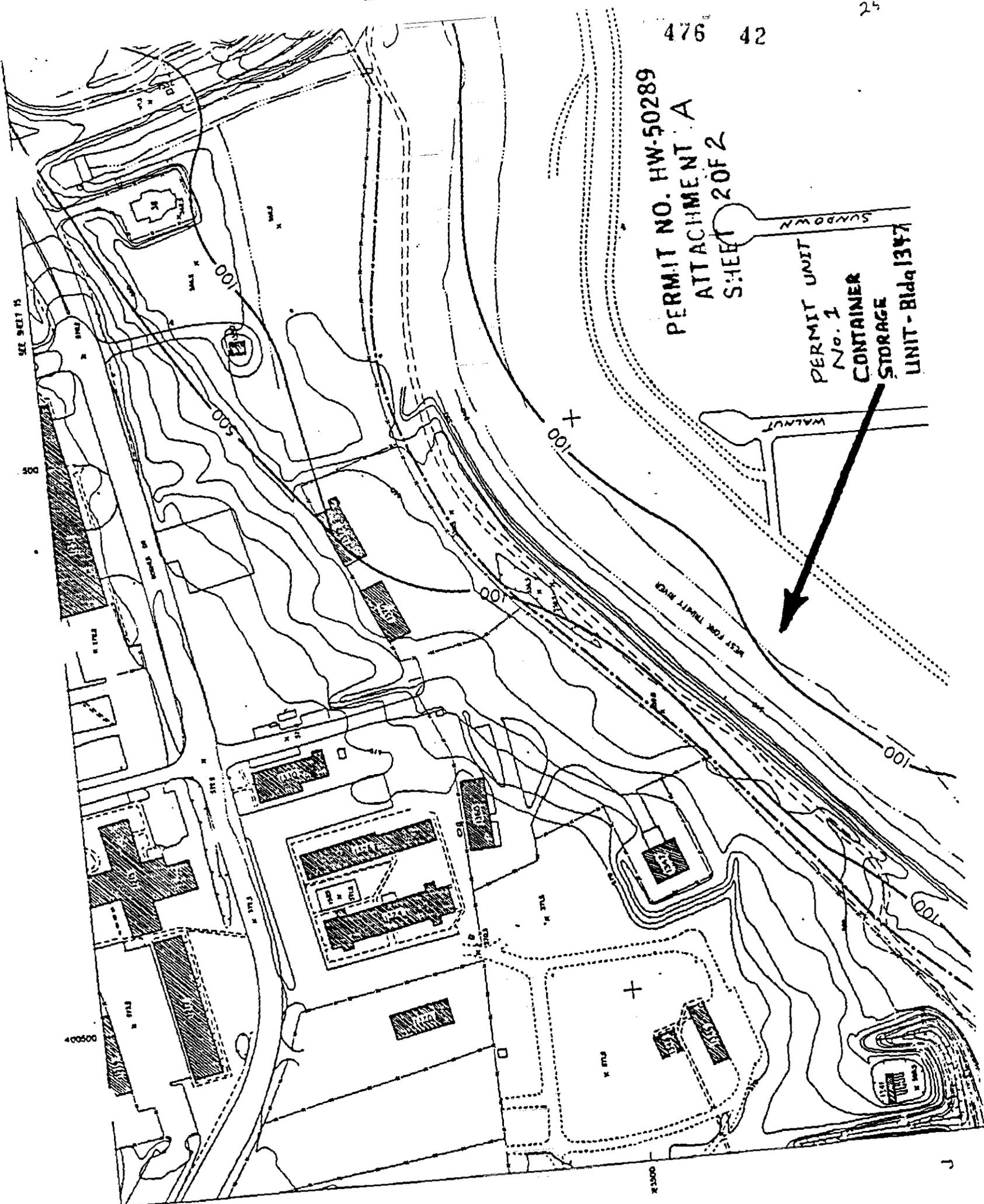
Attachments

- A -- Legal Description
B -- Site Plan

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PERMIT NO. HW-50289
ATTACHMENT A
SHEET 2 OF 2

PERMIT UNIT
No. 1
CONTAINER
STORAGE
UNIT - Bldg 1347



SEE SHEET 15

300

400500

41500

7

PERMIT NO. HW-50289
ATTACHMENT B
SHEET 1 OF 11

Cross Reference Chart

NR Waste Management Activity

Operating Unit

1. 29, 700-gallon-capacity storage area Original Tract (OT)

RFI Units

2. Building 1060 - Waste Accumulation Area	OT
3. Fire Training Area No. 1	A-102
4. Fire Training Area No. 2	A-104
5. Waste Fuel Storage Tank	A-102
6. Waste Oil Tank	A-102
7. Landfill No. 4	E-501
8. Landfill No. 5	A-102
9. Waste Burial Area	A-102
10. Landfill No. 1	OT
11. Building 1410 - Waste Accumulation Area	OT
12. Oil/Water Separation System	OT
13. Building 1191 - Waste Accumulation Area	OT
14. Storm Water Drainage System	A-101
15. Building 1320 - Power Production Maintenance-Facility Waste Accumulation Area	OT E-508
16. Landfill No. 6	E-508
17. Entomology Dry Well	OT
18. French Underdrain System	E-530 and E-531
19. Weapons Storage Area Disposal Site	G-700
20. Building 1340 - Oil/Water Separator	E-537
21. POL Tank Farm	OT

(2)

CARSWELL AIR FORCE BASE
FORT WORTH, TARRANT COUNTY, TEXAS

one m
in

ORIGINAL TRACT

ACREAGE: 9

Tracts I

A tract of land situated about 6 miles N. 80 W. from the Court in Tarrant County, Texas and embracing portions of the Jos B. Farmer, D. V. Farmer, Cornelius Connelly, B. L. Samuel, Daniel McVean, J. M. Shreeve, and E. S. Terrell Surveys.

Beginning at a stake in the most southerly south line of the S. Terrell Survey 103 feet from its south southwest corner, a City monument bears west 128 feet.

Thence north no degrees 07 minutes west 4225-82/100 feet to a
Thence north 31 degrees 15 minutes east 389-1/10 feet to a stake
Thence north no degrees 5-1/2 minutes east 1807-9/10 feet to
in the north line of the said E. S. Terrell Survey; thence north 89
degrees 37 minutes east 4-3/4 feet to a monument.

Thence south 45 degrees 27 minutes east 212-7/10 feet to a Lake
Worth monument.

Thence north 89 degrees 43 minutes east 150 feet to a Lake Worth
monument.

Thence north 44 degrees 30 minutes east 212-8/10 feet to a Lake
Worth monument, in the said north line of said Terrell Survey.

Thence north 89 degrees 36 minutes east along said line, 1448
feet to a Lake Worth monument at the northeast corner of said Terrell
Survey in the west line of the Daniel McVean Survey.

Thence north along said line 834-4/10 feet to a Lake Worth monument
Thence north 19 degrees 43 minutes east 437-8/10 feet to a Lake
Worth monument.

Thence north 87 degrees 25 minutes east 95-3/10 feet to a Lake
monument.

Thence south 66 degrees 13 minutes east 137-7/10 feet to a Lake
Worth monument.

Thence south 54 degrees 05 minutes east 415-8/10 feet to a Lake
Worth monument.

Thence south 24 degrees 56 minutes east 561-1/10 feet to a Lake
Worth monument.

Thence south 60 degrees east 277-8/10 feet to a Lake Worth monument

Thence north 82 degrees 03 minutes east 1387 feet to a Lake
monument in the east line of the said McVean Survey, the west line of
said D. V. Farmer Survey.

Thence north 61 degrees 54 minutes east 1384-8/10 feet to a
Worth monument in the north line of the said D. V. Farmer Survey.

Thence along said line north 89 degrees 35 minutes east 178
feet to a stake from which a City monument bears south 15 feet, a
monument numbered 218.

Thence south 7501-55/100 feet to a stake from which a City
number 190 bears north 15 feet.

PERMIT NO. HW-50289
ATTACHMENT B
SHEET 3 OF 11

CARSWELL AIR FORCE BASE
FORT WORTH, TEXAS

TRACT NO. A-101

TARRANT COUNTY, TEXAS

A tract of land situated in the County of Tarrant, State of Texas, being part of the J. M. Shreeve Survey (A-1456) and being more particularly described as follows:

From the northwest corner of said J. M. Shreeve Survey east, 2310 feet to the point of beginning, said point being the northwest corner of the Noel R. Bailey, et ux, property; thence along the common line between the property of Noel R. Bailey, et ux, and the existing U. S. Government property east, 250 feet to a point; thence south, 753.4 feet to a point in the south boundary line of said Noel R. Bailey, et ux, property; thence along the common line between the property of Noel R. Bailey, et ux, on the right and the properties of Mrs Patricia Harris and Gatlin Mitchell on the left, west 250 feet to the southwest corner of said Noel R. Bailey, et ux, property; thence along the common line between the property of Noel R. Bailey, et ux, and the existing U. S. Government property north 753.4 feet to the point of beginning, containing 4.32 acres, more or less,

and being part of the same land conveyed to Noel R. Bailey, et ux, by George R. Shepherd, et ux, by deed dated 27 November 1948 and recorded in Vol 2048 at Page 550 of the Deed Records of said Tarrant County.

PERMIT NO. HW-50289

ATTACHMENT B

CARSWELL AIR FORCE BASE
FORT WORTH, TARRANT COUNTY, TEXAS

SHEET 4 OF 11

TRACT NO. A-102

ACREAGE: 22.9

Three waste sites, known as "Landfill 5," "Landfill 7," and "waste burial area" respectively, as approximately located on a tract of land, being 22.9 acres, more or less, being part of the J. M. SHREEVE SURVEY (A-1456), recorded in Vol 2576 at Page 233 of the Deed Records of said Tarrant County, and being more particularly described as follows:

From the intersection of the north right-of-way line for White Settlement Road, with the west boundary line of said J. M. SHREEVE SURVEY, east 1640 feet to the point of beginning, said point being the southwest corner of the Gatlin Mitchell property; thence along the common line between the property of Gatlin Mitchell and the existing U.S. Government property and Noel R. Bailey, et ux, property on the left, east 874.2 feet to the northeast corner of said Gatlin Mitchell property; thence along the common line between the Gatlin Mitchell and the Mrs. Patricia Harris properties south, 1145.8 feet to the southeast corner of said Gatlin Mitchell property, said point being in the north right-of-way line for White Settlement Road; thence along said north right-of-way line for White Settlement Road west, 874.2 feet to the point of beginning, containing 22.9 acres, more or less,

and being substantially the same land conveyed to Gatlin Mitchell by Jesse E. Martin by deed dated 19 September 1946 and recorded in Vol 1837 at Page 455 of the Deed Records of said Tarrant County.

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CARSWELL AIR FORCE BASE
FORT WORTH, TEXAS

PERMIT NO. HW-50289
ATTACHMENT B
SHEET 5 OF 11

ACREAGE: 56.2

TRACT NO. A-104

A Tract of land situated in the County of Tarrant, State of Texas, being part of the J. M. Shreeve Survey (A-1456) and part of the John Collett Survey (A-262) and being more particularly described as follows:

From the intersection of the south right-of-way line for White Settlement Road with the west boundary line of said J. M. Shreeve Survey, east 1205 feet to the point of beginning, said point being the northwest corner of the W. Coulsting property in said south right-of-way line for White Settlement Road; thence along said south right-of-way line for White Settlement Road, south 89 deg. 35' east, 1128.5 feet to a point; thence south 00 deg. 10' east, 2170.3 feet to a point in the south boundary line of said W. Coulsting property; thence along the common line between the W. Coulsting and the Texas Electric Service Co. properties north 89 deg. 25' west, 1128.5 feet to the southwest corner of said W. Coulsting property; thence along the common line between the W. Coulsting and the R. L. Carlock, Jr., et al, properties north 00 deg. 10' west, 2168.3 feet to the point of beginning, containing 56.2 acres, more or less,

and being part of the same land conveyed to W. Coulsting by Mrs Mary E. Farmer by deed dated 15 October 1921 and recorded in Vol 723 at Page 354 of the Deed Records of said Tarrant County.

CARSWELL AIR FORCE BASE
FORT WORTH, TARRANT COUNTY, TEXAS

TRACT NO. E-501

ACREAGE: 54.8

A tract of land situated in the County of Tarrant, State of Texas, being part of the John M. Shreeve Survey (A-1456) and part of the John Collett Survey (A-262), and being more particularly described as follows:

From the southeast corner of the JOHN M. SHREEVE SURVEY south 67 deg. 27' west, 1081 feet to the point of beginning, said point being the southernmost southeast corner of said W. Coulsting property and the southwest corner of the White Settlement Common Consolidated School District No. 37 property, and being also in a north line of the Wherry Housing Project property; thence along the common line between said Coulsting and the Wherry Housing Project property north 89 deg. 22' west, 432 feet to the southwest corner of the W. Coulsting property, the same being also in the existing military reservation boundary line for Carswell Air Force Base; thence along the common line between the said W. Coulsting property and the said military reservation boundary line north 00 deg. 10' west, 2170.3 feet to a point in the southerly right-of-way line of White Settlement Road; thence along said southerly right-of-way line south 89 deg. 35' east, 1427 feet to a point, same being the northeast corner of said Coulsting property and the northwest corner of the Rhea J. Vernon property; thence along the common line between said Coulsting property on the right and the Rhea J. Vernon and the Wherry Housing Project properties on the left south 00 deg. 10' east, 1165 feet, more or less, to a point, same being the easternmost southeast corner of said Coulsting property and the northernmost corner of the White Settlement Common Consolidated School District No. 37; thence along the common line between said Coulsting and the White Settlement School properties as follows:

south 74 deg. 15; west, 40.1 feet to a point of curve; thence along the arc of a curve to the left in a southwesterly direction 176.5 feet to point of tangency; thence south 13 deg. 20; west, 63.7 feet to point of curve; thence along the arc of a curve to the right in a southwesterly direction 146.5 feet to a point; thence north 89 deg. 22; west, 788.7 feet to a point, same being a reentrant corner for said Coulsting property and the northwest corner of said White Settlement School property and the northwest corner of said White Settlement School property; thence south 00 deg. 38; west, 696.4 feet to the point of beginning and containing 54.8 acres, more or less,

and being a part of the same land conveyed to W. Coulsting by Mrs. Mary E. Farmer by deed dated 15 October 1921 and recorded on Vol 723 at Page 354 of the Deed Records of Tarrant County, Texas.

PERMIT NO. HW-50289

ATTACHMENT B

CARSWELL AIR FORCE BASE
FORT WORTH, TARRANT COUNTY, TEXAS

SHEET 7 OF 11

TRACT NO. E-508

ACREAGE: 6.18

A tract of land situated in the County of Tarrant, State of Texas, being part of the B. L. Samuel Survey (A-1467) and part of the John M. Shreeve Survey (A-1456), and being more particularly described as follows:

From the northeast corner of the JOHN M. SHREEVE SURVEY and along the north line of same west 329.5 feet to the point of beginning, said point being at the intersection of the northeasterly right-of-way line of Westover Road with the existing military reservation boundary line of Carswell Air Force Base, and being the westernmost corner of the Dr. Robert C. Botts, et ux, property; thence along the common line between the said Dr. Botts, et ux, property and said military reservation boundary line east 806.5 feet to a point same being the northeast corner of the said Dr. Botts, et ux, property and being also the northwest corner of the William J. Bailey property, same being west 30 feet from the east line of the B. L. SAMUEL SURVEY; thence along the common line between the said Dr. Botts, et ux, and the William J. Bailey properties, same being 30 feet west of and parallel to the east line of said SAMUEL SURVEY south 00 deg. 50' east, 668 feet to a point in the northeasterly right of way line of said Westover Road, same being the southeast corner of said Dr. Botts, et ux, property; thence along the northeasterly right of way line of said Westover Road north 50 deg. 42' west, 1054.7 feet to the point of beginning and containing 6.18 acres, more or less,

and being substantially the same land conveyed to Dr. Robert C. Botts, et ux, by P. A. Taliaferro, et ux, by deed dated 5 April 1949 and recorded in Vol 2077 at Page 543 of the Deed Records of Tarrant Count, Texas.

TRACT NO. E-530

ACREAGE: 13.54

A tract of land situated in the County of Tarrant, State of Texas, being part of the Cornelius Connelly Survey (A-319), and being more particularly described as follows:

From the southeast corner of the J. B. Farmer Survey (A-514) south 30 deg. 11' west, 590 feet to the point of beginning, said point being the northeast corner of the Mrs Kate M. Hyde property, and being also in the west line of the Sidney T. Oates property and the existing boundary line of Carswell Air Force Base property; thence along the common line between said Mrs Kate M. Hyde and the Sidney T. Oates properties south, 930 feet to a point, same being the southeast corner of said Mrs Kate M. Hyde property and the northeast corner of the Homer Priddy property; thence along the common line between said Mrs Kate M. Hyde and the Homer Priddy properties west, 710.2 feet to the southwest corner of the Mrs Kate Hyde property and northwest corner of the Homer Priddy property, the same being in the east right-of-way line of River Lake Road as widened by the United States of America, Bureau of Public Roads, the said east right-of-way line being the east line of that certain tract acquired by the United States of America, Bureau of Public Roads from Mrs Kate M. Hyde in Civil Action No. 2537 in the Federal District Court for the Northern District of Texas; thence along the east right-of-way line of the widened River Lake road as follows: north 06 deg. 00' east, 179.26 feet to a point; thence north 20 deg. 02' east, 103.1 feet to a point; thence north 05 deg. 20' west, 152.97 feet to a point; thence north 06 deg. 00' east, 92, 6 feet to a point; thence north 11 deg. 50' east, 108.64 feet to a point; thence north 23 deg. 31' east, 108.64 feet to a point; thence north 29 deg. 22' east, 233.72 feet to a point in the existing boundary line for said Carswell Air Force Base Property, same being the northwest corner of said Mrs Kate M. Hyde property; thence departing from said right-of-way line and along said boundary line, same being the common line between said Mrs Kate M. Hyde and Carswell Air Force Base properties, east, 474.18 feet to the point of beginning, containing 13.54 acres, more or less,

and being a part of the same land conveyed to Mrs Kate M. Hyde by Sidney T. Oates by deed dated 10 April 1945 and recorded in Vol 1876 at Page 293; to Mrs Kate Hyde by Betty Gordon chosen by deed dated 1 April 1935 and recorded in Vol 1449 at Page 245; and to Mrs Kate Hyde by E. G. Rosen, et al by deed dated 22 May 1945 and recorded in Vol 1876 at Page 292 of the Deed Records of Tarrant County, Texas.

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CARSWELL AIR FORCE BASE
FORT WORTH, TARRANT COUNTY, TEXAS

ATTACHMENT B
SHEET 9 OF 11

TRACT NO. F-531

ACREAGE: 12.20

A tract of land situated in the County of Tarrant, State of Texas, being part of the Cornelius Connelly Survey (A-319) and being more particularly described as follows:

From the southeast corner of the J. B. Farmer Survey (A-514) south, 367 feet to the point of beginning, said point being the northernmost northeast corner of the Sidney T. Oates property and being also in the west line of the Grace Cozby property; thence along the common line between said Sidney T. Oates property on the right and the Grace Cozby, the Lois Trigg, and the Eugene Sergi properties on the left south, 1220 feet to a point, same being a reentrant corner of said Oates property and the southwest corner of the said Eugene Sergi property, said point being the southwest corner of Lot No. 13 in the Winding Brook Addition to Westworth Village, Tarrant County, Texas; thence along the common line between said Sidney T. Oates and the Sergi properties east, 228.1 feet to a point, same being the easternmost northeast corner of said Oates property and southeast corner of said Sergi property, and being also the southeast corner of Lot No. 13 of said Winding Brook Addition and located in the west right of way line of Winding Brook Drive; thence along said west right of way line of south, 180 feet to a point, same being the easternmost southeast corner of said Oates property and the northeast corner of Lot No. 6 of said addition; thence along the common line between said Sidney T. Oates and the Evelyn Oates properties west, 226.5 feet, to a point, same being a reentrant corner of said Oates property and the northwest corner of Lot No. 9 of said addition; thence along the common line between said Oates property on the right and the said Evelyn Oates and the County of Tarrant properties on the left south, 199.7 feet to a point, same being the southernmost southeast corner of the Sidney T. Oates property in the south right-of-way line of Oates Drive; thence west, 306.2 feet to a point, same being the southwest corner the Sidney T. Oates property, and the southeast corner of the C. R. Lees property; thence along the common line between said Oates property on the right and the C. R. Lees, the H. C. Thomas, the Homer Priddy, the Mrs Kate M. Hyde, and the Carswell Air Force Base properties on the left north, 1603 feet to a point, same being the northwest corner of said Oates property and being in the existing boundary line of said Air Force Base; thence along the common line between said Oates and Air Force Base properties east, 306.2 feet to the point of beginning and containing 12.20 acres, more or less,

and being substantially the same land conveyed to Sidney T. Oates, et ux by Betty Gordon Rosen by deed dated 1 April 1935 and recorded in Vol. 1246 at Page 43 and being the same land conveyed to Sidney T. Oates, et ux by Betty Gordon Rosen by deed dated 1 September 1934 and recorded in Vol. 1221 at Page 25 and being substantially the same land conveyed to Sidney T. Oates by E. G. Rosen, et al by deed dated 18 May 1939 and recorded in Vol. 1395 at Page 229 and being a part of the same land conveyed to Sidney T. Oates et ux by Lois Trigg, independent executrix of will and estated of Ross Trigg by deed dated 17 March 1952 and recorded in Vol. 2411 at Page 232 of the Deed Records of Tarrant County, Texas.

CARSWELL AIR FORCE BASE
 FORT WORTH, TARRANT COUNTY, TEXAS SHEET 10 OF 11

TRACT NO. E-537

ACREAGE: 22.75

A tract of land situated in the County of Tarrant, State of Texas, being part of the Nathaniel H. Carroll Survey (A-264), and part of the Cornelius Connelly Survey (A-319), and being more particularly described as follows:

From the southeast corner of the J. B. Farmer Survey (A-514) and along the east line of said survey north, 416.6 feet to the point of beginning, said point being the northwest corner of the Grace Cozby property, and being also in the existing boundary line of Carswell Air Force Base; thence along said boundary line, same being the common line between said Grace Cozby and the Carswell Air Force Base properties east, 590 feet to a point, same being the northeast corner of said Grace Cozby property and the northwest corner of the Mattie Belle McNaughton property; thence along the east line of said Grace Cozby property as follows: south, 1616 feet to a point, same being the easternmost southeast corner of said Cozby property; thence west, 25 feet to a point; thence south, 69.7 feet to a point, same being the southernmost southeast corner of said Cozby property and the northeast corner of the Winding Brook Addition according to a plat and dedication recorded Vol 388-K, Page 219; thence departing from said east line and along the common line between said Grace Cozby property on the right and the Garland B. Franklin, et ux, and the Lois Trigg properties on the left west 540.4 feet to a point, same being the southwest corner of said Cozby property and the northwest corner of said Lois Trigg property, and being also in the east line of the Sidney T. Oates, et ux, property; thence along the common line between said Grace Cozby property on the right and the Sidney T. Oates, et ux, and the Carswell Air Force Base properties on the left north, 1680.8 feet to the point of beginning and containing 22.75 acres, more or less,

and being substantially the same land conveyed to Grace Cozby by Lois Trigg by deed dated 5 November 1951 and recorded in Vol 2369 at Page 543 of the Deed Records of Tarrant County, Texas.

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PERMIT NO. HW-50289

CARSWELL AIR FORCE BASE
FORT WORTH, TARRANT COUNTY, TEXAS

ATTACHMENT B
SHEET 11 OF 11

TRACT NO. G-700

ACREAGE: 247

A tract of land situated in the County of Tarrant, State of Texas, being part of the following surveys: F. W. SCHOEVERLING (A-1398), E. CATHEY (A-392), SOCORRO FARM CO. (A-1840), J. M. RICE (A-1799), S. B. HOPKINS (A-673), G. B. KENNEY (A-902), E. L. ALFORD (A-2000) and J. P. WOODS (A-1886), and being more particularly described as follows:

From the northeast corner of the G. B. Kenney Survey situated in the south line of the E. L. Alford Survey south 59 deg. 10' west, 755 feet to the point of beginning; thence north 05 deg. 25' east, 1840 feet to a point; thence north 50 deg. 53' east, 1120 feet to a point; thence north 89 deg. 21' east, 1885 feet to a point; thence south 47 deg. 45' east, 1145 feet to a point; thence south 02 deg. 05' east, 1380 feet to a point; thence east, 170 feet to a point; thence south 200 feet to a point; thence west, 330 feet to a point; thence south 38 deg. 40' west, 1200 feet to a point; thence south 87 deg. 20' west, 1360 feet to a point; thence south 89 deg. 44' west, 1013 feet to a point; thence north 39 deg. 04' west, 860 feet to the point of beginning, containing 247 acres, more or less.

John Hall, Chairman
 Pam Reed, Commissioner
 Robby Carter, Commissioner
 Dan Pearson, Executive Director



476 54

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

March 2, 1995

Mr. Ohlen Long
 Site Manager
 Headquarters, Air Force Base Disposal Agency
 Location K, Bldg. 1215
 Carswell Air Force Base, Texas 76127-5000

RE: Carswell Air Force Base,
 Texas Natural Resource Conservation Commission Hazardous
 Waste Permit No. HWS0289,
 Solid Waste Registration No. 65004,
 EPA ID NO. TX0571924042,
 Designation of Solid Waste Management Units and Areas of
 Concern for Investigation and/or Corrective Measures

Determination of a Need for an RFI and Current Condition Report

Dear Mr. Long:

The TNRCC has recently completed its review of the 68 RCRA solid Waste Management Units (SWMU) and 15 Areas of Concern (AOC) identified to date on Naval Air Station Fort Worth, also known as Carswell Air Force Base. Our review included the RCRA Facility Assessment (RFA) conducted in 1989; Hazardous Waste Permit No. 50289 issued in 1991; TNRCC's letter dated April 22, 1994; and the decisions resulting from the TNRCC's inspections of June 15, 1994, July 29, 1994, and February 13, 1995. Part V. I. of the permit allows the TNRCC to require investigation of units where a release may have occurred. Also, 30 Texas Administrative Code (TAC) §305.62 (d) states that "if good cause exists, the executive director may initiate and the Commission may order an amendment to a permit and the executive director may request an updated application if necessary".

Based on the above mentioned documents and inspections, the TNRCC has determined that a total of 50 SWMU's and 14 AOC's require investigations and/or corrective measures. The 18 remaining SWMU's and one AOC are designated for No Further Action (NFA) at this time. The NFA designation will remain so long as there is no further evidence of a release to the environment from these units.

Mr. Ohlen Long
Carswell Air Force Base
Page 2 of 3

Seventeen (17) of the SWMU's noted for RFI's on the attached table are also designated for RFI's in Carswell's Hazardous Waste Permit No. 50289. Another 21 of the SWMU's were designated for RFI's in TNRCC's letter dated April 22, 1994. However, the RFI required in TNRCC's letter of April 22, 1994, for SWMU No. 43 (Bldg. 1414, Non-Destructive Inspection Waste Accumulation Area) is hereby revised to NFA, based upon further TNRCC inspection and review. TNRCC's letter dated November 30, 1994, required RFI's for SWMU No. 45 (Bldg. 1027) and SWMU No. 47 (Bldg. 1015) in addition to nine (9) AOC's. Eleven (11) additional SWMU's (No. 11, 17, 34, 39, 40, 44, 49, 50, 58, 60, and 66) are designated for RFI's by this letter. A total of 14 AOC's are identified for investigation. Waste Oil Dump at DP-17 was designated for NFA by TNRCC's letter dated September 22, 1993. The attached table lists the TNRCC's designation for each specific SWMU/AOC, as of February 16, 1995.

Those waste management units identified as SWMU's in the 1989 RFA and designated for an RFI in this letter require an investigation in accordance with Provision VIII of Hazardous Waste Permit No. 50289. In order to expedite the investigative process, the TNRCC will not require a permit amendment for the additional SWMU's until after the first phase of the investigation is completed. After the first phase of the investigation, Carswell AFB may be required to amend the permit to add those SWMU's that are shown to have released industrial solid waste or municipal hazardous waste to the environment.

The magnitude of the investigation for SWMU and AOC will depend on the unit's/area's size, condition, siting characteristics, and the constituents it managed. Those investigations and/or corrective actions already initiated need not be repeated, unless requested elsewhere. Please provide a schedule for submittal of the RFI Work Plans with a prioritization of the tasks and the rationale for the prioritization within 60 days of receipt of this letter.

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Mr. Ohlen Long
Carswell Air Force Base
Page 3 of 3

The TNRCC looks forward to assisting the Air Force and Navy in developing the scope of work necessary to economically and adequately characterize releases to the environment. If you have any questions or need further assistance with this matter, please contact Mr. Geoffrey Meyer in my section at (512) 239-2577.

Sincerely,

Paul S. Lewis

Paul Lewis, Manager
Corrective Action Section
Industrial and Hazardous Waste Division

Enclosure

PL:gm

cc w/ enclosure

David Nelaigh, EPA Region 6
Don C. Eubank, TNRCC Region 4
Charles Mauk, TNRCC Permits
Wade Wheatley, TNRCC Permits

cc: Tannie Larson, IHW Corrective Action Section (CA070/103)

**SWMU and AOC Designation
Carswell Air Force Base /
Naval Air Station Ft. Worth
February 16, 1995**

1	Pathological Waste Incinerator	NFA
2	Pathological Waste Storage Shed	NFA
3	Metal Cans	NFA
4	Facility Dumpsters	NFA
5	Bldg. 1628 Waste Accumulation Area	RFI
6	Bldg. 1628 Wash Rack and Drain	RFI
7	Bldg. 1628 Oil/Water Separator	RFI
8	Bldg. 1628 Sludge Collection Tank	RFI
9	Bldg. 1628 Work Station Waste Accumulation Area	NFA
10	Bldg. 1617 Work Station Waste Accumulation Area	NFA
11	Bldg. 1617 Waste Accumulation Area	RFI
12	Bldg. 1618 Waste Accumulation Area	RFI
13	Bldg. 1710 Waste Accumulation Area	RFI
14	Bldg. 1060 Bead Blaster Collection Tray	NFA
15	Bldg. 1060 Paint Booth Vault	NFA
16	Bldg. 1060 Waste Accumulation Area	RFI
17	Landfill No. 7	RFI
18	Fire Training Area No. 1	NFA
19	Fire Training Area No. 2	RFI
20	Waste Fuel Storage Tank	RFI
21	Waste Oil Tank	RFI

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22	Landfill No. 4	RFI
23	Landfill No. 5	RFI
24	Waste Burial Area	RFI
25	Landfill No. 8	RFI
26	Landfill No. 3	RFI
27	Landfill No. 10	RFI
28	Landfill No. 1	RFI
29	Landfill No. 2	RFI
30	Landfill No. 9	RFI
31	Bldg. 1060 Waste Accumulation Area	RFI
32	Bldg. 1410 Waste Accumulation Area	RFI
33	Bldg. 1420 Waste Accumulation Area	RFI
34	Bldg. 1194 Waste Accumulation Area	RFI
35	Bldg. 1194 Vehicle Refueling Shop Oil/Water Separation System	RFI
36	Bldg. 1191 Waste Accumulation Area	RFI
37	Bldg. 1191 Vehicle Maintenance Shop Oil/Water Separator	RFI
38	Bldg. 1269 PCB Transformers Building	NFA
39	Bldg. 1643 Waste Accumulation Area	RFI
40	Bldg. 1643 Oil/Water Separation System	RFI
41	Bldg. 1414 Oil/Water Separation System Field Maintenance Squadron Aerospace Ground Equipment	RFI
42	Bldg. 1414 Waste Accumulation Area	RFI
43	Bldg. 1414 Non-Destructive Inspection (NDI) Waste Accumulation Area	NFA

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44	Bldg. 1027 Oil/Water Separation System at the Aircraft Washing Hanger	RFI
45	Bldg. 1027 Waste Oil Tank Vault at the Aircraft Washing Hanger	RFI
46	Bldg. 1027 Waste Accumulation Area	NFA
47	Bldg. 1015 Jet Engine Test Cell Oil/Water Separator	RFI
48	Bldg. 1048 Fuel System Floor Drains	NFA
49	Aircraft Washing Area No. 1	RFI
50	Aircraft Washing Area No. 2	RFI
51	Bldg. 1190 Central Waste Holding Area	RFI
52	Bldg. 1190 Oil/Water Separation System	RFI
53	Storm Water Drainage System	RFI
54	Storm Water Interceptors	RFI
55	East Gate Oil/Water Separator	RFI
56	Bldg. 1405 Waste Accumulation Area	NFA
57	Bldg. 1432/1434 Waste Accumulation Area	NFA
58	Pesticide Rinse Area	RFI
59	Bldg. 8503 Weapons Storage Area Waste Accumulation Area	RFI
60	Bldg. 8503 Radioactive Waste Burial Site	RFI
61	Bldg. 1320 Power Production Maintenance Facility Waste Accumulation Area	RFI
62	Landfill No. 6	RFI
63	Entomology Dry Well	NFA
64	French Underdrain System	RFI
65	Weapons Storage Area Disposal Site	NFA

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