



**US Army Corps
of Engineers**

HUNTSVILLE ENGINEERING
AND SUPPORT CENTER

FINAL

Defense Environmental Restoration Program

For

Formerly Used Defense Sites

Ordnance and Explosives

Chemical Warfare Materials

ARCHIVE SEARCH REPORT

Fresno Army Air Forces Ground Training Center

Fresno, CA

Project Number – J09CA728001

September 2004

Prepared by
US Army Corps of Engineers
ST. LOUIS DISTRICT

**RESTORATION INFORMATION MANAGEMENT SYSTEM
PROJECT FACT SHEET
FORMERLY USED DEFENSE SITES
SEPTEMBER 2002
TAG REVIEW DATE: 17 AUGUST 2004**

1. **SITE NAME:** Fresno Army Air Forces Ground Training Center

SITE NUMBER: J09CA72800

LOCATION:

City: Fresno
County: Fresno
State: California

PROJECT NUMBER: J09CA728001

CATEGORY: MMRP

INPR RAC: 5

ASR RAC: 1

TAG RAC: 5

2. **POC'S:**

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3. **SITE DESCRIPTION:** Fresno Army Air Forces Ground Training Center (FAAFGTC) consisted of 307.018 acres within Fresno, CA located in Fresno County. Munitions and Explosives of Concern (MEC) related features of FAAFGTC included storage of small arms ammunition and training with hand grenades and small arms weapons. No live fire range facilities were found within the boundaries of the site. Most of the ordnance activities associated with the site most likely occurred at one or more off site locations. Chemical warfare material (CWM) activities included gas mask drills, gas chamber exercises, training exercises and demonstrations in the open fields on the southeast portion of the base. The facilities included designated training areas and two identified gas chambers.

4. **SITE HISTORY:**

a. The War Department originally acquired the nucleus of the property for a temporary Japanese interment camp, which operated between May and October 1942. The Army Air Forces Technical Training Command established Basic Training Center No. 8, Fresno, California on 29 October 1942. As the name implies, the mission was for initial training of enlisted inductees. During the summer of 1943, elements of the Air Service Command trained troops in more specialized disciplines such as signal, camouflage and chemical warfare. This training continued through the end of 1944. On 15 February 1945, the installation was transferred to the Air Technical Service Command, and by 30 March 1945, it was placed on standby status. It remained essentially idle and on 13 February 1946 the War Department placed it in the surplus category and it was subsequently disposed of.

b. The MEC activities at Fresno Army Air Forces Ground Training Center included storage of small arms weapons and ammunition and training with hand grenades and small arms weapons. However, no evidence was located to indicate that there were any live fire range facilities within the specific boundaries of the site. Instead, trainees used facilities at non-contiguous sub-posts or at separate nearby installations of which are separate FUDS. The installation kept a number of small arms including pistols, submachine guns, carbines and rifles for instructional use. The installation did have a "Rifle Instruction" area, to the east of the drill field and parade ground by February

1943. At roughly 150 by 300 feet it would have only allowed weapons handling familiarization and dry fire exercises and was certainly not a range. After the acquisition of additional property to the southeast, an isolated fenced storage area was constructed with at least six structures T-1371 through T-1377 (there is no T-1376 shown). The available building list identifies structure T-1375 as a Small Arms Ammunition Storage. Presumably the other structures within the fenced area were also for ammunition, weapon or possibly CWM storage, though this was not confirmed.

c. Chemical warfare training at Fresno Army Air Forces Ground Training Center included gas mask drills; gas chamber exercises, training exercises and demonstrations in the open fields on the southeast portion of the base. The facilities included designated CWM training areas that expand and move over time with two identified gas chambers. Other facilities, such as storage buildings, are implied but not explicitly delineated on recovered documentation. Numerous pieces of documentation in the ASR indicate there was chemical warfare training, but there was no conclusive evidence CAIS were used.

5. PROJECT DESCRIPTION:

Size:	307.018 acres
Former Use:	Army Air Force Training Center
Present Use:	Housing
Possible End Use:	Same
MEC Presence:	
Confirmed:	None
Potential:	Grenades, Small Arms
ASR Recommends:	RAC 1
HNC Safety:	RAC 2 (5)

6. CURRENT STATUS:

The U.S. Army Corps of Engineers, St. Louis District, completed the Archives Search Report for Fresno Army Air Forces Ground Training Center in September 1992.

7. STRATEGY: NDAI

8. **ISSUES AND CONCERNS:**

a. The archive search uncovered evidence that Fresno Army Air Forces Ground Training Center stored conventional ordnance on site. The types of ordnance and explosives (OE) associated with the site-included grenades and small arms apparently at off site location(s). None of the reviewed information indicated any other ordnance related operations at FAAFGTC.

b. The ASR team did not find an indication of a current ordnance and explosive hazard at FAAFGTC. Research discovered no historical records indicating ordnance disposal on site. Interviews did not disclose any incidents of ordnance or explosive hazards found in the past. Aerial photography analysis did not locate any distinct signs of on-site burial.

c. The archive search did not uncover any clear evidence that FAAFGTC used CWM for training, storage, or disposal. CW training facilities consisted of two gas chambers, which would have used only tear gas. The ASR included pictures of personnel decontaminating equipment presumably from FAAFGTC. No details concerning the use of the decontamination area were found, though decontamination field exercises of the time frequently included active agent, typically mustard, being applied to a surface prior to the application of the decontaminating agent. The source of the mustard frequently was Chemical Agent Identification Sets (CAIS) toxic gas sets. Research to date has not determined if simulated or actual agent was used on site to practice decontamination and no evidence of mustard gas or CAIS (e.g. sniff sets, detonation sets or toxic gas sets) was found relating to either decontamination or FAAFGTC in general.

d. The use CAIS at this site remains undocumented. If they existed the possibility of subsurface on site disposal at FAAFGTC is conceivable. However, the archive search found no information indicating this occurred. Additionally, Camp Hammer was four miles away, and any CAIS would have presumably been moved there. Therefore, no identifiable remediation project exists at FAAFGTC concerning CWM. The ASR concludes No DOD Action Indicated (NDAI) for this portion of the project.

e. The Huntsville Center Technical Advisory Group met and evaluated this ASR on 17 August 2004. The consensus was RAC 5.

9. SCHEDULE SUMMARY:

<u>Phase</u>	<u>Orig. Start</u>	<u>Sch. Start</u>	<u>Actual Start</u>	<u>Orig. Comp.</u>	<u>Sch. Comp.</u>	<u>Actual Comp.</u>
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10. FUNDING/BUDGET SUMMARY:

<u>Year</u>	<u>Phase</u>	<u>EXEC FOA</u>	<u>IN House Required</u>	<u>Contract Required</u>	<u>Funds Obligated</u>
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**RISK ASSESSMENT PROCEDURES FOR
MILITARY MUNITIONS RESPONSE PROJECTS
(Revised 29 October 2003)**

Property Name:	<u>Fresno AAF Ground Trng Center</u>	Rater's Name:	<u>Ron Thornhill</u>
Property Location:	<u>Fresno County, CA</u>	Phone Number:	<u>918-420-8395</u>
DERP Project #:	<u>J09CA728001</u>	Organization:	<u>SJMAC-ESM</u>
Property Type:	<u>Basic Training Center</u>	Date Completed:	<u>01 June 2004</u>
Score:	<u>5</u>		

RISK ASSESSMENT:

This risk assessment (RAC) procedure was developed to address explosives safety hazards related to munitions. This procedure does not address environmental hazards associated with munitions constituents. The U.S. Army Engineering and Support Center, Huntsville (USAESCH), Ordnance and Explosives Directorate (CEHNC-OE) developed this procedure in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army Corps of Engineers to prioritize the response action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based on the best available information resulting from record searches, reports of Explosive Ordnance Disposal (EOD) actions, field observations (site visits), and interviews. This information is used to assess the risk involved based on the potential MMR hazards identified for the project. The risk assessment evaluates two factors, hazard severity and hazard probability.

Part I - Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

TYPE OF ORDNANCE: (Check all that apply)

A. Conventional ordnance and ammunition:

- | | VALUE |
|---|---------------------------------------|
| Projectiles, explosive (20 millimeter and larger) | 10 <input type="checkbox"/> |
| Bombs, explosive | 10 <input type="checkbox"/> |
| Grenades, hand or rifle, explosive | 10 <input type="checkbox"/> |
| Landmine, explosive | 10 <input type="checkbox"/> |
| Rockets, guided missile, explosive | 10 <input type="checkbox"/> |
| Other Explosive item not previously stated | 10 <input type="checkbox"/> |
| Bomb, practice (w/spotting charge) | 6 <input type="checkbox"/> |
| Detonators, blasting caps, fuses, boosters, bursters | 6 <input type="checkbox"/> |
| Practice ordnance (w/ spotting charges, other than bombs) | 4 <input type="checkbox"/> |
| Small arms, complete round (.50 cal or less) | 1 <input type="checkbox"/> |
| Small arms, expended (.50 cal or less) | 0 <input type="checkbox"/> |
| Practice ordnance (w/o spotting charges) | 0 <input checked="" type="checkbox"/> |

Conventional ordnance and ammunition (enter largest single value checked)

0

What evidence do you have regarding conventional unexploded ordnance? None.

Property Name:
Project Number:
Property Type:

B. Pyrotechnics (for munitions not described above):

	VALUE
Munitions containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable)	10 <input type="checkbox"/>
Munitions containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries)	10 <input type="checkbox"/>
Containers containing WP or other pyrophoric material or flame or incendiary material	6 <input type="checkbox"/>
Flares, signals, simulators, screening/burning smokes (other than WP)	4 <input type="checkbox"/>
Pyrotechnics (enter the single largest value checked)	0

What evidence do you have regarding pyrotechnics? None

C. Bulk Explosives (HE) (not an integral part of conventional ordnance; un-containerized):

	VALUE
Primary or initiating explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10 <input type="checkbox"/>
Secondary explosives (Demolition charges, PETN, Compositions A, B, C, Teteryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8 <input type="checkbox"/>
Insensitive explosive substances (explosive contaminated soils, ammonium nitrate)	3 <input type="checkbox"/>
Bulk Explosives (HE) (enter the single largest value checked)	0

What evidence do you have regarding bulk explosives? None

Property Name:
Project Number:
Property Type:

D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized)

	VALUE
Solid or liquid propellants	6 <input type="checkbox"/>
Bulk Propellants (select 6 or 0)	0

What evidence do you have regarding bulk propellants? None

E. Recovered Chemical Warfare Materiel (RCWM), Weaponized Industrial Chemicals and Radiological Materiel:

	VALUE
Toxic chemical agents (H-Mustard, G-Nerve, V-Nerve and L-Lewisite)	25 <input type="checkbox"/>
Chemical Agent Identification Sets	20 <input type="checkbox"/>
Radiological Materiel (If rad waste is identified please call the HTRW-CX at 402-697-2555)	15 <input type="checkbox"/>
Weaponized Industrial Chemicals (Hydrogen Cyanide AC; Cyanogen Chloride, CK; Phosgene, CG)	10 <input type="checkbox"/>
Riot Control Agents (vomiting, tear)	5 <input type="checkbox"/>
Chemical and Radiological (enter the single largest value checked)	0

What evidence do you have regarding chemical or radiological? None

TOTAL HAZARD SEVERITY VALUE (Sum of value A through E, maximum of 61)	0
Apply this value to Table 1 to determine Hazard Severity Category	

Property Name:
Project Number:
Property Type:

**TABLE 1
HAZARD SEVERITY***

<u>DESCRIPTION</u>	<u>CATEGORY</u>	<u>HAZARD SEVERITY VALUE</u>
CATASTROPHIC	I <input type="checkbox"/>	21 and/or greater
CRITICAL	II <input type="checkbox"/>	10 to 20
MARGINAL	III <input type="checkbox"/>	5 to 9
NEGLIGIBLE	IV <input type="checkbox"/>	1 to 4
**NONE	V <input checked="" type="checkbox"/>	0

*Apply Hazard Severity Category to Table 3 and complete Part II of this form.

**If hazard severity value is 0, complete Part II of this form. Then proceed to Part III and use a RAC score of 5 to determine your appropriate action.

PART II - Hazard Probability. The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance, explosives, incendiary, pyrotechnic, radiological, or RCWM materials on a formerly used Department of Defense (DOD) site.

AREA, EXTENT, ACCESSIBILITY OF OE HAZARD (Check all that apply)

A. Locations of OE hazards:

	VALUE
On the surface	5 <input type="checkbox"/>
Within tanks, pipes, vessels, or other confined areas	4 <input type="checkbox"/>
Inside walls, ceilings, or other building/structure	3 <input type="checkbox"/>
Subsurface	2 <input checked="" type="checkbox"/>
Location (enter the single largest value checked)	2

What evidence do you have regarding the location of OE? Conceivable burial of MEC remain the only hazard. No direct evidence was found to support this scenario.

Property Name:
Project Number:
Property Type:

B. Distance to nearest inhabited location/structure likely to be at risk from OE hazard (road, park, playground, building, etc.).

VALUE

- | | |
|------------------------|---------------------------------------|
| Less than 1,250 feet | 5 <input checked="" type="checkbox"/> |
| 1,250 feet to 0.5 mile | 4 <input type="checkbox"/> |
| 0.5 mile to 1.0 mile | 3 <input type="checkbox"/> |
| 1.0 mile to 2.0 Miles | 2 <input type="checkbox"/> |
| Over 2 miles | 1 <input type="checkbox"/> |

Distance (enter the single largest value checked)

5

What are the nearest inhabited structures/buildings? The fenced ordnance storage and field exercise areas were developed for residential housing.

C. Number(s) of building(s) within a 2-mile radius measured from the OE hazard area, not the installation boundary.

VALUE

- | | |
|-------------|---------------------------------------|
| 26 and over | 5 <input checked="" type="checkbox"/> |
| 16 to 25 | 4 <input type="checkbox"/> |
| 11 to 16 | 3 <input type="checkbox"/> |
| 6 to 10 | 2 <input type="checkbox"/> |
| 1 to 5 | 1 <input type="checkbox"/> |
| 0 | 0 <input type="checkbox"/> |

Number of buildings (enter the single largest value checked)

5

Narrative: There are over a hundred buildings with 2 miles of this area.

Property Name:
Project Number:
Property Type:

D. Types of Buildings (within 2-mile radius)

	VALUE
Educational, childcare, residential, hospitals, hotels, commercial, shopping centers	5 <input checked="" type="checkbox"/>
Industrial, warehouse, etc.	4 <input type="checkbox"/>
Agricultural, forestry, etc.	3 <input type="checkbox"/>
Detention, correctional	2 <input type="checkbox"/>
No buildings	0 <input type="checkbox"/>
Types of buildings (enter the single largest value checked)	5

Describe the types of buildings: Private residences, shopping centers and the Fresno Fair Grounds are located within two miles of the former areas of interest.

E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:

	VALUE
No barrier nor security system	5 <input checked="" type="checkbox"/>
Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing	4 <input type="checkbox"/>
A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3 <input type="checkbox"/>
Security Guard, but no barrier	2 <input type="checkbox"/>
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area).	0 <input type="checkbox"/>
Accessibility (enter the single largest value checked)	5

Describe the site accessibility: This site has no barriers to the public.

Property Name:
Project Number:
Property Type:

F. **Site Dynamics.** This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

	VALUE
Expected	5 <input checked="" type="checkbox"/>
Not anticipated	0 <input type="checkbox"/>
Site Dynamics (enter the single largest value checked)	<u>5</u>

Describe the site dynamics: The site has been developed into private residential property and significant redevelopment is not likely. However, there is nothing to prevent property owners from adding landscaping or additional facilities to their homes.

TOTAL HAZARD PROBABILITY VALUE 27
 (Sum of largest values for A through F (maximum of 30). Apply this value to Hazard Probability Table 2 to determine the Hazard Probability Level.

**TABLE 2
HAZARD PROBABILITY***

<u>DESCRIPTION VALUE</u>	<u>LEVEL</u>	<u>HAZARD PROBABILITY</u>
FREQUENT	A <input checked="" type="checkbox"/>	27 or greater
PROBABLE	B <input type="checkbox"/>	21 to 26
OCCASIONAL	C <input type="checkbox"/>	15 to 20
REMOTE	D <input type="checkbox"/>	8 to 14
IMPROBABLE	E <input type="checkbox"/>	less than 8

*Apply Hazard Probability Level to Table 3.

Property Name:
 Project Number:
 Property Type:

Part III - Risk Assessment. The risk assessment value for this site is determined using the following Table. Enter the results of the Hazard Probability and Hazard Severity values.

TABLE 3

PROBABILITY LEVEL	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
SEVERITY CATEGORY:					
CATASTROPHIC I	1 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
CRITICAL II	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
MARGINAL III	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
NEGLIGIBLE IV	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>

None (V) = RAC 5

RISK ASSESSMENT CODE (RAC)

RAC 1-4 Recommend and approve further action as appropriate. Refer to EP 1110-1-18 for discussion of MMR projects and the process to be followed for project execution.

RAC 5 Usually indicates that No DOD Action Indicated (NDAI) is necessary. Recommend and approve NDAI and follow instructions for project closeout in accordance with current program guidance.

PART IV - Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

Visual evidence indicated there are no areas of confirmed MEC presence at this site. Documented evidence indicated the storage of small arms and grenade ammunition on site. Use of MEC appears to have been conducted at off site locations. There is no documented evidence of CAIS being on site at this location.

Property Name:
Project Number:
Property Type:

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- I PRESENT SITE PHOTOGRAPHS
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REPORT PLATES

- 1 **Fresno Army Air Forces Ground Training Center - Vicinity Map**
- 2 **Fresno Army Air Forces Ground Training Center - 1946 Aerial Photography**

1 INTRODUCTION

1.1 AUTHORITY

In 1986, Congress established the Defense Environmental Restoration Program (DERP) at 10 United State Code (USC) 2701 et seq. This program directed the Secretary of Defense to “carry out a program of environmental restoration at facilities under the jurisdiction of the Secretary.”

In March 1990, the Environmental Protection Agency (EPA) issued a revised National Contingency Plan (NCP). Under 40 Code of Federal Regulations (CFR) 300.120, EPA designated the Department of Defense (DoD) to be the removal response authority for incidents involving DoD military weapons and munitions under the jurisdiction, custody and control of DoD.

Since the beginning of this program, the U.S. Army Corps of Engineers acts as the agency responsible for environmental restoration at Formerly Used Defense Sites (FUDS). Beginning in 1990, the U.S. Army Engineering and Support Center, Huntsville (USAESCH) serves as the Center of Expertise (CX) and Design Center for Ordnance and Explosives. In cooperation with the USAESCH, the U.S. Army Corps of Engineers, St. Louis District, prepares Archives Search Reports (ASR) in support of environmental restoration at active DoD installations, Formerly Used Defense Sites (FUDS) and installation transitions under Base Realignment and Closure (BRAC) recommendations.

1.2 SUBJECT

Fresno Army Air Forces Ground Training Center consisted of 307.018 acres within Fresno, CA located in Fresno County. The War Department originally acquired the nucleus of the property for a temporary Japanese interment camp, which operated between May and October 1942. After the last detainee was transferred, the Army Air Forces Technical Training Command established **Basic Training Center No. 8, Fresno, California** on 29 October 1942. As the name implies, the mission was for initial training of enlisted inductees. During the summer of 1943, elements of the Air Service Command trained troops in more specialized disciplines such as signal, camouflage and chemical warfare. This training continued through the end of 1944, throughout which the installation acquired a number of variations on its name including:

- **Army Air Forces Fresno Basic Training Center (BTC)**
- **Air Service Command (ASC) Training Center**
- **Fresno Basic Training Center**
- **Air Technical Service Command (ATSC) Training Center**
- **Fresno AAF [Army Air Forces] Ground Training Center**

On 15 February 1945, the installation was transferred to the Air Technical Service Command, and by 30 March 1945, it was placed on standby status. It remained essentially idle and on 13 February 1946 the War Department placed it in the surplus category and it was subsequently disposed of. This FUDS was directly and cursorily associated with other FUDS in the Fresno area including:

- J09CA0772 Camp Pinedale
- J09CA0823 Hammer Field
- J09CA0876 Mount Campbell Rifle Range
- J09CA0877 Mount Owen Rifle Range
- ASC Training Center Bivouac Camp
- ASC Training Center Dump Ground
- Basic Training Center No. 8 Temporary Rifle Range

Ordnance and explosive (OE) related features of the former camp included storage of small arms weapons and ammunition and training with hand grenades and small arms weapons. No live fire range facilities were found within the boundaries of the site. Most of the ordnance activities associated with BTC most likely occurred at one or more of the above locations. The chemical warfare material (CWM) activities included gas mask drills, gas chamber exercises, training exercises with Chemical Agent Identification Sets and demonstrations in the open fields on the southeast portion of the base. The facilities included designated training areas and two identified gas chambers. Plate 1 in the report plates section shows the general location of the site.

1.3 PURPOSE

The ASR compiles information obtained through historical research at various archives and records holding facilities, interviews with persons associated with Fresno Army Air Forces Ground Training Center and an inspection of the site. The search directs efforts towards determining possible use or disposal of OE and CWM on the former military establishment. The research places particular emphasis on establishing the types, quantities and areas of use and disposal. This process obtains information for use in developing recommendations for further action at the former Fresno Army Air Forces Ground Training Center.

1.4 SCOPE

This investigation focuses on potential OE and/or CWM contamination remaining on the former Fresno Army Air Forces Ground Training Center. The DERP-FUDS project number is J09CA728001. This report presents the following:

- A brief history of Fresno Army Air Forces Ground Training Center
- Description and characteristics of the immediate surrounding area

- A review of related site investigations
- An aerial photography and map analysis of the site
- Real estate information, past and present
- Findings of the site inspection
- Description of the OE and/or CWM identified with the site

These factors represent the basis for the evaluation of potential OE and CWM contamination and associated risks at Fresno Army Air Forces Ground Training Center.

2 PREVIOUS SITE INVESTIGATIONS

2.1 CORPS OF ENGINEERS DOCUMENTS

The Sacramento District of the Corps of Engineers prepared the following investigations in support of the DERP for FUDS:

Inventory Project Report Site Survey Summary Sheet for DERP-FUDS No. J09CA7280 Fresno Fairgrounds (Basic Training Center No. 8), Fresno, CA, amended 01 March 1999.¹

The Inventory Project Report (INPR) assigned a Risk Assessment Code (RAC) of 5 for the OE/CWM portion of this site. An interviewee (Tony Lushbough, fairground maintenance worker) recalled hearsay accounts of former fairground maintenance workers discovering Unexploded Ordnance (UXO) in the 1950s but questioned the story's validity.

In addition to the OE potential, this report identified a containerized hazardous, toxic and radioactive waste (CON/HTRW) project and a hazardous, toxic and radioactive waste (HTRW) project at Fresno Army Air Forces Ground Training Center. The CON/HTRW project involves any underground storage tanks (UST) that may potentially remain. The HTRW project concerns potential contaminants remaining in a building used in the motor pool. The Sacramento of the Corps of Engineers investigates and manages these additional environmental concerns at the former Fresno Army Air Forces Ground Training Center.

2.2 OTHER REPORTS

The archive search did not review any additional environmental investigations or reports concerning Fresno Army Air Forces Ground Training Center.

3 SITE DESCRIPTION

3.1 LAND USE

3.1.1 Location

Fresno Army Air Forces Ground Training Center consisted of 307.018 acres in Fresno County California (see Plate 1). This site lies within Fresno, CA.

3.1.2 Prior Site Use

Prior to the Army Air Forces operation of Fresno Army Air Forces Ground Training Center, the predominate land use was for agriculture, small amounts of private residences, and as a county fairgrounds.

3.1.3 Present Site Use

The former Fresno Army Air Forces Ground Training Center has been redeveloped for residential housing and light industrial and commercial use. The county fairgrounds remain.

3.2 CLIMATIC DATA

Climatological data for the former Fresno Army Air Forces Ground Training Center came from the National Weather Service (NWS) station located at Fresno International Airport approximately 4 miles northwest of the site provided temperature and precipitation (*see Table 3.2.1*).

Fresno is located within the San Joaquin Valley, about midway in the north-south direction and toward the eastern edge. The San Joaquin Valley is oriented northwest to southeast, has a length of about 225 miles and has an average width of 50 miles. The valley is generally flat. About 15 miles east of Fresno, the terrain slopes upward with the foothills of the Sierra Nevada Mountains. The Sierra Nevada attains an elevation of more than 14,000 feet 50 miles east of Fresno. Forty-five miles west of the city lie the foothills of the Coastal Range.

The climate of Fresno is dry and mild during the winter and hot during the summer. Nearly 90 percent of the annual precipitation falls in the six months from November to April.

As the result of clear skies during the summer and the protection of the San Joaquin Valley from marine effects, the normal daily maximum temperature reaches the high 90s during the latter part of July. The daily maximum temperature on record is 112° Fahrenheit (F) (July 1991). Low relative humidities and some wind movement

substantially lower the sensible temperature during periods of high readings. Humidity readings of 15 percent are common on summer afternoons, and readings as low as eight percent have been recorded. In contrast, humidity readings average 90 percent during the morning hours of both December and January.

Winds flow with the major axis of the San Joaquin Valley, generally from the northwest. This feature is especially beneficial during the warmest months since the northwest winds increase during the evenings. These refreshing breezes along with the normally large temperature variation of about 35° F between the highest and lowest readings of the day, generally result in comfortable evening and night temperatures. Wind gusts have reached a maximum of 48 knots from the southeast (January 1987).

Winter temperatures are usually mild, with infrequent cold spells dropping the readings below freezing. The minimum temperature on record is 18° F (December 1990). Heavy frost occurs almost every year, and the first frost usually occurs during the last week of November. The last frost during the spring is usually in early March. However, one year in five will have the last frost after the first of April. The growing season lasts 291 days. The heaviest 24-hour rainfall recorded at Fresno is 2.38 inches (March 1995) and snow is a rare occurrence in Fresno.

Fresno enjoys a very high percentage of sunshine, receiving more than 80 percent of the possible amounts during all but the four months of November through February. Reduction of sunshine during these months is caused by fog and by short periods of stormy weather. During foggy periods, at times lasting nearly two weeks, sunshine is reduced to a minimum. This fog frequently lifts to a few hundred feet above the surface of the valley and presents the appearance of a heavy, solid cloud layer.

Spring and autumn are very enjoyable seasons in Fresno with clear skies, light rainfall and winds, and mild temperatures.²

Month	Temperature		Precipitation Average (Inches)	Wind	
	Average Minimum (°F)	Average Maximum (°F)		Average Speed (Knots)	Average Direction
January	37	54	2.1	6	SE
February	40	62	1.8	7	NW
March	43	67	2.0	8	NW
April	48	75	1.0	8	NW
May	54	83	0.3	9	NW
June	60	91	0.1	8	NW
July	65	98	T	8	WNW
August	63	96	T	7	WNW

Table 3.2.1 - Climatological Data For Fresno, CA					
Month	Temperature		Precipitation Average (Inches)	Wind	
	Average Minimum (°F)	Average Maximum (°F)		Average Speed (Knots)	Average Direction
September	59	90	1.2	7	WNW
October	51	80	2.2	7	NW
November	42	65	3.5	7	NW
December	37	54	6.7	6	ESE
Average	50	76	21.6	7	NW

T-Trace Amounts

3.3 GEOLOGY AND SOILS

3.3.1 Geology and Physiology

The former Fresno Army Air Forces Ground Training Center lies within the San Joaquin Subregion of the Valley of California Section of the Pacific Border Province. The Valley of California is a major northwest trending, southerly tilting, structural trough, asymmetrical in form with a steep western flank and a more gently inclined eastern flank. The northern third is known as the Sacramento Valley, the southern two-thirds is the San Joaquin Valley. Roughly six miles of sediments have filled the San Joaquin Valley and range in age from Jurassic to Holocene and include marine and continental rocks and deposits. This trough has probably existed since the Jurassic, when the Sierra Nevada and Klamath Mountains were uplifted. During the Cretaceous and through much of the Cenozoic, this trough extended westward over the site of the present Coast Ranges and may have received sediment from the Sierra Nevada on the east. The trough existed in this form until the late Pliocene, when development of the Coast Ranges cut off the sea.

The most recent deposits are of Holocene to Oligocene age. River deposits (Holocene) of gravel, sand, silts and minor amounts of clay deposited along channels and floodplains may include parts of the Modesto Formation of Pleistocene age; Continental deposits (Oligocene to Holocene) are a heterogeneous mix of gravels, sand, silts and clay with some cobbles, boulders and some conglomerates.

The recent deposits are unconformable underlain by pre-Tertiary-age granitic and metamorphic rocks, which include mafic intrusives, metasedimentaries and metavolcanics.³

3.3.2 Soil

The surface soils of the former Fresno Army Air Forces Ground Training Center consist of deep, well drained, and moderately coarse textured soils with a moderately permeable subsoil and were formed in young granitic alluvium.

Typically, the surface layer of 16 inches is a pale-brown and brown silty sandy clay with a low organic content. The subsoil is a brown silty sandy organic clay and contains slightly more clay than the surface layer. This subsoil extends to a depth of about 50 inches. Below this subsoil is a brown coarse sandy silty organic clay with less clay than the previous layer.

This soil is well drained. Runoff is slow, and most surface water drains away through the soil. The available water holding capacity is moderate to high and the hazard of erosion is slight to none. The reaction of this soil is neutral to slightly acid and the risk of corrosion to uncoated steel is low. It also has a low shrink-swell potential.⁴

3.4 HYDROLOGY

3.4.1 Surface Water

All runoff from this site flows from the northeast to the southwest and drains into urban storm sewers. There is a canal called Braley Canal (flowing westward) at the southern portion of this site, into which this runoff may drain. Flooding of this area would occur as a result of torrential rains (causing flash flooding). No United States Geological Survey stream gaging stations exist near this site.⁵

3.4.2 Ground Water

Post-Eocene continental deposits constitute the primary groundwater reservoir in the San Joaquin Valley where the former Fresno Army Air Forces Ground Training Center was located. The thickness of these deposits averages about 2,400 feet and increases from north to south. Natural ground water flow has been greatly altered by groundwater development and pumpage and is generally towards large withdrawal areas although there is still a large component of flow towards the Delta area. Recharge is from streams entering the valley from the Sierra Nevada's but has been increased from irrigation returns. The average hydraulic conductivity is 2.116×10^{-3} cm/sec.⁶

3.5 ECOLOGY

The information provided for this site has been compiled from the California Department of Fish and Game. The U.S. Fish and Wildlife Service did not send information in a timely enough fashion to be incorporated into this report.

The California Department of Game and Fish have indicated that the following Federally listed, proposed, candidate and species of concern, and state listed threatened, endangered or rare species may occur near or within Fresno County, CA but not necessarily the FUDS. This listing of species reflects status for the entire county of Fresno:

Scientific Name	Common Name	Group	Fed. Status	St. Status
<i>Ambystoma californiense</i>	California tiger salamander	Amphibian	E	CSC
<i>Hydromantes platycephalus</i>	Mount Lyell salamander	Amphibian		CSC
<i>Bufo canorus</i>	Yosemite toad	Amphibian		CSC
<i>Scaphiopus hammondiis</i>	Western spadefoot	Amphibian		CSC
<i>Rana aurora draytonii</i>	California red-legged frog	Amphibian	T	CSC
<i>Rana boylei</i>	Foothill yellow-legged frog	Amphibian		CSC
<i>Rana muscosar</i>	Mountain yellow-legged frog	Amphibian	PE	CSC
<i>Plegadis chihi</i>	White-faced ibis	Bird		CSC
<i>Haliaeetus leucocephalus</i>	Bald eagle	Bird	T	CAE
<i>Accipiter cooperii</i>	Cooper's hawk	Bird		
<i>Accipiter gentiles</i>	Northern goshawk	Bird		CSC
<i>Buteo swainsoni</i>	Swainson's hawk	Bird		CAT
<i>Aquila chrysaetos</i>	Golden eagle	Bird		CSC
<i>Falco mexicanus</i>	Prairie falcon	Bird		CSC
<i>Charadrius montanus</i>	Mountain plover	Bird	PE	CSC
<i>Coccyzus Americanus Occidentalis</i>	Western yellow-billed cuckoo	Bird		CAE
<i>Athene cunicularia</i>	Burrowing owl	Bird		CSC
<i>Strix nebulosa</i>	Great gray owl	Bird		CAE
<i>Empidonax traillii</i>	Willow flycatcher	Bird		CAE
<i>Eremophila alpestris actia</i>	California horned lark	Bird		CSC
<i>Riparia riparia</i>	Bank swallow	Bird		CAT
<i>Toxostoma lecontei</i>	Le Conte's thrasher	Bird		CSC
<i>Agelaius tricolor</i>	Tricolored blackbird	Bird		CSC
<i>Dendroica petechia brewsteri</i>	Yellow warbler	Bird		CSC
<i>Euderma maculatum</i>	Spotted bat	Mammal		CSC
<i>Eumops perotis californicus</i>	California mastiff bat	Mammal		CSC
<i>Ammospermophilus nelsoni</i>	San Joaquin antelope squirrel	Mammal		CAT
<i>Dipodomys ingens</i>	Giant kangaroo rat	Mammal	E	CAE
<i>Dipodomys nitratoides brevinasus</i>	Short-nosed kangaroo rat	Mammal		CSC
<i>Onychomys torridus tularensis</i>	Tulare grasshopper mouse	Mammal		CSC
<i>Vulpes vulpes necator</i>	Sierra Nevada red fox	Mammal		CAT
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	Mammal	E	CAT
<i>Martes Americana</i>	Pine marten	Mammal		CSC
<i>Martes pennanti pacifica</i>	Pacific fisher	Mammal		CSC
<i>Clemmys marmorata</i>	Western pond turtle	Reptile		CSC
<i>Anniella pulchra pulchra</i>	Silvery legless lizard	Reptile		CSC
<i>Gambelia sila</i>	Blunt-nosed leopard lizard	Reptile	E	CAE
<i>Phrynosoma coronatum frontale</i>	California horned lizard	Reptile		CSC
<i>Thamnophis gigas</i>	Giant garter snake	Reptile	T	CAT
<i>Thamnophis hammondi</i>	Two-striped garter snake	Reptile		CSC

Scientific Name	Common Name	Group	Fed. Status	St. Status
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	Crustacean	T	
<i>Lepidurus packardi</i>	Vernal pool tadpole shrimp	Crustacean	E	
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	Insect	T	
<i>Pseudobahia bahiifolia</i>	Hartweg's golden sunburst	Plant	E	CAE
<i>Pseudobahia peirsonii</i>	San Joaquin adobe sunburst	Plant	T	CAE
<i>Monolopia congdonii</i>	San Joaquin woollythreads	Plant	E	
<i>Caulanthus californicus</i>	California jewel-flower	Plant	E	CAE
<i>Carpenteria californica</i>	Tree-anemone	Plant		CAT
<i>Sidalcea keckii</i>	Keck's checkerbloom	Plant	E	
<i>Camissonia benitensis</i>	San Benito evening-primrose	Plant	T	
<i>Calyptridium pulchellum</i>	Mariposa pussypaws	Plant	T	
<i>Castilleja campestris ssp succulenta</i>	Succulent owl's-clover	Plant	T	CAE
<i>Cordylanthus palmatus</i>	Palmate-bracted bird's-beak	Plant	E	CAE
<i>Gratiola heterosepala</i>	Boggs lake hedge-hyssop	Plant		CAE
<i>Lewisia congdonii</i>	Congdon's lewisia	Plant		CAR
<i>Orcuttia inaequalis</i>	San Joaquin valley orcutt	Plant	T	CAE
<i>Tuctoria greenei</i>	Greene's tuctoria	Plant	E	CAR
<i>Botrychium lineare</i>	Slender moonwort	Plant	C	

Key to Listings

- | | |
|--|--|
| <i>E -- Endangered</i> | <i>D -- Delisted</i> |
| <i>T -- Threatened</i> | <i>CH -- Critical Habitat</i> |
| <i>PE -- Proposed Endangered</i> | <i>CAE -- State Listed Endangered</i> |
| <i>PT -- Proposed Threatened</i> | <i>CAT -- State Listed Threatened</i> |
| <i>C -- Candidate Taxon, Ready for Proposal</i> | <i>CAR -- State Rare Species</i> |
| <i>SC -- Other species of concern to the Service</i> | <i>CSC -- State Fish and Game Species of concern</i> |
| <i>SCx -- Other species of concern to the Service, possibly extirpated from the area</i> | |

Federally endangered and threatened species are protected by Federal law and must be considered prior to project development. If the action agency determines that listed species or critical habitat may be adversely affected by a federally funded, permitted, or authorized activity, the action agency must request formal consultation with the Service. Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, the Service recommends that they be considered in the planning process in the event that they become listed or proposed for listing prior to project completion.⁷

3.6 DEMOGRAPHICS

People QuickFacts	Fresno County	California
Population, 2001 estimate	815,734	34,501,130
Population percent change, April 1, 2000-July 1, 2001	2.0%	1.9%
Population, 2000	799,407	33,871,648
Population, percent change, 1990 to 2000	19.8%	13.6%
Persons under 5 years old, percent, 2000	8.5%	7.3%
Persons under 18 years old, percent, 2000	32.1%	27.3%
Persons 65 years old and over, percent, 2000	9.9%	10.6%
White persons, percent, 2000 (a)	54.3%	59.5%
Black or African American persons, percent, 2000 (a)	5.3%	6.7%
American Indian and Alaska Native persons, percent, 2000 (a)	1.6%	1.0%
Asian persons, percent, 2000 (a)	8.1%	10.9%
Native Hawaiian and Other Pacific Islander, percent, 2000 (a)	0.1%	0.3%
Persons reporting some other race, percent, 2000 (a)	25.9%	16.8%
Persons reporting two or more races, percent, 2000	4.7%	4.7%
Female persons, percent, 2000	49.9%	50.2%
Persons of Hispanic or Latino origin, percent, 2000 (b)	44.0%	32.4%
White persons, not of Hispanic/Latino origin, percent, 2000	39.7%	46.7%
High school graduates, persons 25 years and over, 1990	255,484	14,244,971
College graduates, persons 25 years and over, 1990	65,308	4,366,674
Housing units, 2000	270,767	12,214,549
Homeownership rate, 2000	56.5%	56.9%
Households, 2000	252,940	11,502,870
Persons per household, 2000	3.09	2.87
Households with persons under 18, percent, 2000	45.8%	39.7%
Median household money income, 1997 model-based estimate	\$31,587	\$39,595
Persons below poverty, percent, 1997 model-based estimate	25.6%	16.0%
Children below poverty, percent, 1997 model-based estimate	38.0%	24.6%

Business QuickFacts	Fresno County	California
Private nonfarm establishments, 1999	15,138	784,935
Private nonfarm employment, 1999	207,810	12,356,363
Private nonfarm employment, percent change 1990-1999	10.1%	9.2%
Nonemployer establishments, 1999	30,770	2,050,809
Manufacturers shipments, 1997 (\$1000)	5,667,592	379,612,443
Retail sales, 1997 (\$1000)	5,574,643	263,118,346
Retail sales per capita, 1997	\$7,427	\$8,167
Minority-owned firms, percent of total, 1997	31.6%	28.8%
Women-owned firms, percent of total, 1997	25.6%	27.3%
Housing units authorized by building permits, 2000	3,156	145,575
Federal funds and grants, 2001 (\$1000)	3,652,104	188,516,866
Local government employment - full-time equivalent, 1997	33,793	1,194,169

Geography QuickFacts	Fresno County	California
Land area, 2000 (square miles)	5,963	155,959
Persons per square mile, 2000	134.1	217.2
Metropolitan Area	Fresno, CA MSA	

- (a) Includes persons reporting only one race.
- (b) Hispanics may be of any race, so also are included in applicable race categories.
- FN: Footnote on this item for this area in place of data
- NA: Not available
- D: Suppressed to avoid disclosure of confidential information
- X: Not applicable
- S: Suppressed; does not meet publication standards
- Z: Value greater than zero but less than half unit of measure shown
- F: Fewer than 100 firms ⁸

4 SITE HISTORY

4.1 HISTORICAL SITE SUMMARY

4.1.1 General Site History

The **Fresno Army Air Forces Ground Training Center (FAAFGTC)** originated as a converted Japanese interment camp. On 19 February 1942, Franklin D. Roosevelt signed Executive Order No. 9066 providing the legal authority permitting the interment of Japanese Americans on the West Coast. Two week earlier, the Corps of Engineers acquired a lease interest for the Fresno County Fairgrounds, finalizing it on the same date of Executive Order, along with leases for an adjacent parcel, totaling approximately 110 acres. Construction of the camp did not begin until after the War Department issued the Japanese Evacuation Operation memorandum on 23 April. The first ethnic Japanese arrived at the **Fresno Reception Center** or **Fresno Assembly Center** on 6 May. The assembly center remained in operation until October 1942, when the last Japanese Americans had been transferred to relocation or detention centers elsewhere in the interior. The War Department didn't allow the installation asset to remain inactive and transferred it to the Army Air Forces Technical Training Command. This Command quickly established **Basic Training Center No. 8, Fresno, California** on 29 October 1942, and began converting the infrastructure and acquiring additional land that eventually totaled just over 300 contiguous acres.⁹

As the name implies, the mission for Basic Training Center No. 8 was the orientation and initial training of enlisted inductees in the Army Air Forces in preparation for their next phase of technical training. The original November 1942 training schedule lasted 26-day but, it was gradually increased to 56 days by the following June. By June, elements of the Air Service Command troops began arriving for more specialized training in such disciplines as signal, camouflage and chemical warfare. On 7 July 1943, the War Department officially ordered the reassignment of the installation to the Air Service Command from the newly formed Army Air Forces Training Command. The change took two months to effect (i.e. 1 September 1943) and resulted in a name change to **Army Air Forces Fresno Basic Training Center (BTC)** and later to **Air Service Command (ASC) Training Center**. The changes also resulted in modifications to the training schedule reflecting more specialized emphasis. Throughout 1944, approximately 4,000 men received training at the Fresno ASC Training Center, more than 3,000 in the Post Signal School, 1,069 completed the Camouflage School, and 760 men graduated from the NCO school.¹⁰

On 15 February 1945, the installation was transferred to the Air Technical Service Command and acquired a few more variations on its name including: **Fresno Basic Training Center** and **Air Technical Service Command (ATSC) Training Center**. By 30 March 1945, ATSC had placed the installation on standby status with only a care taking staff of 42 remained on site. The Army Air Forces transferred the idle ATSC

Training Center (also known as the **AAF [Army Air Forces] Ground Training Center**) to the 4th Air Force on 31 May 1945, which appears to have affected only the communications repair and administration activities remaining on site. On 13 February 1946, the War Department placed the installation in the surplus category and the property was subsequently disposed of.¹¹

4.1.2 Summary of Ordnance and Explosives Activities

4.1.2.1 OE General

The ordnance and explosives activities at the **Fresno Army Air Forces Ground Training Center** included storage of small arms weapons and ammunition and training with hand grenades and small arms weapons. However, no evidence was located to indicate that there were any live fire range facilities within the specific boundaries of the site. Instead, trainees used facilities at non-contiguous sub-posts or at separate nearby installations of which are separate FUDS.

4.1.2.2 OE Facilities On Site

The installation kept a number of small arms including pistols, submachine guns, carbines and rifles for instructional use. The installation did have a “Rifle Instruction” area, to the east of the drill field and parade ground by February 1943. At roughly 150 by 300 feet it would have only allowed weapons handling familiarization and dry fire exercises and was certainly not a range. After the acquisition of additional property to the southeast, an isolated fenced storage area was constructed with at least six structures T-1371 through T-1377 (there is no T-1376 shown). The available building list identifies only structure T-1375 as a Small Arms Ammunition Storage (10’ by 20’). Assumably the other structures within the fenced area were also for ammunition, weapon or possibly CWM storage, though this was not confirmed.¹²

4.1.2.3 OE Facilities Off Site

Included in the original training schedule for Basic Training Center No. 8 were small arms marksmanship and hand grenade introduction. The lack of range facilities at FAAFGTC during the first few months resulted in a major training deficit regarding the use of small arms for the initial trainees. Within the first month, it was clear that placing an adequate rifle range on site would not be possible. On 12 December 1942, preliminary inspection of a proposed range site approximately 22 miles away at Mount Campbell occurred, though construction wasn’t begun there until 4 June 1943. The delay was primarily the result of conflict in planned construction costs. Small arms firing and training finally began at the **Mount Campbell Rifle Range** on 28 June 1943. In the interim, Army Air Forces constructed a temporary 1,000-inch rifle range 14 miles from Basic Training Center No. 8 in March 1943. Prior to that, Basic Training Center No. 8 used range facilities associated with Hammer Field, a few miles to the north. The small

arms ranges associated with Hammer Field included several on base; Squaw Valley (about 32 miles east of Hammer Field); and the Class “A” Mount Owens Rifle Range (about 15 miles northeast of the FAAFGTC).¹³

The presence of a live hand grenade court was not confirmed and is considered unlikely. It is improbable that the half a day of training devoted to the subject would allow enough instruction time to cover the basics, practice throwing of inert rounds and use of high explosives for a class of any size, even in an accelerated war time footing. Additionally, there is no evidence that one existed. No grenade court was noted in recovered installation asset lists and there was no area designated on installation maps. The standard live hand grenade court facilities of the time required significant barriers (e.g. concrete or earth) for the thrower and additional barriers for the remainder of the trainees. None of these barriers are discernable on aerial photos. A practice grenade court for completely inert rounds or ones with a black powder charge do not require much infrastructure and can be placed relatively close to occupied areas. Although no such areas was located on site plans, the open areas in the southeast portion of the base afforded more than enough room for such a practice grenade court.¹⁴

4.1.3 Summary of Chemical Warfare Material Activities

4.1.3.1 CWM General

The Chemical Warfare Material activities at the Fresno Army Air Forces Ground Training Center included gas mask drills, gas chamber exercises, training exercises with Chemical Agent Identification Sets, and demonstrations in the open fields on the southeast portion of the base. The facilities included designated CWM training areas that expand and move over time with two identified gas chambers. Other facilities, such as storage building, are implied but not explicitly delineated on recovered documentation.

4.1.3.2 CWM Training

CWM instruction for Basic Training in November 1942 included 9 hours of Chemical Agent Lecture, Defense against Chemical Attack, Field Demonstration (gas), Gas Chamber and Gas Mask Drill. The amount of training was more than doubled by the following June to include 19:45 hours covering unspecified topics in “Chemical Warfare”. The specifics of later CWM training while under the Air Service Center are less clear. Since the Air Service Command (ASC) Training Center included specialized training for chemical companies, the CWM training ostensibly expanded to include additional topics and more thorough exercises. The July 1944 ASC safety precautions for using chemical warfare training ammunition for all ASC commanders covered:

- Detonation and instructional Chemical Agent Identification Sets (CAIS)
- Chlorine gas for the gas chamber
- Mustard gas

- Incendiary bombs
- Screenings smokes and tear gases

Since the chemical companies being trained at Fresno would latter be dispersed throughout ASC, it is apparent that they trained with these items although it was not explicitly confirmed.¹⁵

4.1.3.3 CWM Facilities

By February 1943, the installation had a “Gas Warfare Instruction” area roughly 150 by 300 feet to the east of the drill field and parade ground (adjacent to the Rifle Instruction). Although small, the described training of the time could have been performed there. After the acquisition of additional property to the southeast, two isolated gas chamber buildings were erected (i.e. structures T-1351 and T-1352), 400 feet from the fence line and 500 feet from the nearest building. No CWM storage buildings were noted on the available building list, although there were 5 structures within the fenced area that was probably the ordnance storage area. It is possible these structures were also used for CWM storage as well. The installation planned on storing the “...Number Eight detonator caps which are used in the Chemical Warfare Identification classes” with the small arms ammunition when requesting construction approval for the original magazine in January 1943. The supposition that CWM was stored with the small arms ammunition was not specially confirmed however.¹⁶

The presence of a specific gas obstacle course was not confirmed by the recovered documentation; although it is highly probable one existed for training in the chemical school course. In February 1943, a 150-foot by 1,300-foot area is designated as an “Obstacle Course” immediately south of the “Gas Warfare Instruction” area. This probably was a regular conditioning course and not a CWM one. Later expansion of the installation to the southeast resulted in large open areas being added, but recovered site plans do not delineate the specific types of training that occurred there beyond the presence of the two gas chambers. Photography from the training center’s Chemical Warfare School includes images of field exercises with soldiers in gas masks, enshrouded in clouds running during “Gas Attack Training” and aiding assistance to a fallen comrade. The type of agent used was not specifically determined but is normally HC smoke from smoke pots. Aerial photography also did not clearly locate evidence of a chemical school obstacle course, but some ground scars and features in the area could possibly been made by such activities.¹⁷

4.1.3.4 Chemical Agent Identification Sets

All the specific types and quantities of CAIS used on site were not determined but appear to include all three types: instructional, detonating and decontamination set. The use of “...Number Eight detonator caps...in the Chemical Warfare Identification classes” clearly supports the presence of detonation CAIS on post. Photography from the training

center includes images of field demonstration with clouds emerging off of tables in front of military and civilian onlookers at the “Chemical Warfare Training Area”. The proximity and mixture of the crowd casts compelling doubts that these were detonated CAIS however. The standard use of the instructional CAIS (sniff sets) was for indoor instruction prior to field exercise with the detonation CAIS, so its use is implied but not confirmed. Other photography from the training center’s Chemical Warfare school includes images of field exercises of men decontaminating metal equipment. Such exercises typically included active mustard agent being applied prior to the application of the decontaminating agent (DANC). The source of the mustard typically came from CAIS Decontamination Sets.¹⁸

Research did not uncover any documentation relating to the final disposition of any potential remaining CAIS sets. Fresno Army Air Forces Ground Training Center did not have a record in the 28 February 1945 Army Air Forces inventory “Report of Controlled and Other Critical Items of Equipment” for CWM items. Apparently the installation was already in standby status at that point. Any remaining CAIS remaining at Fresno Army Air Forces Ground Training Center at the time of its closing could have easily been transferred to Hammer Field, less than 4 miles to the north, which retained chemical warfare personnel and material at the time. Aerial photography analysis did not locate any distinct signs of on-site burial at FAAFATC.

4.1.4 Certificates of Clearance

The archive search did not reveal any certificates of ordnance clearance, decontamination or dedudding associated with Fresno Army Air Forces Ground Training Center.

4.2 REVIEW OF HISTORICAL RECORDS

Appendix A contains full references of all in text citations along with the location of the copied document. The research team searched at the following locations for records relating to OE and CWM activities at Fresno Army Air Forces Ground Training Center. At these repositories the research team used finding aids and records managers to assist in locating documents relevant to the research topic. The ASR team also accumulated complementary documents reviewed on Fresno Army Air Forces Ground Training Center but not specifically used. These complementary documents are stored with the original ASR documents. Appendix H lists additional repositories and personnel contacted which reported no pertinent information.

4.2.1 Air Force Historical Research Agency USAFHRA/HO
Maxwell AFB, AL 36112-6424
POC: Archie Difante
334-953-2447
334-953-4434 (FAX)
DSN 493-4434

The researcher queried the Inferential Retrieval Indexing System (IRIS) using key words and word phrases and reviewed the following boxes:

Squadron/0012/ Tow Target, History, Sq-Tt-12-Hi, 76038,
Air Service Command Training Center, Vol 1 Of 2, 211.1 V.1, 143823,
Air Service Command Training Center, Vol 2 Of 2, 211.1 V.2, 143824,
Air Service Command, Units Stationed At Air Service Command Technical Training
Center, Fresno Ca, 211.1-1, 143825,
Air Service Command Training Center, History, 211.1-2, 143826,
Air Technical Service Command Training Center, Unit/4128/Army Air Forces Base
(Base Administration), 211.1-5, 143829,
Army Air Forces Training Command, War Service Training, 220.186-5, 145535,
Technical Training Command, History Of Technical School And Basic Training Center
Number 8, 229.07, 146866,
Technical Training Command, History Of Basic Training Center No. 8, Fresno Ca Vol 1
Of 2, 229.25 V.1, 146886,
Technical Training, Command History Of Basic Training Center No. 8, Fresno Ca Vol 2
Of 2, 229.25 V.2, 146887,
Technical Training Command, History Of Basic Training Center No. 8, Fresno Ca,
229.25-100, 146888,
Camp Pinedale Ca, History, Vol 1 Of 8, 281.26-1 V.1, 170455,

4.2.2 Federal Records Center–Pacific Region San Bruno
1000 Commodore Dr.
San Bruno, CA 94066-2350
POC: Richard Boyden
650-876-9084

The research team reviewed the 01 listings for Record Group 77 (Records of the Chief of Engineers). Based on this they reviewed the SF135s for several accessions and identified the following information fore review:

Record Group 77 (Records of the Office of the Chief of Engineers)
Accession 77-76A-1483
Box Series 115-148 Real Estate Division Historical Files, 1942-74
Box 137

**4.2.3 The Big Fresno Fair
(i.e. Fresno County Fairgrounds)
1121 S. Chance Avenue
Fresno, CA 93702
Dan Brantley, Maintenance Supervisor
POC: 559-650-3242**

The research team contacted this office concerning the blueprints and drawings they had of the facility. They spoke with Anthony (Tony) Lushbough, the plumber who has used the detailed utility drawings for locating sewer and water lines and the like. They provided the team with an Key sheet for the installation. Mr. Lushbough also recounted hearsay tales about munition items being founding in the past (see section 4.3 and Appendix H). The research team also spoke to Ray Fines (?) with the maintenance group who went through basic training at Fresno in 1942. He didn't recall there being any small arms training taking place at the time or much of the details of what training took place there.

**4.2.4 National Archives at College Park, Textual Records
8601 Adelphi Road
College Park, MD 20740-6001
POC: Rich Boylan
301-713-6800**

Record Group 18 (Records of the Army Air Forces)

Entry 2A - Air Adjutant General Mail and Records Division Classified Records
Decimal File Unclassified Correspondence, 1944-1946
Boxes 2255-2257, 2277-2281 & 2308-2312

Entry 46, Office of the Air Inspector, Central Decimal Correspondence
Boxes 17, 30 thru 32

Entry 292A, Air Adjutant General Mail and Records Division Classified Records
Central Decimal File Unclassified Correspondence, 1942-1944
Boxes 1457, 1504 and 1513-1514

Entry 294B - Air Adjutant General Mail and Records Division Classified Records
Central Decimal File Unclassified Correspondence, 1942-1944
Boxes 864 & 873

Entry 295A - Correspondence Relating to Airfields, 1939-42
Boxes 1438 thru 1440 & 1446 thru 1452

Record Group 77 (Records of the Office of the Chief of Engineers)

Entry 433 Project and Geographic Files (Old Accession 77-52A-0259)

Boxes 32 and 33

Entry 1011, Formerly Security Classified Subject Files 1941-45 (Geographic File)

Boxes 114, 426, 453-454 and 790 thru 792

Entry 1013 - General Correspondence with Districts, 1941-45

Box 307

Record Group 107 (Records of the Office of the Secretary of War)

Entry 102, General Correspondence Files of Sec of War Stimson,

Boxes 126-133

Entry 211, Establishment of Airfields and Air Bases, 1940-1945

Box 203 and 204

Record Group 121 (Records of the Public Building Service)

Entry 81, Real Property Review Board Files

Box 2

Record Group 159 (Records of the Office of the Inspector General)

Entry 26D, General Correspondence, 1939-47 (Unclassified)

Boxes 445 & 458

Record Group 160 (Records of Headquarters Army Service Forces)

Entry 27, Command Installations Branch, Correspondence Relating to the
Construction, Utilization and Disposition of Army Installations 1942-46

Box 50

Record Group 165 (Records of the War Department General and Special Staffs)

Entry 418, Decimal File 1942-45

Record Group 175 (Records of the Chemical Warfare Service)

Entry 2 Index Briefs, 1918-October 1942

Boxes 125 & 144

Record Group 237 (Records of the Federal Aviation Administration)

Entry 37, Minutes of the IATCB, 1941-46

Boxes 1-4

Record Group 341 (Records of Headquarters U.S. Air Force (Air Staff))

Entry 494, Correspondence Relating to Real Estate Facilities, 1948-1955

Boxes 17, 30, 32 & 71-72

Record Group 407 (Records of the Adjutant General's Office 1917-)

Entry 363A - Unclassified Project Decimal Files, 1940-1945

Boxes 4353, 4368-69

4.2.5 National Archives, Cartographic and Architectural Branch

8601 Adelphi Road

College Park, MD 20740

POC: Henry Gwazda

301-713-7040

**Record Group 23 (Records of the U.S. Coast and Geodetic Survey); filed under
Record Group 370 (Records of the National Oceanic and Atmospheric
Administration**

Entry Sectional Aeronautical Charts – Mount Whitney

Folders 1 and 2

4.2.6 National Archives at College Park, Still Pictures Branch

8601 Adelphi Road

College Park, MD 20740

POC: Reference Desk

301-713-6795

The research team reviewed RG 111, Signal Corps index files but did not locate any pertinent pictures for the subject FUDS sites.

4.2.7 National Archives and Records Administration –Pacific Region San Bruno

1000 Commodore Dr.

San Bruno, CA 94066-2350

POC: Robert (Bob) Glass (military)

650-876-9018

The research team reviewed the finding aids including the digital Disposal Database Finding Aid including RGs 121, 269, 270 and 291 for the following:

Record Group 18 (Records of the Army Air Forces)

Record Group 77 (Records of the Chief of Engineers)

Record Group 79 (Records of the National Parks Service)

Record Group 121 (Records of the Public Building Service)

Record Group 181 (Records of the Naval Districts and Shore Establishments)

Record Group 269 (General Records of the General Services Administration)

Record Group 270 (Records of the War Assets Administration)

Record Group 291 (Records of the Federal Property Resource Service)

Record Group 338 (Records of U. S. Army Commands, 1942-)

Record Group 392 (Records of the US Army Coast Artillery Districts and Defenses 1901-1942)

They reviewed the following entries:

Record Group 77 (Records of the Chief of Engineers)

Entry Fortifications Files, 1913-44

Boxes 1, 7-9

Entry General Administrative Files, 1913-42, South Pacific Division Main Office
Box 109,

Record Group 270 (Records of the War Assets Administration)

Entry Real Property Disposal Case Files, 1946-49 (former accession 270-58 – 0342)

Box 34

Box 39 – 45

Box 119

Record Group 338 (Records of U. S. Army Commands, 1942-)

Entry Western Defense Command, Wartime Civil Control Agency, Japanese and Japanese-American Internment – West Coast Assembly Center

Roll 312-315, Fresno Administration Files

Roll 316, Fresno General Correspondence

Roll 331-334, Fresno Property Inventory and Acquisition Files

4.2.8 National Personnel Records Center Military Personnel Records (NPRC, MPR)

9700 Page Avenue

St. Louis, MO 63132-5100

POC: William Seibert, Senior Archivist, Military Operations Branch

314-538-4216

The research team reviewed the following records identified as potentially having information concerning the site:

Record Group 342 (Records of the U.S. Air Force Commands, Organizations and Activities)

Accession 342-50E4001, Technical Training Command West Installation

Development 1942-45

Boxes 5 and 6

Accession 342-53F5038, Air Material Command Sacramento Installation
Development 1939-51
Boxes 1 & 2

Accession 342-54G4045, Air Material Command Wright Patterson Installation
Development 1941-47
Box 3

Accession 342-55P5042, Director of Personnel and Support Wright Patterson
General Correspondence 1952
Box 15

4.2.9 U.S. Army Corps of Engineers - Sacramento District
Real Estate Division
1325 J St., 13th Floor
Sacramento, CA 95814-2922
POC: Lucille (Lucy) Ono, Cadastral Section
916-557-5312
POC: Rod Bradley, Cadastral Section

The research team reviewed the final audit files in Cadastral Section's on microfiche (5 military drawers, listed alphabetically by site name) for the subject sites, finding information on the following specific projects:

Fresno Army Airfield Ground Training Center (6 cards)

A duplicate copy of the section's backup microfiche of the described folders is also held in the offsite temporary recordings holding area.

The research team reviewed the Record Locator SF 135s for the Sacramento District's temporary Records Holding Area (currently Capital Records Management, formerly Bryte Yard Records Holding Area):

Real Estate Division Management and Disposal Branch
Real Estate Division Acquisition Branch
Real Estate Division Planning and Control Branch

4.2.10 U.S. Army Corps of Engineers - Sacramento District
Engineering Division, DERP-FUDS
1325 J St., 12th Floor
Sacramento, CA 95814-2922
POC: Gerald Vincent, Program Manager
916-557-7452

The research team reviewed the INPRs for the Fresno County FUDS and copied portions of the following backup folders:

J09CA0772 Camp Pinedale
J09CA0823 Hammer Field
J09CA0876 Mount Campbell Rifle Range
J09CA0877 Mount Owen Rifle Range
J09CA7280 Fresno Basic Training Center No 8

4.2.11 U.S. Army Corps of Engineers, St. Louis District
Ordnance and Technical Service Branch
CEMVS-ED-P
1222 Spruce St.
St. Louis, MO 63103-2833
POC: Michael Dace, Branch Chief
314-331-8036

The research team began their research of this site by consulting research and back-up files for the ASR completed on associated and nearby sites in the Fresno area including:

- J09CA082304 Hammer Army Air Field April 1994
- J09CA087603 Mount Campbell Rifle Range June 1995
- J09CA105001 Madera Bombing Range (12th Naval District Target No. 23)

Although a separate sites, general information regarding the subject site was uncovered served as a basis to locate additional information for this ASR.

Note: The following three repositories were consulted for aerial imagery of the site. Yellow shading indicates historical imagery that was actually acquired for use in aerial photography interpretation.

4.2.12 National Archives at College Park, Cartographic & Architectural Branch
8601 Adelphi Road
College Park, MD 20740
POC: Henry Gwazda, RG 71
301-713-7040

The research team consulted the aerial photo coverage overlays in Record Group 373 (Records of the U.S. Defense Intelligence Agency) for imagery at a scale of 1:40,000 or better covering the area. They pulled the index sheet for N36 E119.

Date	RG	Scale	Old Can	New Can	IM/NUS#	Frames	Total Frames
13 Aug 41	373	1:20,000	G4615, G4618	005821 005824	10198787 10198784	VV55-57 148-150	6
13 Aug 41	373	1:21,500	G4619	005825	10198783	VV55-57	3 (south edge only)
02 Aug 43	373	1:20,000	A1377	000370	10215233	VV5-11, VV12	8 (south half only)
13 Feb 51	373	1:36,000	F10963	004384	10211325	VT 14, 15	2
23 Mar 51	373	1:7,150	F10968	No NARA # Ref.	No NARA # Ref.	VV 49-56	8 (Partial)
23 Mar 51	373	1:8,300	F10968	No NARA # Ref.	No NARA # Ref.	VV50-56	7 (Partial)
23 Mar 51	373	1:28,600	F10970	004388	10211153	VV 81, 82	2 (Partial)
21 May 51	373	1:34,400	A10075	No NARA # Ref.	No NARA # Ref.	VT 301-303	3
06 Jul 51	373	1:31,000	F11875	No NARA # Ref.	No NARA # Ref.	VT 41, 42	2
10 Aug 51	373	1:30,000	F11836	004508	10210781	VT 33-37	5
15 Aug 51	373	1:30,000	F11836	004508	10210781	VT 3-6	4 (Partial)
05 Sep 51	373	1:17,300	F12135	004651	10214327	VV40-45	6 (Partial)
27 Sep 51	373	1:25,000				Mosaic	6 (Partial)
09 Dec 51	373	1:11,000	C12821	003270	10212600	RSV33-35 LSV33-35	6
22 Dec 51	373	1:12,500	F12134	004650	10214328	RSV 27-29	3
28 May 52	373	1:13,000	F12664	004801	10213545	RSV 8-12	5
27 Aug 52	373	1:28,000	C1045	003137	10212911	VV15-17	3 (Partial)

Date	RG	Scale	Old Can	New Can	IM/NUS#	Frames	Total Frames
13 May 53	373	1:8,500	C4442	003413	10212021	LLM 19-22 VM 19-22	8
09 Sep 59	373	1:10,000	C4056	003393	10212041	3-7, 31-36, 66-70, 71-75	21

The research team also consulted *Aerial Photographs in the National Archives-Special List 25*, dated 1990, for available imagery from:

Record Group 57 (Records of the U.S. Geological Survey)

Record Group 95 (Records of the U.S. Forest Service)

Record Group 114 (Records of the Soil Conservation Service)

Record Group 145 (Records of the Agriculture Stabilization and Conservation Service)

The team located the following imagery in Record Group 145:

Date	RG	Scale	Old Can	New Can	IM/NUS#	Frames	Total Frames
1942	145	1:20,000	N/A	ON28456	10263684	ABI-7B 79-85, 162-167, 203-207	23
				ON28457	10237609	ABI-8B 65-69	

4.2.13 U.S. Department of Agriculture - Aerial Photography Field Office

2222 W 2300 S

Salt Lake City, UT 84119-2020

POC: Sharon McGiff

801-975-3503

CEMVS-ED-S tasked a contractor to perform an initial search of available imagery for Fresno Fairgrounds (Basic Training Center No. 8). The contractor identified the following imagery for the site.

Date	Scale	Film #	Flight Line	Index File	Frames	Total Frames
14 Aug 57	1:20,000	ABI	51T	697	102, 103	2
30 Jun 61	1:20,000	ABI	5BB	698A	25, 26	2
05 Jul 61	1:20,000	ABI	5BB	698A	150, 151	2
02 May 67	1:20,000	ABI	2HH	699B	240, 241	2

Date	Scale	Film #	Flight Line	Index File	Frames	Total Frames
04 Sep 79	1:20,000	06019	179	701B	183, 184, 255, 256	4

4.2.14 U.S. Geological Survey - EROS Data Center
Sioux Falls, SD 57198
POC: Kimberly Kringen
605-594-6151 ext. 2075

CEMVS-ED-S tasked a contractor to perform an initial search of available imagery for Fresno Fairgrounds (Basic Training Center No. 8). He identified the following imagery that covers the site.

Year	Scale	Entity ID	Film Type	Frames	Frame Quantity
04/01/46	1:20,000 (MOSAIC)	ARDD1CO000091	B/W	N/A	4
04/23/46	1:20,000	ARDC1CO000091	B/W	GS-CO 3-16 thru 18, 58, 59	5
08/09/62	1:20,000	ARDC1VAMS00150488	B/W	GS-VAMS 2- 178, 179	2
08/10/62	1:30,000 (MOSAIC)	ARDC1VAMS00150488	B/W	N/A	2
06/17/66	1:21,670	ARMDM10531L0859 ARMDM10531L0864 ARMDM10531L0869	B/W	859 864 869	3
05/23/69	1:21,670	ARMDM97501L0428 ARMDM97501L0431	B/W	428 431	2
04/29/70	1:32,500	ARM701580V80098 ARM701580V80099 ARM701580V80100	B/W	98 99 100	3
05/05/72	1:30,000 (MOSAIC)	ARDC1VCYZ00440428	B/W	N/A	2
05/05/72	1:30,000	ARDC1VCYZ00440428	B/W	GS-VAMS 1- 39, 40	2
09/25/75	1:33,000 1:31,000	AR5750022270117 AR5750022270118 AR5750022270119 AR5750022280144 AR5750022280145 AR5750022280146	B/W	117 118 119 144 145 146	6
06/23/80	1:32,000	AR5800028940107	B/W	107	4

Year	Scale	Entity ID	Film Type	Frames	Frame Quantity
		AR5800028940108 AR5800028940109 AR5800028940110		108 109 110	
05/28/88	1:25,000	AR5880037280004	CIR	4	1
11/02/00	1:31,700	AR5000055620041 AR5000055620042 AR5000055620043	CIR	41 42 43	3

Date	Program	Scale	Film Type	Roll Number	Flight Line	Frames	Frame Quantity
06/17/87	NAPP	1:40,000	CIR	463 463 462 462	1196W 1196W 1197E 1197E	68 67 189 190	4
05/29/93	NAPPW	1:40,000	B/W	6297	1196W	116, 117	2
09/30/94	NAPPW	1:40,000	B/W	6318	1197E	9, 10	2
08/17/98	NAPPW	1:40,000	B/W	10547	1196W 1197E	133, 134 95, 96	4
09/12/98	NAPPW	1:40,000	B/W	10560	1197E	116, 117	2

4.3 SUMMARY OF INTERVIEWS

The archive search team conducted telephone and personal interviews to assist in the collection of information for this report. Appendix H lists interviewees and copies of pertinent individual conversation records. Of note, were hearsay tales recounted by Fresno Fairground maintenance workers concerning earlier workers discovering Unexploded Ordnance (UXO) in the 1950s. One story involved two men finding a mine that exploded when they placed it on a burning brush pile. The other incident involved the same men finding a hand grenade, attaching it to a pole in a barn, tying a long string to the pin before pulling it and the grenade exploding, and taking out part of the barn. Both accounts may have been aggrandized in the retelling over the years but appear to have some validity but it's not clear what type of munitions were found, where they were found or if they were HE or practice version with a powder charge. Contact with local law enforcement, hazardous device squads and military Explosive Ordnance Disposal (EOD) units resulted in negative incident reports of OE or CWM in this area.

4.4 AIR PHOTO INTERPRETATION AND MAP ANALYSIS

4.4.1 Map Analysis

This archive search located a couple site-specific layout plans for Fresno Army Air Forces Ground Training Center. In summary, these maps located the following OE and CWM related structures on site:

- Combat Training Area
- Rifle Instruction Area
- Gas Warfare Instruction Area
- Obstacle Course Area
- Probable ordnance storage area with six structures T-1371 through T-1377 including T-1375, Small Arms Ammunition Storage (10' by 20')
- 2 gas chamber buildings (i.e. structures T-1351 and T-1352)

The reviewed maps did **not** identify the locations of any fixed ranges or firing points. The paragraphs below discuss the relevant information retrieved from the reviewed maps, included in Appendix K. All historical maps and site plans contained in Appendix K are printed on 11- by 17-inch paper for reproduction. Full size copies remain in the ASR backup files. The maps are discussed in order of creation or final revision.¹⁹

Army Air Forces Technical Training Command
Basic Training Center No. 8, Fresno, California Additional Land Acquisition, 27 February
1943, Appendix K-1²⁰

The purpose of the early site layout plan was to show a proposed expansion to the east of the southern end of the installation. Although the structures are outlined, only a few are generally labeled such as Mess Halls or Warehouse Area. The majority of the base is marked by closely spaced buildings with the exception of the southeast portion of the installation, which appears to be the location of the field training exercises. There is no clear or suspected magazine areas or ranges present. An area, roughly 600 by 1,000 feet east of the Warehouse area, is designated for Combat Training. The specific meaning of the term might be open for debate but the size, proximity to public roads, railroad tracks, buildings and the parade ground indicate that no live fire range activities could be accomplished at this location. In a roughly 150-foot strip between the drill field and parade ground and the current eastern boundary are four training areas (from north to south): Camouflage Instruction, Rifle Instruction, Gas Warfare Instruction and Obstacle Course. At roughly 150 by 300 feet, the Rifle Instruction area would have only allowed weapons handling familiarization with dry fire exercises and was certainly not a range. The similarly sized “Gas Warfare Instruction” area appears small but would have allowed the described training of the time to occur. The 1,300-foot long “Obstacle Course” area

is probably a regular conditioning course and not a CWM one given the “basic” training mission of the installation at the time.

U. S. Army Corps Engineers, Sacramento District
Army Air Forces Technical Training Command Basic Training Center No. 8, Fresno,
California General Layout Plan, revised 15 July 1945, Appendix K-2²¹

This site plan, with the revision date of July 1945, shows the layout of the installation following its placement on standby status and indicates the extent of development. The structures are outlined and specifically labeled with building numbers, but the Building Schedule (description) was included on a separate drawing that was not located. Another separate building list was located but it wasn't complete, so the use of a few structures remains unknown.²² The “Proposed Lease” area shown in the February 1943 map has been acquired, though only a dozen or so structures have been added, leaving the remainder area open with limited development. At the southeast corner of the installation, a couple hundred feet from the surrounding roads, there is an isolated fenced storage area about 150 by 300 feet. It contains at least six structures T-1371 through T-1377 (there is no T-1376 shown). The available building list identifies only structure T-1375, which was identified as Small Arms Ammunition Storage (10 feet by 20 feet). Most likely the other structures within the fenced area were also for ammunition, weapon or possibly CWM storage, though this was not confirmed. Also on the addition are two isolated gas chamber buildings (i.e. structures T-1351 and T-1352), which lie 400 feet from the fence line and 500 feet from the nearest building. The remainder of the open area is not labeled as to its use. There is no hand grenade court or specific gas obstacle course delineated.

U. S. Army Corps Engineers, Sacramento District
Real Estate Fresno A.A.F. Ground Forces Training Center Military Reservation, revised 13
May 1947, Appendix K-3²³

This “Final Audit” map delineates the property boundary and parcels acquired by fee (1), lease (4) and license (8) that formed the FAAFGTC. The total stated acreage of the acquired property equals 307.018 acres (40 acres in fee, 266.66 leased and 0.358 in easements for drainage). The depicted boundary matches the one shown on the 1945 installation map described above. The disposal or accountability transfer dates are shown for all the parcels except for part of parcel 4 and all of 5. Parcel 4 included 136.66 acres from Paul A. Mosesian and Sons, less a tract approximately 7 acres in size, terminated on 1 May 1945. Parcel 5 covered 20 acres leased from Leo F. Jarvis. When these properties were disposed of is not clear from this map.

4.4.2 Air Photo Interpretation

Government and contractor personnel conducted an aerial photography database search (included in section 4.2). The aerial photography retrieved covered Fresno Army Air

Forces Ground Training Center following military use. The imagery acquired is in photographic print format. The analyst performed the interpretation using the following source materials:

PHOTO DATE	APPROX. SCALE
23 April 1946	1:20,000
10 August 1951	1:30,000
22 December 1951	1:12,500
10 August 1962	1:20,000
5 May 1972	1:30,000

The analyst delineated imagery containing important areas on hard copy plots and digitized it using Computer-Aided Drafting and Design (CADD) software. The digitized features overlay scanned aerial photography, resulting in the final plots (see [Plate 2](#)). The analysis used stereo viewing of photography, which allows more accurate identifications than monoscopic interpretations. The resolution and scale of the imagery limited the identification of features discussed in this study. The analyst used the word “probable” when discussing features for which identification is reasonably accurate. The analyst used the term “possible” when identification was not positive, but the object/area matched known features/locations on other sources. Analysis of the aerial photographs referenced the site maps discussed in sections 4.4.1 above. The boldfaced numbers in parentheses referenced in the sub-paragraphs below refer to the feature descriptions on the annotated aerial photography plates. The sub-paragraphs below describe the relevant features identified on the imagery. In the digital version of this report, the paragraph headings are all hyperlinked to *.JPEG images of the resultant plates.

The measurements of features in the aerial photo analysis are **ALL** approximations, whether specifically stated or not. Measurements from the photo prints are converted to distances based on the stated accuracy of the imagery, which vary between frames and flight lines. Another factor affecting the measurements of features is the scale of the imagery. At the higher scales, the features being measured are smaller and more difficult to measure. The interpretation measurements are estimated to be within approximately 20% of the actual values.

4.4.2.1 23 April 1946 Imagery (Plate 2)

The April 1946 imagery shows the installation just a couple of months after the War Department has declared the site surplus but it is still under lease or owned by the government. The features present should represent the peak of installation’s development. The tightly packed housing on the fairgrounds track infield and to the south matches the available site plans. This is of marginal interest to this investigation since the open and less developed areas to the southeast were the areas of where field training occurred on post. The isolated fenced storage area (A) is clearly visible, as are

the structures inside including T-1375, Small Arms Ammunition Storage (A1). An area of ground scarring about 15-20 feet across is present within the enclosure and doesn't correspond to a building location noted on the site plans (A2). The entrance to the storage area is from the perimeter road to the south. The vegetation in the surrounding approximately 40 acres of the SE ¼ of SE ¼ of section 12 (B) is fairly uniform and non-stressed with no clear improvements except for the private residence that wasn't acquired (B1).

To the east, the vegetation on the drill field and paraded ground (C) (which takes up most of the W ½ of SE ¼ of section 12) is heavily stressed and mixed with large patches of bare earth. This field also remains generally free of structures except for the warehouses (D). A north south trending linear area about 100 feet wide and a 1,000 feet long between the two fields has some very small structures present in the area described in 1943 as the Obstacle Course (E). To the north of that and east of the area defined as the Gas Warfare Instruction area on site plans are the two gas chamber buildings, structures T-1351 and T-1352 (F). In the Rifle Instruction area (G) only bare patches of ground are discernable. In the Camouflage Instruction area (H) are a number of small structures or material piles present. To the east of this the Training Auditoriums, structures T-1305 and T-1310, (I) are clearly visible. The open area between the south Auditorium and the gas chambers has some barren ground patches and possible structures along trails (J). Given its proximity to the gas chamber and the Gas Warfare Instruction area, it is possibly related to a gas training obstacle course but that is far from clear. The 7.06-acre portion of real estate Parcel 4 released in May 1945 has returned to agricultural production (K). There is a quarter mile oval track (L) east of the officer's housing with patches of patterned ground scarring or barren earth (M) that has an unclear purpose. Given its location it is probably related to physical training.

4.4.2.2 1951 and later Imagery

By the time of the 1951 imagery, the former FAAFGTC has all been returned to the local government or the private sector. A few barracks and built up areas remain around the fairgrounds track and on the former fee parcel to the south. However, none of the military features or structures on the eastern and southeastern portion of the site denoted on the 1946 imagery remain. All of the SE ¼ of Section 12 that had been part of FAAFGTC has been tilled and returned to agricultural production. By 1962, nearly all of it has been subdivided and has established private homes present. Later imagery was reviewed for additional evidence of the military's use of the site, though no features of any significance beyond those described above were noted.

5 REAL ESTATE

5.1 CONFIRMED DOD OWNERSHIP

The former Fresno Army Air Forces Ground Training Center consisted of a total of 307.018 acres of real estate in Section 12 of T14S, R20E MDB&M. The War Department acquired this acreage as follows:

- 40 acres fee land from private landowners (Parcel 2)
- 266.66 acres leased land from private owners and the County of Fresno, et al (Parcels 1 and 3 to 5)
- 0.358 acres easements for drainage from private landowners, Fresno County and Fresno Irrigation District (Parcels 1-L to 8-L)²⁴

The War Department acquired the original parcels (1& 3) including the Fresno County Fairgrounds County for the Japanese Reception Center interment camp on 19 February 1943. The originally stated acreage included in Parcel 1 (e.g. fairgrounds) was subsequently reduced 40 acres from 130 to 90 acres, though this doesn't appear to be a reduction in area but a correction to a misstated approximation. The War Department appears to have acquired the remainder of the leases during 1942 and the sewer easements in August 1943.²⁵

On 13 February 1946, the War Department placed the installation in the surplus category, although prior to that a 7.06-acre portion terminated on 1 May 1945 reduced Parcel 4. The Federal Public Housing Authority assumed accountability for the 40-acre fee parcel on 1 October 1946. The leases for Parcels 1 and 3 were terminated on 15 January 1947 and the easement licenses on 1 February 1947. The termination of the leases for Parcel 5 and the remainder of Parcel 4 were not determined in recovered documentation.²⁶

This real estate figure does not concur with the acreage number stated in the INPR (Appendix D-1). The discrepancy appears to result from the omission in the total of the 7.06 acre portion of Parcel 4, terminated on 1 May 1945.

5.2 POTENTIAL DOD OWNERSHIP

The archive search identified additional areas of previously undocumented military ownership or land use associated with Fresno Army Air Forces Ground Training Center but were non-contiguous sites. They include:

Name	Acreage and Location	Lease Number
ASC Training Center Bivouac Camp	60 acres in portion Section 29, T14S, R22E MDB&M	W04-193-EngG-978
ASC Training Center	4.82 acre lease on a portion of	W 04-193-Eng-3578

Name	Acreage and Location	Lease Number
Dump Ground	Lot 5 in NE 1/4 of Section 25 T14S, R20E	
Basic Training Center No. 8 Temporary Rifle Range	30 acres in portion Section 20, T12S, R20E MDB&M	W3460-Eng-3740

Recovered material concerning this use is being forwarded separately to Sacramento District to initiate formal identification of these sites for the FUDS program.

5.3 SIGNIFICANT PAST OWNERSHIP OTHER THAN DOD

This investigation did not reveal any significant past ownership of Fresno Army Air Forces Ground Training Center with relationship to OE or CWM.

5.4 PRESENT OWNERSHIP

Records reviewed indicate the current property owners include Fresno County, the California National Guard and a number of private landowners both commercial and residential.

6 SITE INSPECTION

6.1 GENERAL PROCEDURES AND SCOPE

An ASR site inspection is limited in scope to a visual, non-intrusive inspection of the areas suspected of having an OE or CWM hazard potential. This potential is based on an analysis of the collected information. Prior to the inspection, the Archive Search team determines the areas of the site to investigate. The team follows a site safety and health plan (SSHP) prohibiting digging or handling of potential OE and CWM. The SSHP defines standard operating procedures to ensure safety and prevent accidents. Appendix L-1 contains a copy of the SSHP. The inspection team consisted of the following St. Louis District Corps of Engineers personnel: Randy Fraser. They performed the site survey on 28 July 2002. Subsection 6.2 contains a synopsis of the site inspection and Appendix L-2 contains a detailed account. Appendix I includes current site photographs.

6.2 SITE INSPECTION SYNOPSIS

The site inspection occurred on the afternoon of 28 July 2002. Based on the evidence described in section 4 of the ASR, the southeast portion of the former FAAFGTC was the only area identified of interest to this investigation based on its use in open field training OE and possibly CWM storage. As had been determined from the aerial photo analysis and current maps, those portions of the former post were replaced by homes by 1962. The field inspection team made a general reconnaissance of the site, but the residential development of the area has obscured all clear evidence of the past military use of the site in the areas of interest, though some potential former military structures remain elsewhere on the former site. There were no OE or CWM potential hazards observed.

7 EVALUATION OF ORDNANCE POTENTIAL

7.1 CONVENTIONAL ORDNANCE CONTAMINATION

The archive search uncovered evidence that the Army Air Forces Training Command and Air Service Command both stored and trained with conventional ordnance at Fresno Army Air Forces Ground Training Center. The types of ordnance and explosives associated with the site included storage of small arms weapons and ammunition, training with hand grenades (probably practice munitions), and small arms weapons (instructional and dry firing only). However, no evidence was located to indicate that there were any live fire range facilities or any other ordnance related operations that occurred within the specific boundaries of the Fresno Army Air Forces Ground Training Center. Trainees used facilities at non-contiguous sub-posts or at separate nearby installations, of which all are separate FUDS.

The ASR team did not find an overt indication of a current ordnance and explosive hazard at Fresno Army Air Forces Ground Training Center. Research discovered no historical records indicating ordnance disposal on site. Aerial photography analysis did not locate any distinct signs of on-site burial. Additionally, the site inspection did not uncover evidence of ordnance or explosive hazards.

7.2 CHEMICAL WARFARE MATERIAL CONTAMINATION

The archive search uncovered evidence that the Army Air Forces and Air Service Command utilized chemical warfare materials at Fresno Army Air Forces Ground Training Center for training. The CWM consisted of Chemical Agent Identification Sets (CAIS) (Detonation and probably Instructional and Decontamination sets), probably chlorine gas for the gas chambers, screening smokes and tear gas, and possibly incendiary bombs as training aids. CWM facilities consisted of two gas chambers, a Gas Warfare Instruction area and probable storage within the fenced ordnance storage area. The final disposition of any remaining CAIS sets remains unknown. However, when the installation closed in early 1945, Hammer Field, less than 4 miles to the north, retained chemical warfare personnel and material and could have accepted any surplus stocks.

8 TECHNICAL DATA OF ORDNANCE AND EXPLOSIVES

8.1 POTENTIAL OE AND CWM ITEMS

The archive search did not explicitly identify any OE being used at Fresno Army Air Forces Ground Training Center, but confirmed the presence of small arms storage on site. It is considered probable that hand grenade training occurred with practice munitions on site, but no compelling evidence was found for the use of High Explosive hand grenades. The archive search uncovered convincing evidence of the use of chemical warfare materials on site at the Fresno Army Air Forces Ground Training Center. These CWM materials consisted of Chemical Agent Identification Sets (CAIS) (Detonation and probably Instructional and Decontamination sets), probably chlorine gas for the gas chambers, screening smokes and tear gas, and possibly incendiary bombs as training aids. The team compiled this list from maps, documentation and technical manuals delineating training activities of the time.

8.2 DESCRIPTION OF CONVENTIONAL ORDNANCE

The following sections in Appendix C contain Ordnance Technical Data Sheets of typical examplesⁱ of OE items identified with Fresno Army Air Forces Ground Training Center:²⁷

<u>Page No.</u>	<u>Ordnance Technical Data Sheetsⁱⁱ</u>
C-1	GRENADE, HAND, TRAINING, Mk IA1
C-2	GRENADE, HAND, PRACTICE, M21

8.3 DESCRIPTION OF CHEMICAL WARFARE MATERIALS

The Army Air Forces and Air Service Command taught basic instruction in procedures for donning protective masks and decontamination against gas attack. Gas chambers at Fresno Army Air Forces Ground Training Center in the training area were used for mask test fits. It is highly probable that soldiers participated in training exercises simulating gas attacks using smoke generators and other non-toxic chemicals.

The following sections in Appendix C contain Ordnance Technical Data Sheets of typical examples of CWM items identified with Fresno Army Air Forces Ground Training Center:

ⁱ These are general descriptions and may not include all the specific variations of a particular ammunition item. This list is compiled from information found regarding the site and may not be comprehensive.

ⁱⁱ All Ordnance Technical Data Sheets prepared by U.S. Army Corps of Engineers St. Louis District, Ordnance and Technical Services Branch-Engineering Division.

<u>Page No.</u>	<u>Ordnance Technical Data Sheets</u>
C-3	INSTRUCTIONAL GAS IDENTIFICATION SET, M 1
C-4	GAS IDENTIFICATION SET, DETONATION, M1, K951/K952
C-5	TOXIC GAS SET, M1, K941
C-6	POT, SMOKE, HC, M1
C-7	BOMB, INCENDIARY, INSTRUCTIONAL, M2
C-8	BOMB, INCENDIARY, 4-LB, AN-M54 SERIES AND AN-M54X SERIES ²⁸

9 EVALUATION OF OTHER SITE INFORMATION

The archive search did not reveal any additional areas of potential environmental concern associated with the military's use of Fresno Army Air Forces Ground Training Center.

APPENDIX A

REFERENCES

The following list of references only represents the items cited in preparation of this report, and does not illustrate all the documents reviewed or copied for the backup files (see Records Review section 4.2 for further details). Source listings for locating each underlined reference are noted and printed portions are included in this ASR. Furthermore, underlined references are hyperlinked to scanned images of the backup documents on the digital version of this report. References that are not underlined are generally available and not reproduced for this report.

Section 2.0 PREVIOUS SITE INVESTIGATIONS

¹ Corps of Engineers – Sacramento

1999 *Inventory Project Report Site Survey Summary Sheet for DERP-FUDS No. J09CA7280 Fresno Fairgrounds (Basic Training Center No. 8), Fresno, CA, amended 01 March 1999*

Appendix D-1

² Section 3.2 CLIMATIC DATA

Federal Climate Complex Asheville, NC.

1996 *International Station Meteorological Climate Summary, Version 4.0 CD ROM, September 1996. Jointly produced by: Department of the Navy - Fleet Numerical Meteorology and Oceanography Detachment, National Oceanic and Atmospheric Administration- National Climate Center and the U.S. Air Force Environmental Technical Application Center (USAFETAC) OL-A.*

³ Sections 3.3.1 GEOLOGY

Thornbury, Wm. D.

1965 *Regional Geomorphology of the U.S., John Wiley and Sons, Inc*

⁴ Sections 3.3.2 SOILS

Huntington, Gordon L.

1971 *Soil Survey of the Eastern Fresno Area, California, USDA, Soil Conservation Service, in cooperation with the California Agricultural Experiment Station.*

⁵ Section 3.4 SURFACE WATER HYDROLOGY

U.S. Geological Survey

1964 *Malaga Quadrangle, California, 7.5 Minute Series (topographic), dated 1964, photorevised 1981.*

U.S. Geological Survey

1963 *Fresno South Quadrangle, California, 7.5 Minute Series (topographic)*, dated 1963, photorevised 1981.

⁶ Sections 3.4.2 GROUND WATER HYDROLOGY

Page, R.W.

1986 *Regional Aquifer-System Analysis; Geology of the Fresh Ground-Water Basin of the Central Valley, California, with Texture Maps and Sections*; U.S. Geological Survey Professional Paper 1401-C.

Williamson, A.K., Prudic, D.E., and Swain, L.A.

1989 *Regional Aquifer-System Analysis--Central Valley, California, Ground-Water Flow in the Central Valley, California*.

⁷ Section 3.5 ECOLOGY

U.S. Fish and Wildlife Service (USFWS) Carlsbad Fish and Wildlife Office

2002 Official correspondence, dated 10 July 2002, Letter Ref. # FWS-LA-2959.1.

California Department of Fish and Game, Wildlife and Habitat Data Analysis Branch

2002 Official correspondence dated 27 June 2002.

⁸ Section 3.6 DEMOGRAPHICS

U.S. Department of Commerce - Bureau of the Census

2002 <http://quickfacts.census.gov/qfd>, downloaded information 6 September 2002

⁹ Section 4.1 HISTORICAL SITE SUMMARY (cited references only)

Air Service Command Training Center, Fresno

1944 *History Air Service Command Training Center, Fresno, Vol. 1 September 1943- 30 June 1944*, June 1944, File 209-2 - 211.1-1, Air Force Historical Research Center, Maxwell AFB, AL.

Appendix E-4

Franklin D. Roosevelt

1942 Executive Order No. 9066, 19 February 1942.

¹⁰ Air Service Command Training Center, Fresno

1944 *History Air Service Command Training Center, Fresno, Vol. 1 September 1943- 30 June 1944*, June 1944, File 209-2 - 211.1-1, Air Force Historical Research Center, Maxwell AFB, AL.

Appendix E-4

Army Air Forces Western Technical Training Command, Denver

1944 The History of Basic Training Center No. 8, Army Air Forces Technical Training Command Fresno, California, 29 October 1942 to 1 September 1943, June 1944, Box 229.12 – 229.27, Air Force Historical Research Center, Maxwell AFB, AL.

Appendix E-8

Army Air Forces Western Technical Training Command, Denver

1943 Appendix History of Basic Training Center No. 8, 29 October 1942 to 1 September 1943, Fresno California, September 1943, Box 229.12 – 229.27, Air Force Historical Research Center, Maxwell AFB, AL.

Appendix E-7

Air Service Command Training Center

1945 Air Service Command Training Center Post History Quarterly Supplement Oct., Nov., Dec., 1944, circa January 1945, Box 211.1-2 – 211.21, Air Force Historical Research Center, Maxwell AFB, AL.

Appendix E-3

¹¹ Air Technical Service Command, Construction Office

1945 ATSC Training Center Fresno, California Inspection File, Standby Stations, Field Survey, 30 May 1945. RG 342, Acc. 53F-5038, Box 2, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.

Appendix E-5

Air Technical Service Command, Headquarters

1945 Memorandum Subject: Relinquishment of Jurisdiction of ATSC Training Center Fresno, California and Redesignation of the 4128th AAF Base Unit Thereat, 4 June 1945. RG 160, Entry 27, Box 50, File Fresno, NARA-College Park, MD.

Appendix E-6

War Department, Adjutant General's Office

1946 Memorandum Subject: Surplus – Air Technical Service Command Training Center Fresno, California, 28 February 1946. RG 160, Entry 27, Box 50, File Fresno, NARA-College Park, MD.

Appendix E-14

¹² Army Air Forces Technical Training Command

1943 Basic Training Center No. 8, Fresno, California Additional Land Acquisition, 27 February 1943. RG 342, Acc. 50E-4001, Box 5, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.

Appendix K-1

U. S. Army Corps Engineers, Sacramento District

1945 Army Air Forces Technical Training Command Basic Training Center No. 8, Fresno, California General Layout Plan, August 1943, revised 15 July 1945. RG 77, Entry Real Property Disposal Case Files, Box 34, Folder: Fresno ATSC (4) classification, NARA-San Bruno, CA.

Appendix K-2

Army Service Command Training Center, Fresno

Circa 1945 Army Service Command Training Center, Fresno, California Building List, undated, circa 1945. RG 342, Acc. 53F-5038, Box 2, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.

Appendix E-10

¹³ Army Air Forces Western Technical Training Command, Denver

1944 The History of Basic Training Center No. 8, Army Air Forces Technical Training Command Fresno, California, 29 October 1942 to 1 September 1943, June 1944, Box 229.12 – 229.27, Air Force Historical Research Center, Maxwell AFB, AL.

Appendix E-8

Corps of Engineers, St. Louis District

2002 Final Archive Search Report, Findings, Madera Bombing Range (12th Naval District Target No. 23), Madera, CA, Project Number – J09CA105001, March 2002. CEMVS-ED-P, St. Louis, MO

¹⁴ Army Air Forces Western Technical Training Command, Denver

1944 The History of Basic Training Center No. 8, Army Air Forces Technical Training Command Fresno, California, 29 October 1942 to 1 September 1943, June 1944, Box 229.12 – 229.27, Air Force Historical Research Center, Maxwell AFB, AL.

Appendix E-8

- ¹⁵ Army Air Forces Western Technical Training Command, Denver
1944 *The History of Basic Training Center No. 8, Army Air Forces Technical Training Command Fresno, California, 29 October 1942 to 1 September 1943*, June 1944, Box 229.12 – 229.27, Air Force Historical Research Center, Maxwell AFB, AL.

Appendix E-8

Air Service Command Training Center

- 1944 *Air Service Command Training Center Post History Quarterly Supplement July-August-September 1944*, circa October 1944, Box 211.1-2 – 211.2-1, Air Force Historical Research Center, Maxwell AFB, AL.

Appendix E-2

Air Service Command, Headquarters

- 1943 *Memorandum Subject: Safety Precautions For Using Chemical Warfare Training Ammunition*, 12 July 1944. RG 342, Acc. 52B-3007, Box 127, Folder 470.6, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.

Appendix E-1

¹⁶ Army Air Forces Technical Training Command

- 1943 *Basic Training Center No. 8, Fresno, California Additional Land Acquisition*, 27 February 1943. RG 342, Acc. 50E-4001, Box 5, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.

Appendix K-1

U. S. Army Corps Engineers, Sacramento District

- 1945 *Army Air Forces Technical Training Command Basic Training Center No. 8, Fresno, California General Layout Plan*, August 1943, revised 15 July 1945. RG 77, Entry Real Property Disposal Case Files, Box 34, Folder: Fresno ATSC (4) classification, NARA-San Bruno, CA.

Appendix K-2

Army Service Command Training Center, Fresno

- Circa 1945 *Army Service Command Training Center, Fresno, California Building List*, undated, circa 1945. RG 342, Acc. 53F-5038, Box 2, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.

Appendix E-10

Basic Training Center Number Eight, Fresno, California, Headquarters

1943 Memorandum Subject: Additional Construction (Ordnance Warehouse and Magazine and Three Quartermaster Warehouses.), 26 January 1943. RG 342, Acc. 50E-4001, Box 6, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.

Appendix E-11

¹⁷ Army Air Forces Technical Training Command

1943 Basic Training Center No. 8, Fresno, California Additional Land Acquisition, 27 February 1943. RG 342, Acc. 50E-4001, Box 5, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.

Appendix K-1

Army Service Command Training Center, Fresno, California

Circa 1944 Post History Photographs, Part II School Conducted on the Post, B. Chemical Warfare School Pictures 74-99, undated, circa 1944. Box 209-2 – 211.1-1, Air Force Historical Research Center, Maxwell AFB, AL.

Appendix E-9

Army Air Forces Western Technical Training Command, Denver

1943 Appendix History of Basic Training Center No. 8, 29 October 1942 to 1 September 1943, Fresno California, September 1943, Box 229.12 – 229.27, Air Force Historical Research Center, Maxwell AFB, AL.

Appendix E-7

War Department

1944 TM 3-305, Use of Chemical Agents and Munitions in Training, dated 2 June 1944.

Appendix E-13

¹⁸ Air Service Command Training Center

1944 Air Service Command Training Center Post History Quarterly Supplement July-August-September 1944, circa October 1944, Box 211.1-2 – 211.2-1, Air Force Historical Research Center, Maxwell AFB, AL.

Appendix E-2

Army Service Command Training Center, Fresno, California

Circa 1944 Post History Photographs, Part II School Conducted on the Post, B. Chemical Warfare School Pictures 74-99, undated, circa 1944. Box 209-2 – 211.1-1, Air Force Historical Research Center, Maxwell AFB, AL.

Appendix E-9

Basic Training Center Number Eight, Fresno, California, Headquarters

1943 Memorandum Subject: Additional Construction (Ordnance Warehouse and Magazine and Three Quartermaster Warehouses.), 26 January 1943. RG 342, Acc. 50E-4001, Box 6, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.

Appendix E-11

War Department

1944 TM 3-305, Use of Chemical Agents and Munitions in Training, dated 2 June 1944.

Appendix E-13

¹⁹ Section 4.4 AIR PHOTO INTERPRETATION AND MAP ANALYSIS

U.S. Geological Survey

1964 Malaga Quadrangle, California, 7.5 Minute Series (topographic), dated 1964, photorevised 1981.

U.S. Geological Survey

1963 Fresno South Quadrangle, California, 7.5 Minute Series (topographic), dated 1963, photorevised 1981.

²⁰ Army Air Forces Technical Training Command

1943 Basic Training Center No. 8, Fresno, California Additional Land Acquisition, 27 February 1943. RG 342, Acc. 50E-4001, Box 5, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.

Appendix K-1

²¹ U. S. Army Corps Engineers, Sacramento District

1945 Army Air Forces Technical Training Command Basic Training Center No. 8, Fresno, California General Layout Plan, August 1943, revised 15 July 1945. RG 77, Entry Real Property Disposal Case Files, Box 34, Folder: Fresno ATSC (4) classification, NARA-San Bruno, CA.

Appendix K-2

²² Army Service Command Training Center, Fresno

Circa 1945 Army Service Command Training Center, Fresno, California Building List, undated, circa 1945. RG 342, Acc. 53F-5038, Box 2, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.

Appendix E-10

²³ U. S. Army Corps Engineers, Sacramento District

1947 Real Estate Fresno A.A.F. Ground Forces Training Center Military Reservation, 25 May 1944, revised 13 May 1947. Corps of Engineers, Sacramento District, Real Estate Division-Cadastral Section, Microfiche Files, Folder: Fresno Army Air Forces Ground Training Center, Sacramento, CA.

Appendix K-3

²⁴ Section 5.0 REAL ESTATE

U. S. Army Corps Engineers, Sacramento District

1947 Real Estate Fresno A.A.F. Ground Forces Training Center Military Reservation, 25 May 1944, revised 13 May 1947. Corps of Engineers, Sacramento District, Real Estate Division-Cadastral Section, Microfiche Files, Folder: Fresno Army Air Forces Ground Training Center, Sacramento, CA.

Appendix K-3

²⁵ Air Service Command Training Center, Fresno

1944 History Air Service Command Training Center, Fresno, Vol. 1 September 1943- 30 June 1944, June 1944, File 209-2 - 211.1-1, Air Force Historical Research Center, Maxwell AFB, AL.

Appendix E-4

Corps of Engineers, Pacific Division, San Francisco Sub-Office Real Estate Division

1945 Memorandum Subject: Real Property Inspection Report – W 04-193-eng-210, 28 April 1945. RG 342, Acc. 53F-5038, Box 1, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.

Appendix E-12

²⁶ War Department, Adjutant General's Office

1946 Memorandum Subject: Surplus – Air Technical Service Command Training Center Fresno, California, 28 February 1946. RG 160, Entry 27, Box 50, File Fresno, NARA-College Park, MD.

Appendix E-14

U. S. Army Corps Engineers, Sacramento District

1947 Real Estate Fresno A.A.F. Ground Forces Training Center Military Reservation, 25 May 1944, revised 13 May 1947. Corps of Engineers, Sacramento District, Real Estate Division-Cadastral Section, Microfiche Files, Folder: Fresno Army Air Forces Ground Training Center, Sacramento, CA.

Appendix K-3

²⁷ Section 8.0 TECHNICAL DATA OF ORDNANCE AND EXPLOSIVES

References for Individual Ordnance Data Sheets contained Appendix C are noted at the bottom of each sheet.

²⁸ Air Service Command, Headquarters

1943 Memorandum Subject: Safety Precautions For Using Chemical Warfare Training Ammunition, 12 July 1944. RG 342, Acc. 52B-3007, Box 127, Folder 470.6, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.

Appendix E-1

APPENDIX B

**ABBREVIATIONS, ACRONYMS,
AND BREVITY CODES**

ABBREVIATIONS, ACRONYMS AND BREVITY CODES

The following list contains abbreviations, acronyms and brevity codes within this ASR, as well as typical others.

AAF*	Army Air Field
AAF	Army Air Forces
AA	Anti-Aircraft
ACGIH	American Conference of Governmental Industrial Hygienist
AEC	Army Environmental Center
AFB	Air Force Base
ACGIH	American Conference of Governmental Industrial Hygienist
ANSI	American National Standards Institute
AP	Armor Piercing
APDS	Armor Piercing Discarding Sabot
APERS	Anti-Personnel
AP-T	Armor Piercing-Tracer
ASC	Air Service Command
ASR	Archive Search Report
AT	Anti-Tank
ATSC	Air Technical Service Command
BD	Base Detonating
BD/DR	Building Demolition/Debris Removal
BLM	Bureau of Land Management
BRAC	Base Realignment and Closure
BTC	Basic Training Center
CADD	Computer-Aided Drafting and Design
CAIS	Chemical Agent Identification Set
cal	Caliber
CBDCOM	Chemical and Biological Defense Command
CE	Corps of Engineers
CEHNC	Corps of Engineers, Huntsville Engineering and Support Center
CEMVS	Corps of Engineers, Mississippi Valley-St. Louis District
CEMVK	Corps of Engineers, Mississippi Valley-Vicksburg District
CEP	Circular Error of Probability
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
COE	Chief of Engineers
CON/HTRW	Containerized Hazardous, Toxic and Radioactive Waste
ctg	Cartridge
CWM	Chemical Warfare Materials
CWS*	Chemical Warfare Service
CX	Center of Expertise

DA	Department of the Army
DANC	Decontaminating Agent
DEET	Diethyltoluamide
DERP	Defense Environmental Restoration Program
DOD	Department of Defense
DOI	Department of Interior
EE/CA	Engineering Evaluation/Cost Analysis
EIS	Environmental Impact Statement
EM	Engineer Manual
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
ETL	Engineering Technical Letter
FAAFGTC	Fresno Army Air Forces Ground Training Center
FGDC	Federal Geographic Data Committee
FM	Field Manual
FS	Feasibility Study
FUDS	Formerly Used Defense Sites
GIS	Geographic Information System
GPM	Gallons Per Minute
GPS	Global Positioning System
GSA	General Services Administration
HAZWOPER	Hazardous Waste Operations
HBX	high blast explosives; mixtures of RDX, TNT and aluminum
HE	High Explosive
HEAT	High Explosive Anti-Tank
HEI	High Explosive Incendiary
HEP	High Explosive Plastic
HMX	cyclotetramethylenetetranitramine (a type of high explosive)
HTRW	Hazardous Toxic and Radioactive Waste
HTW	Hazardous and Toxic Waste
IAS	Initial Assessment Study
IATCB	Interdepartmental Air Traffic Control Board
INPR	Inventory Project Report
IRP	Installation Restoration Program
LD	Lyme Disease
MCX	Mandatory Center of Expertise
MPR	Military Personnel Records
MT	Mechanical Time
MTSQ	Mechanical Time Super Quick
NARA	National Archives and Records Administration
NAVSEA	Naval Sea Systems Command
NAAS*	Naval Auxiliary Air Station
NAS*	Naval Air Station
NCP	National Contingency Plan

n.d.	No Date
NEW	Net Explosive Weight
NGVD	National Geographic Vertical Datum
NIMA	National Imagery and Mapping Agency
NIOSH	National Institute for Safety and Health
NMAS	National Map Accuracy Standards
NPL	National Priorities List
NOAA	National Oceanic and Atmospheric Administration
NOFA	No Further Action
NPRC	National Personnel Records Center
NRC	National Records Center
NWS	National Weather Service
OCE	Office Chief of Engineers
OE	Ordnance and Explosives
OP	Ordnance Pamphlet
OSHA	Occupational Safety and Health Administration
PA	Preliminary Assessment
PD	Point Detonating
PE	Professional Engineer
PETN	pentaerythritol tetranitrate (a type of high explosive)
PIBD	Point Initiating, Base Detonating
PM	Project Manager
PPE	Personal Protective Equipment
QASAS	Quality Assurance Specialist, Ammunition Surveillance
RAC	Risk Assessment Code
RDX	cyclotrimethylenetrinitramine; also known as cyclonite or hexogen (a type of high explosive)
RG	Record Group
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
SARA	Superfund Amendments and Reauthorization Act
SEP	Spherical Error of Probability
SOP	Standing Operating Procedures
SPB*	Surplus Property Board
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
TCRA	Time Critical Removal Action
TEU	United States Army Technical Escort Unit
TM	Technical Manual
TNT	Trinitrotoluene
TP	Target Practice
USACE	U.S. Army Corps of Engineers
USADACS	U.S. Army Defense Ammunition Center and School
USAFHRA	U.S. Air Force Historical Research Agency

USAFETAC	U.S. Air Force Environmental Technical Application Center
USATCES	U.S. Army Technical Center for Explosive Safety
USATHMA	U.S. Army Toxic and Hazardous Materials Agency
USC	United States Code
USCG	United States Coast Guard
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tank
UXO	Unexploded Ordnance
WAA*	War Assets Administration
WAGE	Wide Area GPS Enhancement
WGS	World Geodetic System
WNRC	Washington National Records Center
WW I	World War I
WW II	World War II

* designates an historic acronym

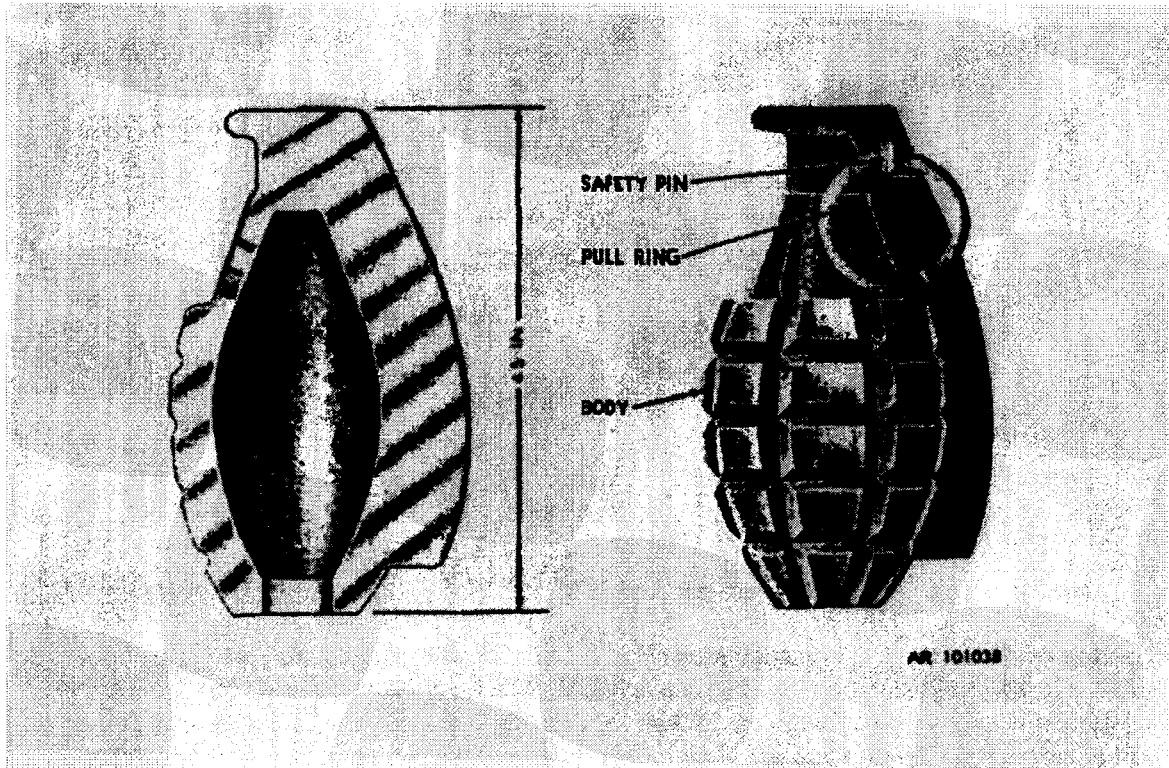
APPENDIX C
TEXT / MANUALS

TEXT / MANUALS

<u>Page No.</u>	<u>Ordnance Technical Data Sheets¹</u>
C-1	Grenade, Hand, Training, Mk IA1
C-2	Grenade, Hand, Practice, M21
C-3	Instructional Gas Identification Set, M 1
C-4	Gas Identification Set, Detonation, M1, K951/K952
C-5	Toxic Gas Set, M1, K941
C-6	Pot, Smoke, HC, M1
C-7	Bomb, Incendiary, Instructional, M2
C-8	Bomb, Incendiary, 4-lb, AN-M54 Series and AN-M54X Series

¹ All Ordnance Technical Data Sheets prepared by U.S. Army Corps of Engineers St. Louis District, Ordnance and Technical Services Branch-Engineering Division.

GRENADE, HAND, TRAINING, Mk IA1



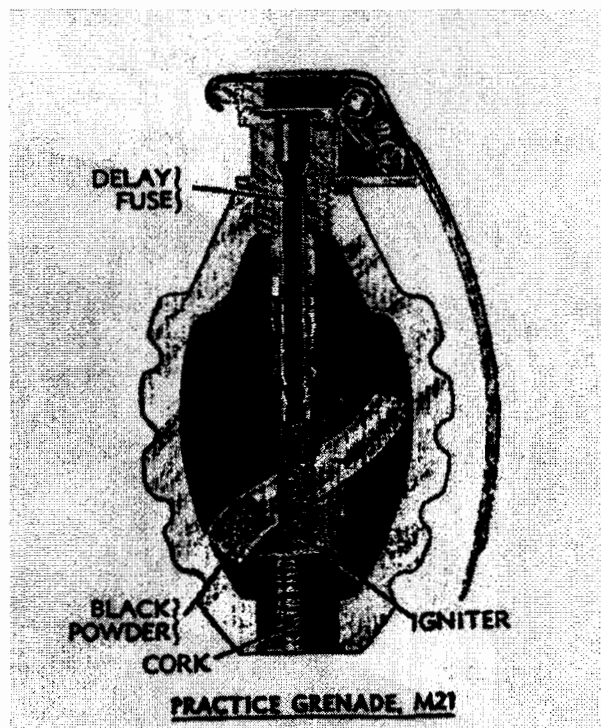
Description and Use. The Mk1A1 training grenade is made of cast iron and is approximately the same shape, size, and weight as a loaded fragmentation Hand Grenade Mk II. A projection is cast on the top and side to represent the fuze assembly. The A1 modification consists of the addition of a cotter pin and pull ring to a hole drilled in appropriate position through this projection. The training hand grenade is used for preliminary practice in grenade throwing.

Painting and Markings. This grenade is painted black and that its only distinctive markings

Length	4.5 inches
Diameter	2.25 inches
Weight	21 ounces
Color	Black

Reference: TM 9-1904, *Ammunition Inspection Guide*, March 1944

GRENADE, HAND, PRACTICE, M21



Description and Use. The M21 practice grenade is made of cast iron and is the same shape, size, and weight as a loaded fragmentation Hand Grenade Mk II. The fuze for the grenade has a primer, a combustible time-delay train and igniter. When the grenade is thrown, the safety lever is pushed off by the striker, allowing the striker to impact against the primer. The primer ignites the time-delay train and, after 4 or 5 seconds, the igniter initiates the black powder. The black powder contained in a cloth tube and is inserted into the filling hole, which is closed with a cork.

This grenade is later known as the Grenade, Practice, Mk 11.

Length	4.5 inches
Diameter	2.25 inches
Weight	21 ounces
Filler	Black powder

Reference: TM 9-1900, *Ammunition General*, June 1945; FM 23-30, *Hand and Rifle Grenades*, April 1949

INSTRUCTIONAL GAS IDENTIFICATION SET, M 1

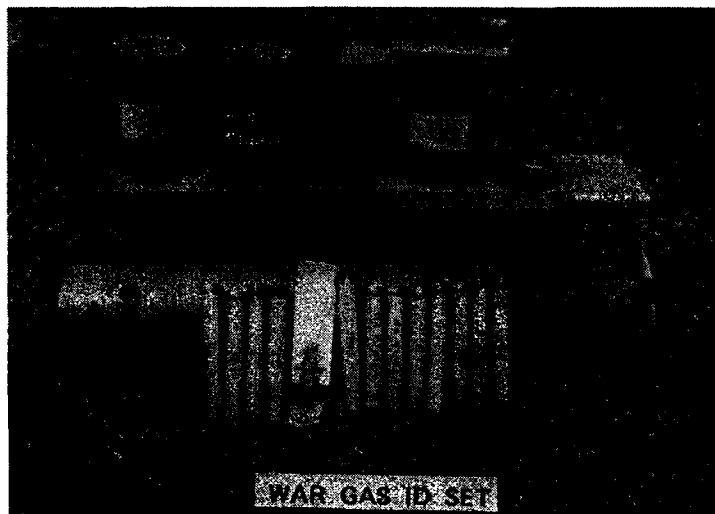


Use. The set is primarily used for indoor instruction prior to a field exercise with the detonation gas identification set.

Description. The “sniff set” consists of seven wide-mouthed 4-ounce bottles, each with a stopper ground to fit. Each bottle is packed in sawdust filled metal container. The containers are in turn packed in sawdust-filled compartments of a wooden case 30 inches long, 14 3/4 inches wide, and 11 inches high. One compartment is empty. Four bottles in the M1 set contain about 50 cubic centimeters of granular activated charcoal saturated with a gas. Two of these bottles contain mustard gas, one chlorpicrin, and the fourth lewisite. The remaining three bottles contain solids without charcoal, one adamsite, a second chloracetophenone, and the third solid triphosgene. Solid triphosgene decomposes upon contact with the air to give off pure phosgene.

Reference: *Chemical Agent Identification Set Information Package*, date unknown, U.S.A. Chemical Material Destruction Agency, Aberdeen Proving Ground, MD; TM 3-305, *Use of Chemical Agents and Munitions in Training*, June 1944

GAS IDENTIFICATION SET, DETONATION, M1 K951/K952



Use. Designed to be used outdoors. The gas tubes would be detonated, creating an agent cloud. Soldiers would then try to identify the agent based on its odor and other characteristics.

Description. The K951/952 Chemical Agent Identification Set (CAIS) contained 48 Pyrex, flame sealed ampoules, 12 each containing 1.4 ounce solution of Mustard (H, 5% in chloroform) Lewisite (L, 5% in chloroform), Chloropicrin (PS, 50% in chloroform), and Phosgene (CG) for a total of 26 fluid ounces (0.768 liters) of agent, less the chloroform, per set. Each ampoule is 1 inch in diameter and 72 inches long. Each ampoule is packed in a cardboard screw cap container (mailing tube type) with agent type indicated by letters on the cardboard container. Twelve (12) cardboard containers each are packaged into 4 press fit metal cans, which are 93 inches high. The cans are packed into a steel cylinder 68 inches in diameter, approximately 38 inches long and 0.145 inches thick. A flanged end cover that is secured by eight bolts closes the open end of the cylinder. The only difference between the K951 and K952 is that the K951 was issued with blasting caps that were packed and shipped in a separate container.

Time frame of use Korean Era

Old Stock Number..... FSN 1365-025-3273 (K951)
FSN 1365-025-3783 (K952)

Reference: *Chemical Agent Identification Set Information Package*, date unknown, U.S.A. Chemical Material Destruction Agency, Aberdeen Proving Ground, Md.

TOXIC GAS SET, M1 K941



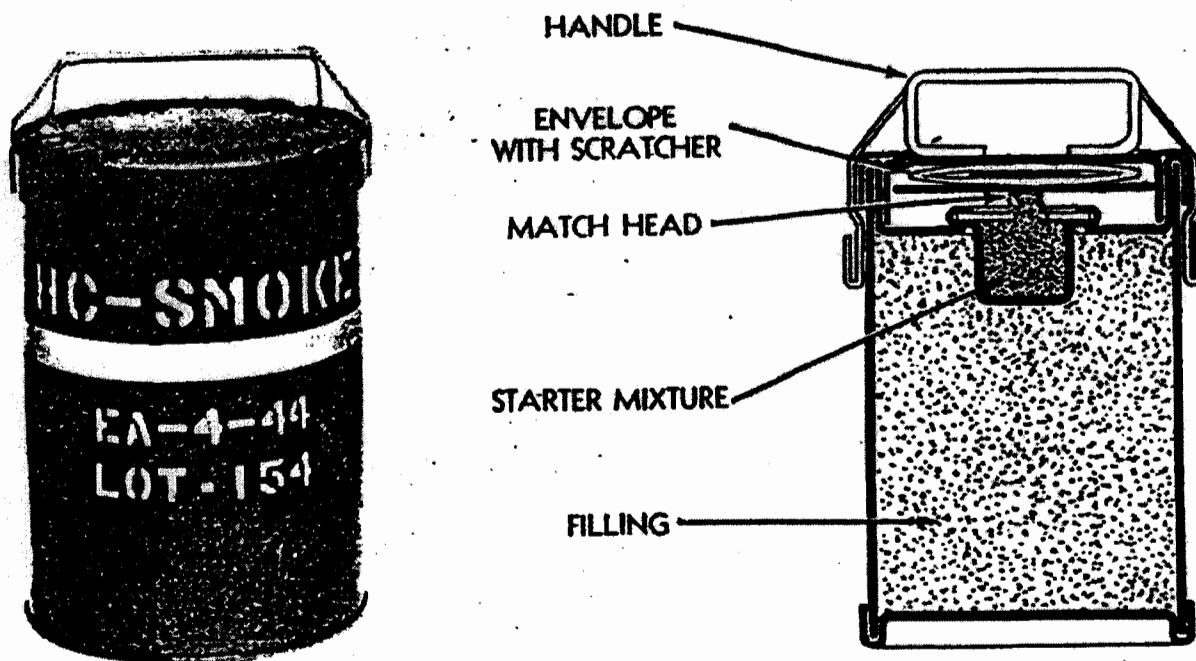
Description. The K941 CAIS contains 24 glass bottles, each containing 32 ounces of Mustard (H) or Distilled Mustard (HD) for a total of 84 ounces (2.48 L) per set. Bottles are round and have a small screw top. Heat resistant paint on the bottles indicates “H”, “HS”, or “HD”, “TOXIC GAS SET, M1”. Four bottles are packed in 2 inch layers of sawdust within a sealed metal can. The cans are pressure sealed, 63 inches high, and have a sardine-type key on the bottom. Six of these metal cans are fitted into a steel shipping cylinder that is 6ε inches in diameter, approximately 38 inches long, and 0.145 inches thick. The open end of this container is closed by a flanged end cover that is secured by eight bolts tightened over an χ inch thick lead gasket.

Time frame of use. World War II through the late 1950s.

Old Stock Number..... FSN 1365-219-8574

Reference: *Chemical Agent Identification Set Information Package*, date unknown, U.S.A. Chemical Material Destruction Agency, Aberdeen Proving Ground, Md.

POT, SMOKE, HC, M1



Pot, smoke, HC, M1.

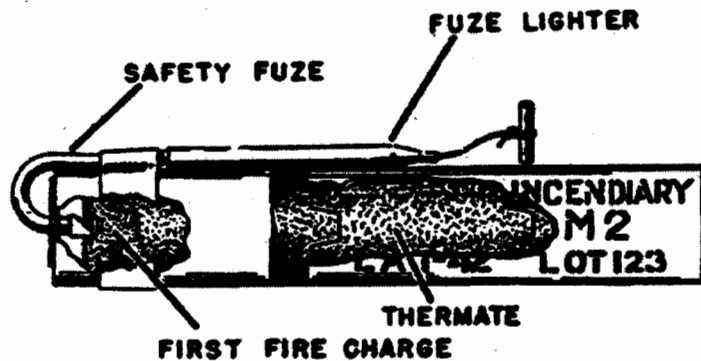
Use. The M1 HC smoke pot is intended principally for use as a training munition. It can also be used in combat for setting up smoke clouds within friendly lines.

Description. The container of the HC smoke pot is a can about 5-1/4 inches in diameter and 9 inches high. The inner cover is a countersunk flat ring, with a hole in the center, crimped over the edge of the can. The outer cover, shaped like a biscuit cutter, fits snugly inside the countersunk edge of the top. A handle is welded to the outer cover and the cover is sealed to the container with adhesive tape. The main part of the container is filled with HC mixture. A or plastic cup, resting in the hole in the inner cover, contains a quick-burning starter on top of which is a match head

Weight	9 ½ to 11 pounds
Diameter	5 ½ inches
Height	9 inches
Burn Time	5 to 8 minutes

Reference: TM 3-300, *Ground Chemical Munitions*, August 1956

BOMB, INCENDIARY, INSTRUCTIONAL, M2



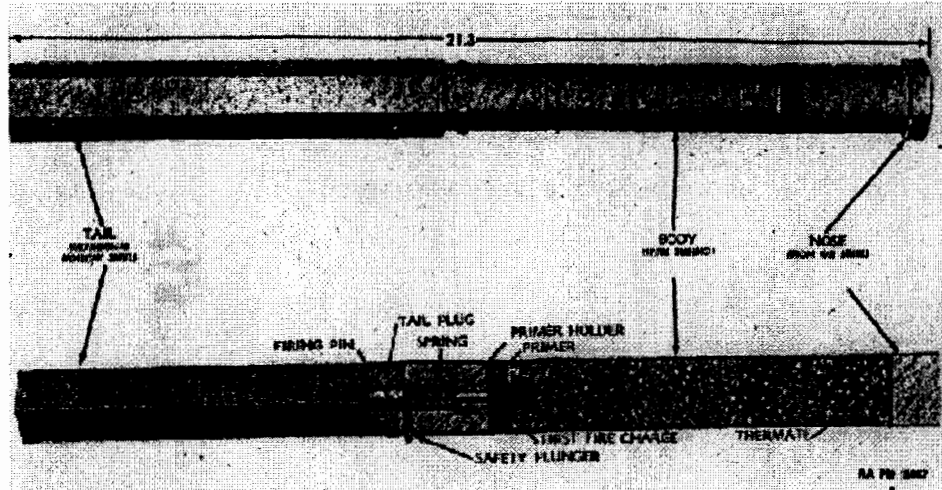
Use. This item is designed for the purpose of demonstrating to troops and qualified civilians the functional time element and incendiary action of thermate incendiary devices. Methods of controlling the burning and extinguishing the fires can be taught using these devices.

Description. It is constructed of steel tubing 9 inches in length and 1-½ inches in diameter. One end is closed by a tin plate, friction-fitted and soldered, the other by a similarly soldered plate containing a center fuse hole and three vent holes equally spaced around the center. The body filling consists of thermate capped by a first-fire charge. A 6-inch powder time-train fuse tipped with a collodion and black powder mixture is fitted. This fuse is ignited with the attached pull-friction fuse lighter. The M2 burns for 75 seconds.

Length 9 inches
Filler Thermate
Fuzing Pull-friction fuse lighter

Reference: TM 9-1904, *Ammunition Inspection Guide*, March 1944

BOMB, INCENDIARY, 4-LB, AN-M54 SERIES AND AN-M54X SERIES



General. Principally used against buildings of frame construction, in conjunction with the use of demolition bombs. These bombs are normally unpainted metal but may be painted a light green to prevent oxidation during storage. A purple band around center of the body denotes incendiary nature of bomb. Nose of bomb is stamped with designation and manufacturer's markings. Fuze tail mechanical impact, no designation. The "X" designation indicates that an explosive charge was added to the munition as a deterrent to fire fighters.

Over-all length	21.35 inches
Diameter	1.7 inches
Weight	4 pounds
Filler	Thermate

Reference: TM 9-1984, *Disposal of American and Allied Bombs and Fuses*, Nov 1942; NAVSEA OP 1664, US Explosive Ordnance, 28 May 1947 w/Change 1, 15 January 1969

APPENDIX D
REPORTS / STUDIES

Section No. Report / Study

D-1 Corps of Engineers – Sacramento
1999 Inventory Project Report Site Survey Summary Sheet for DERP-
FUDS No. J09CA7280, Fresno Fairgrounds (Basic Training Center
No. 8), Fresno, CA, amended 01 March 1999.

SITE SURVEY SUMMARY SHEET
FOR
DERP-FUDS NO. J09CA7280
FRESNO FAIRGROUNDS
(BASIC TRAINING CENTER NO. 8)
FRESNO, CALIFORNIA

SITE NAME:

The site name appearing on U.S. Army Corps of Engineers drawings dated September 1943, is Army Air Force Technical Training Command, Basic Training Center No. 8. The site was also known as Fresno Army Airfield Ground Training Center and Air Technical Services Command Training Center. The site is currently known as the Fresno District Fairgrounds.

LOCATION:

The site is located in the City of Fresno 4 miles east of State Highway 99 along State Route 180 (See Figure 1). The perimeter fence of the installation would currently fall within Chance Avenue, East Kings Canyon Road, Chestnut Avenue, and the Southern Pacific Railroad. The fairgrounds' administrative offices are located at 1121 South Chance Avenue.

SITE HISTORY:

It has been determined that the United States Army acquired one 40-acre parcel of land by Declaration of Taking, Civil No. 141, and leased several other parcels in 1942 for the establishment of the Fresno Army Airfield Ground Training Center. The approximate 300 acre, five parcel site was comprised of the local fairgrounds and farmland on the outskirts of Fresno. This site served as a training facility for the Army as well as an interim detention facility for Japanese-Americans. Because of these functions, the installation consisted primarily of temporary buildings. Sixty percent of the 450 structures listed on the original installation site plan were used as barracks. The majority of remaining buildings were used as mess halls, lavatories, laundry facilities, office space, and classrooms. A small number of the buildings were used as hospitals, paint shops, vehicle repair sheds, maintenance buildings, fueling stations, chlorination control sheds, ammunition magazines, and oil pumping stations.

During the Army's five year occupation, networks of both utilities and roads were placed over the entire installation. A majority of this work (including the roads, water, sewage, underground storage tanks (USTs), gas and oil distribution lines, and electricity) was completed under one lump sum contract. Sewage and water supply services were acquired by tapping into the City of Fresno's existing utility infrastructure.

The installation was declared surplus on 13 February 1946 and turned over to the War Assets Administration (WAA). The WAA returned the property to lease holders and auctioned off many of the temporary buildings with their associated equipment. However, the WAA deemed the utility infrastructure beneficial for any subsequent land reuse plan and thus left all utilities in place. After terminating each of the leases signed by the Army in 1942, the WAA initiated proceedings to dispose of the 40-acre parcel owned by the government. Because a comprehensive utility network was in place, the parcel was declared "residential" and transferred to the Federal Public Housing Authority. However, lobbying by the 21st District Agricultural Association caused the 40-acre parcel owned by the government to be returned to the WAA and sold to Fresno County to be added to the fairgrounds. At present, the Fresno Fairgrounds is comprised of 130 acres, which includes the 40-acre parcel. The remaining balance of the 300 acres was released back to the private owners and is now residential.

As the City of Fresno has continued to expand, lands surrounding the fairgrounds have continued to be developed (See Figure 2). A majority of the original installation, except the original fairgrounds (Area 1) and its southern annex (Area 2), is now residential. Only two small plots of undeveloped property remain; a lot northeast of the Butler and Maple Avenue intersection (Area 3), and a recreational area southeast of the Butler and Maple Avenue intersection (Area 4).

In 1997, a contractor placing fiber optic cable near the fairgrounds' horse stables (Area 2) pierced a UST. Because personnel from the fairgrounds were unaware of any tanks being present in this area, some preliminary research was conducted concerning the placement and

ownership of the pierced tank. In a letter dated 24 November 1997, Mr. J. Thomas Baker-- Project Manager of UST removal for California Parks and Fairgrounds--provided the Corps with evidence supporting Department of Defense occupation of the fairgrounds and the surrounding areas. The evidence included U.S. Army Corps of Engineers drawings listing numerous UST's and other areas of concern. Since this tank discovery, the Fresno Fairgrounds in cooperation with the California Construction Authority have removed and properly disposed of the tank damaged during fiber optic cable installation.

Sellens Environmental was hired by the California Construction Authority to do a Site Assessment Report and a UST Removal Report for the removal of the ruptured tank. Copies of these two reports are on file. Michael P. Sellens, Registered Geologist, stated in his Executive Summary that "as there is no threat to human health or the environment no further action is required at the site, and Site File Closure should be processed."

SITE VISIT:

A site visit was conducted on 27 May 1998 by Mr. Eric Nagy and Mr. Phillip Brozek of the US Army Corps of Engineers, Sacramento District, Environmental Design Section. The Corps Representatives visually surveyed all areas lying within the corresponding boundaries of the original installation (See Figure 2). These areas included the fairgrounds (Areas 1 & 2), a local community center and adjacent recreational areas (Area 3), an undeveloped lot (Area 4), and several large residential areas. During the site visit, interviews were conducted with fairgrounds personnel concerning historic knowledge as well as recent experiences.

In an effort to determine what hazards or contaminants may require further investigation or remediation, the Corps Representatives researched the installation's mission, functions, and services which may have translated into current issues. Through interviews, research, and the site visit, information has been gathered on topics including: 1) underground storage tanks and distribution lines; 2) floor drain service; 3) ammunition storage; 4) ammunition use; 5) solid waste disposal; 6) sewage service; and, 7) electrical service.

1. A gas and oil distribution system site plan from the original installation shows 64 underground storage tanks. Based on observations made during the site visit, the Corps has concluded that many of these tanks have been removed. The original site plan shows 12 tanks within the infield of the fairground's racetrack. Since the disposal of the installation, 80% of this area has been excavated to provide a storm water detention pond. The depth of the excavation (15-20 feet) is sufficient to assure that any tank in the area would have been discovered and removed. Likewise, tank locations which correspond to residential or commercial development probably have been discovered and removed. Based on the depth of the tank discovered by the fairgrounds (2 or 3 feet below the surface) and the flat topography of the region, it is reasonable to conclude that site preparation and footing excavation for a common residential unit was sufficient to discover any UST on site.

The experiences of fairground personnel and observations made during the site visit reinforce concern for the continued existence of UST's in a few locations. These areas include:

a. One UST (damaged by fairgrounds personnel while installing fiber optic cable) has already been discovered and removed from the fairgrounds horse stables area (Area 2). This area may contain 14 additional tanks (Figure 2, Area 2), based on the original site plans. The county has completed some industrial development at the southern end of this area which may have resulted in several tanks being discovered.

b. Several UST's may remain within the grounds associated with the Mosqueda Community Center (Area 3). Original site plans show five possible tanks at the western end of this area. Historical photographs showing this area as a parking lot as far back as the 1960s, as well as its undisturbed nature today, make it reasonable to conclude that this area may still contain undiscovered UST's.

c. While placing an underground electric line, maintenance personnel from the fairgrounds discovered the 12,000 gallon tank shown west of Building F-209. This electric line was rerouted around the tank, and the UST remains in place.

d. Mr. Chilingarian is the present property owner of Area 4 (Figure 2). This is the only lot on which original structures from the installation were observed to remain. In a phone interview with 'Chili', he stated his father had all of the UST's on the property removed when he purchased the land in 1947. A Record of Conversation is on file. No further action is required in this area.

2. In an interview with fairground maintenance worker Mr. Anthony Lushbough, building F-209 was said to have four to eight floor drain dry wells. Because this building is shown on the original installation site plan as a motor pool, contaminants were likely washed into the drains. The original floor drain pipes have been replaced; however, the dry wells to the storm drain were only excavated to the depth required for installation of the new floor drain system. Soil and/or ground water contamination is possible from discharges to the dry well.

3. The original site plan shows several small ammunition magazines located in the southeast corner of the installation. Currently, this property is a residential area located south of East Braly Avenue. In a visual survey of the area, no berms or concrete bunkers associated with these facilities could be seen. No further action is required at this site.

4. The original site plan does not show any facilities related to the use of any munitions. Furthermore, no data has been recovered which discusses a firing range or similar facility. However, during an interview with fairground maintenance worker Mr. Anthony Lushbough, two 1950's era stories were passed along concerning fairground maintenance workers discovering unexploded ordinance (UXO). Mr. Lushbough disqualified these stories, regarded them as hearsay and cautioned against their validity. No further action is warranted in this regard.

5. Information regarding the disposal of solid waste by the installation has been difficult to find or verify. In an interview with fairgrounds maintenance worker Mr. Daniel Brantley, four specific solid waste disposal locations were discussed. The approximate size and location of these areas has been verified on a 21st District Agricultural Association drawing dated 25 July 1947. Two locations were the infield of the racetrack (Figure 2). These locations have likely

been discovered, and possibly removed, as part of the storm water detention basin's excavation. The other locations were outside of the northeast and northwest corners of the racetrack (Figure 2). These areas have been developed, and any type of waste would likely have been discovered. The northwest location is now a tunnel for car access into the center of the track, and the northeast location now has structures built on the site area.

Mr. Brantley believes that for both of these locations the fairgrounds continued to dispose of solid waste in the same pits that were utilized by the installation. However, he did not know whether these pits were originally opened by the installation, or by the fairgrounds prior to the installation. He also stated that burning was often employed to reduce volume. This area, in and around the fairground racetrack, is currently used and maintained by the Fresno Flood Control District. Mr. Patrick Bryan of the Fresno Flood Control District (209)456-3292, stated that recent soil tests done, inside and around the race track showed no soil contamination. A copy of this report is on file.

Based on the function of the installation, the size of the previous existing disposal area, and the possibility of beneficial use, it is reasonable to conclude that only minor volumes of contaminants would have been disposed by the installation during its five year occupation of the site. No further action is required in this area.

The installation site plans show the previous existence of a salvage yard at the southern end of the facility, located east of Maple Avenue. No information has been found concerning the contents or extent to which this area was used. Currently, the area is residentially developed and it has been concluded that any debris remaining at the site would have been discovered and removed during construction of the residential units. No further action is required in this area.

6. Mr. Daniel Brantley and Mr. Anthony Lushbough both believe the installation's sewage service was provided by the City of Fresno. Original installation site plans support this belief.

7. During the interview with Mr. Daniel Brantley, the historical supply of electricity to the fairgrounds was discussed. Specifically, Mr. Brantley was asked if any old transformers were either still in service or being stored on the fairgrounds. He stated that every transformer on the grounds is either in use or being stored by the fairgrounds and has been inventoried by the State.

CATEGORY OF HAZARD: CON/HTRW, HTRW

PROJECT DESCRIPTION: There are two potential projects at this site.

1. CON/HTRW. Installation site plans show 64 underground storage tanks. Based on observation, many of the tanks shown on installation drawings have likely been removed. However, several other areas appear to be largely undisturbed and likely continue to contain tanks (See Areas 1-3 on Figure 2). 32 tanks are shown on site plans in these areas. These areas require verification of each tank's existence and its corresponding location by using the existing site maps and nonintrusive survey techniques.

2. HTRW. The "Wine and Roses" Building (F-209) is known to have had between four and eight floor drain dry wells. Because this building was shown on installation site plans as a motor pool, investigative measures are recommended to determine if contaminants are present within the dry wells and surrounding soil.

AVAILABLE STUDIES AND REPORTS:

Site Assessment Report for The Former Underground Storage Tank Sites, at Fresno District Fair; prepared for California Construction Authority, prepared by Sellens Environmental.

Underground Storage Tank Removal Report, at Fresno District Fair; prepared for California construction Authority, prepared by Sellens Environmental.

Water Bacteriological Analysis Report, at The Big Fresno Fair; prepared for Fresno County Fairgrounds, prepared by The Fresno County Health Services Agency, Public Health Laboratory.

Point of Contact (POC): Mr. William Mullery, CESP-K-ED-EB, U.S. Army Corps of Engineers, Sacramento District. (916) 557-6944

PROJECT SUMMARY SHEET
DERP-FUDS CON/HTRW - PROJECT NO. J09CA7281
SITE NO. J09CA7280
FRESNO FAIRGROUNDS
(BASIC TRAINING CENTER NO. 8)
FRESNO, CALIFORNIA

PROJECT DESCRIPTION: In order to provide the temporary installation with sufficient utilities, numerous underground storage tanks (UST) and distribution lines were placed. The drawing titled “GAS & OIL DISTRIBUTION SYSTEMS” for the installation shows 64 UST’s were installed across the facility. Many of these UST’s have likely been discovered because of excavation for residential unit construction; however, several areas have never been developed and remain undisturbed currently. Table 1 lists each area of concern, the number of tanks thought to remain, and a range of tank sizes thought to remain in each area.

Table 1.

Area	Number of UST’s	UST Sizes (Gallons)
1	2	1@100, 1@12000
2	14	13@750, 1@5000
3	7	1@750,3@2500, 3@5000
4	9	1@100, 3@250, 1@500, 1@1000, 2@1200, 1@2000

In July 1997, a contractor placing cable for the fairgrounds pierced an UST (See Figure2). The top of the tank was two to three feet below the surface and contained only diesel residue; this tank was removed by the Fresno County Fairgrounds. Fairgrounds personnel

encountered a second tank while placing an underground electric line (See Figure 2); they rerouted the cable and this tank remains in place.

PROJECT ELIGIBILITY: During the Army's five year occupation, networks of both utilities and roads were placed over the entire installation. A majority of this work (including the roads, water, sewage, underground storage tanks (UST), gas and oil distribution lines, and electricity) was completed under one lump sum contract. No information has been discovered which shows beneficial use of any of the UST's in question.

POLICY CONSIDERATIONS:

1) Mr. Robert Little of the City of Fresno, Department of Public Utilities, Water Department has estimated the water table to be 90 to 100 feet below the surface in the area of Fresno Fairgrounds.

He has also reported that eight drinking water wells are located within approximately a 0.5 mile radius of the fairgrounds and currently all eight are operating. The well locations are on file.

a. Ground water sampling is done each year before fair time by the County of Fresno, Health Services Agency (Point of Contacts on file). Tests performed in September 1997 show no ground water petroleum contamination was detected from the two wells located on the fairgrounds. A copy of this report is on file.

2) Mr. David Pomaville of the Fresno County Health Department, Environmental Health Section stated that the county has recorded UST activities since 1983. He has provided the Corps with "Program Inventory List" documenting all UST removals and closures in the area of the installation (Census Tract #13).

PROPOSED PROJECT: Areas 2 and 3 on Figure 2 appear to be largely undisturbed and likely continue to contain tanks. These areas require verification of each tank's existence and its corresponding location by using the existing site maps and nonintrusive survey techniques.

COST ESTIMATE: Attached.

PA POC: Mr. William Mullery, CESP-K-ED-EB, U.S. Army Corps of Engineers, Sacramento District. (916) 557-6944

PROJECT SUMMARY SHEET
DERP-FUDS HTRW - PROJECT NO. J09CA7282
SITE NO. J09CA7280
FRESNO FAIRGROUNDS
(BASIC TRAINING CENTER NO. 8)
FRESNO, CALIFORNIA

PROJECT DESCRIPTION: Building F-209 was constructed by the WPA in 1940 as an addition to the fairgrounds. In 1942 when the Army began occupation of the site, the building was used as a motor pool. Fairgrounds personnel reported that the floor drains were dry wells and that they backed up regularly during significant rain. They were replaced with a more conventional drainage network in 1995; however, excavation only extended to the depth required for installation of the new floor drains.

PROJECT ELIGIBILITY: During the U.S. Army's occupation of the fairgrounds, the existing structure now known as "Wine and Roses" (F-209) was used as a motor pool.

POLICY CONSIDERATIONS: Mr. Robert Little of the City of Fresno, Department of Public Utilities, Water Department has estimated the water table to be 90 to 100 feet below the surface in the area of Fresno Fairgrounds. He has also reported that eight drinking water wells are located within approximately a 0.5 mile radius of the fairgrounds and currently all eight are operating.

PROPOSED PROJECT: Because the "Wine and Roses" Building was shown on installation site plans as a motor pool, investigative measures are required to determine if and to what extent contaminants are present within the dry wells and surrounding soil.

COST ESTIMATE: Attached.

PA POC: Mr. William Mullery, CESPk-ED-EB, U.S. Army Corps of Engineers, Sacramento District. (916) 557-6944.

APPENDIX E

**LETTERS / MEMORANDUMS/
MISCELLANEOUS ITEMS**

Section No. Letter / Memorandums / Miscellaneous Items

- E-1 Air Service Command, Headquarters
1943 Memorandum Subject: Safety Precautions For Using Chemical Warfare Training Ammunition, 12 July 1944. RG 342, Acc. 52B-3007, Box 127, Folder 470.6, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.
- E-2 Air Service Command Training Center
1944 Air Service Command Training Center Post History Quarterly Supplement July-August-September 1944, circa October 1944, Box 211.1-2 – 211.2-1, Air Force Historical Research Center, Maxwell AFB, AL.
- E-3 Air Service Command Training Center
1945 Air Service Command Training Center Post History Quarterly Supplement Oct., Nov., Dec., 1944, circa January 1945, Box 211.1-2 – 211.21, Air Force Historical Research Center, Maxwell AFB, AL.
- E-4 Air Service Command Training Center, Fresno
1944 History Air Service Command Training Center, Fresno, Vol. 1 September 1943- 30 June 1944, June 1944, File 209-2 - 211.1-1, Air Force Historical Research Center, Maxwell AFB, AL.
- E-5 Air Technical Service Command, Construction Office
1945 ATSC Training Center Fresno, California Inspection File, Standby Stations, Field Survey, 30 May 1945. RG 342, Acc. 53F-5038, Box 2, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO.
- E-6 Air Technical Service Command, Headquarters
1945 Memorandum Subject: Relinquishment of Jurisdiction of ATSC Training Center Fresno, California and Redesignation of the 4128th AAF Base Unit Thereat, 4 June 1945. RG 160, Entry 27, Box 50, File Fresno, NARA-College Park, MD.
- E-7 Army Air Forces Western Technical Training Command, Denver
1943 Appendix History of Basic Training Center No. 8, 29 October 1942 to 1 September 1943, Fresno California, September 1943, Box 229.12 – 229.27, Air Force Historical Research Center, Maxwell AFB, AL.

- E-8 Army Air Forces Western Technical Training Command, Denver
1944 The History of Basic Training Center No. 8, Army Air Forces
Technical Training Command Fresno, California, 29 October 1942
to 1 September 1943, June 1944, Box 229.12 – 229.27, Air Force
Historical Research Center, Maxwell AFB, AL.
- E-9 Army Service Command Training Center, Fresno, California
Circa 1944 Post History Photographs, Part II School Conducted on the Post, B.
Chemical Warfare School Pictures 74-99, undated, circa 1944. Box 209-2 –
211.1-1, Air Force Historical Research Center, Maxwell AFB, AL
- E-10 Army Service Command Training Center, Fresno
Circa 1945 Army Service Command Training Center, Fresno, California
Building List, undated, circa 1945. RG 342, Acc. 53F-5038, Box 2,
National Personnel Records Center Military Personnel Records
(NPRC, MPR) St. Louis, MO.
- E-11 Basic Training Center Number Eight, Fresno, California, Headquarters
1943 Memorandum Subject: Additional Construction (Ordnance
Warehouse and Magazine and Three Quartermaster Warehouses.), 26
January 1943. RG 342, Acc. 50E-4001, Box 6, National Personnel
Records Center Military Personnel Records (NPRC, MPR) St. Louis,
MO.
- E-12 Corps of Engineers, Pacific Division, San Francisco Sub-Office Real Estate
Division
1945 Memorandum Subject: Real Property Inspection Report – W 04-193-
eng-210, 28 April 1945. RG 342, Acc. 53F-5038, Box 1, National
Personnel Records Center Military Personnel Records (NPRC,
MPR) St. Louis, MO.
- E-13 War Department
1944 TM 3-305, Use of Chemical Agents and Munitions in Training, dated
2 June 1944.
- E-14 War Department, Adjutant General's Office
1946 Memorandum Subject: Surplus – Air Technical Service Command
Training Center Fresno, California, 28 February 1946. RG 160,
Entry 27, Box 50, File Fresno, NARA-College Park, MD.

APPENDIX E-1

Air Service Command, Headquarters, 1943

Memorandum Subject: Safety Precautions For Using
Chemical Warfare Training Ammunition, 12 July 1944.
RG 342, Acc. 52B-3007, Box 127, Folder 470.6, National
Personnel Records Center Military Personnel Records
(NPRC, MPR) St. Louis, MO

ARMY AIR FORCES
HEADQUARTERS
Air Service Command

ASCP1A

July 12, 1944
Patterson Field, Ohio

SUBJECT: Safety Precautions for Using Chemical Warfare Training Ammunition.

TO: Commanders, all area Air Service Commands, Overseas Air Service Commands and Miami Air Depot.

1. The recurrence of accidents involving the use of chemical warfare training ammunition indicates a growing laxity in the observance of simple precautions. In some cases, it is evident that personnel handling ammunition do not possess sufficient basic knowledge of the items themselves. In other cases, an attitude of overconfidence gained from constant handling of ammunition is apparent.

2. Pertinent information regarding items of chemical warfare training ammunition and safety precautions to be observed by using personnel are attached hereto (Inclosures No. 1 to 6, inclusive). It is desired that these inclosures be reproduced and given wide distribution throughout your command. Commanding officers will insure that using personnel are familiar with each item of ammunition and that all safety regulations and procedures are understood and strictly enforced.

By Command of Major General FRANK

/s/ W. O. ... Lt. Col., AC

FOR THE ADJUTANT

Brigadier General ... Army
Chief, Personnel Training Division

- 1. Serv. gas ident. instr.
- 2. Serv. gas ident. instr.
- 3. Chlorine
- 4. Mustard gas
- 5. Incendiary bombs
- 6. Screening smokes and tear gases.

SOURCE

RC

SERIES

BOX

INDEX

Basic Ltr. Hq. AAF, Air Service Command, Patterson Field, Ohio, dtd. 12 July
1944, Subj: "Safety Precautions for Using Chemical Warfare Training Ammu-
nition".

1st Ind.

FASCCW

Hq, Fairfield Air Service Command, Patterson Field, Fairfield, Ohio, 21 July
1944.

To:

1. In order to avoid unnecessary injuries during Chemical Warfare train-
ing demonstrations, all safety regulations and the safety procedures as
outlined in inclosures No. 1 to 6 inclusive will be strictly complied with.
2. The inclosures have been edited and changed in compliance with Ltr.
"Errata Sheet," Hq. ASC, dated 14 July 1944.

For the Commanding Officer:

David F. Carse
DAVID F. CARSE
Major, W.C.S.
Chemical Officer

J/C

SAFETY REGULATIONS

CHEMICAL WARFARE TRAINING AMMUNITION

SET, GAS IDENTIFICATION, DETONATION

1. DESCRIPTION:

a. This set consists of 48 sealed glass tubes, each containing approximately one ounce of a war gas or a solution thereof (H-5% in chloroform; I-5% in chloroform; PS-50% in chloroform; CG-100%). In each case, these liquids are capable of inflicting serious injuries upon contact with the human body. Personnel using this set will observe the safety precautions listed below. There is no danger involved if the proper precautions are taken.

b. Instructions for setting up and firing the gas tubes in the field are packed in the steel container in which the tubes are shipped.

c. Electric detonators which are needed to fire the tubes are shipped separately.

d. Sets, Accessories, (Gas Identification Detonation), MI as authorized by T/A 20-2, dated 11 April 1944 should be used wherever possible to safely facilitate the firing of the detonators and glass tubes.

2. SAFETY PRECAUTIONS:

a. Use the set out of doors only.

b. Wear the gas mask adjusted when handling or preparing to fire gas tubes.

c. Do not remove the tube containing CG from its cardboard container. Place the detonator on the outside of the container when preparing this set for detonation.

d. Locate the firing point (blasting machine or batteries) at least 25 yards up and from the firing line.

e. Place the glass from 25 to 40 yards downwind from the firing line, depending on the temperature and wind velocity.

f. Do not allow spectators to approach closer than 15 yards to the firing line while tubes are being prepared for firing or after they have been placed into position.

g. Spectators should be instructed to stand with their backs to the tubes during detonation and allowed to face toward only after flying glass has settled to the ground in order to minimize the danger from contaminated glass particles.

h. Never attach lead wires to exploder box until immediately before tubes are to be fired.

i. Always detach lead wires from exploder box IMMEDIATELY after firing tubes. Never approach the firing line without first checking to see that lead wires are disconnected.

j. After detonation, allow no one except firing personnel to approach within 10 yards of detonation holes.

k. Exercise extreme care in handling detonators. Never hold a detonator near the face and do not hold in the hand any longer than is absolutely necessary. Observe all safety precautions printed on the sheet enclosed in each shipping container.

l. After a detonation exercise has been concluded, bury all refuse wires, soil, or vegetation that may be contaminated.

3. MISFIRE: The following procedure will be followed in case of a misfire:

a. Wait at least five minutes.

b. Disconnect lead wires from exploder box and check circuit for loose connections or grounded wire. Approach firing line with gas mask adjusted and keep head down as low as possible. If one or more detonators have exploded, disconnect the lead wires from these detonators and complete the circuit by connecting lead wires of unexploded detonators.

c. Connect lead wires to exploder box and again attempt to detonate tubes.

d. If tubes still fail to fire, wait at least five minutes.

e. Disconnect lead wires from the exploder box and prepare to fire unexploded tubes by attaching new detonators as follows:

1. Tape new detonator to a 3-foot stick or yard stick in such a manner that the detonator body extends slightly beyond the end of the stick.

2. Approach firing line with gas mask adjusted. Disconnect lead wire of unexploded detonator and replace with lead wire of the new detonator.

3. Grasp free end of the stake and carefully place detonator against unexploded tube as near as possible to the unexploded detonator. Repeat process for each unexploded tube in the series.

4. Check circuit carefully, connect lead wires to the exploder box and attempt to detonate tubes.

5. If any tubes still fail to detonate, post a guard over the area until the unexploded detonators can be disposed of by other means. Request will be made to the Base Ordnance Officer to effect disposition in accordance with TM 9-1900.

Check No. 1

4. FIRST AID: The officer in charge of any field identification exercise where the set, gas identification, detonation is used, will insure that suitable first aid items are on hand for emergency use. Such items may include first aid packets, protective ointment, bicarbonate of soda, water, etc. In case of an accident involving contact with the contents of a tube, prescribed first aid measures will be applied WITHOUT DELAY to affected persons. Such persons will then be evacuated to a medical station for possible further treatment. (NOTE: Experience has proven that the 5% solution of agent in one gas tube will produce serious injuries unless proper first aid measures are applied promptly.)

SAFETY REGULATIONS

CHEMICAL WARFARE TRAINING AMMUNITION

SET, GAS IDENTIFICATION, INSTRUCTIONAL

1. DESCRIPTION: This set consists of seven 4-ounce wide mouth bottles, including two bottles containing charcoal saturated with H, one each containing charcoal saturated with PS and L, one each containing DM and CN as solids, and one containing solid triphosgene, which upon contact with air decomposes, giving off pure CG.

a. The charcoal used to contain H, PS and L is standard gas mask activated charcoal which has been thoroughly dried. Enough of each gas is added to saturate the dry charcoal. Direct contact of charcoal saturated with H or L with the body will produce serious burns unless immediate first aid measures are applied. All personnel using this set will be instructed to observe the following safety precautions:

2. SAFETY PRECAUTIONS:

a. Adjust the gas mask to the face before opening new bottles and containers, or those which have been closed for some time.

b. Open and close bottles before each period of instruction to prevent accumulation of pressure within the bottles.

c. Before conducting a period of instruction, explain the safety precautions to be observed by each person using the set.

d. Keep bottle away from immediate area of the face while identifying an agent. Use one hand to fan the air across the mouth of the bottle toward the nose. Alternately inhale and exhale, avoiding deep inhalations.

e. Avoid spilling the contents of bottles during periods of instruction.

f. After identifying the odor from a bottle, carefully replace the stopper before passing the bottle to another person.

g. If a bottle is broken and the contents spilled, sweep all particles into a paper or other suitable disposable container. Bury particles and container in a suitable location and decontaminate the area.

h. If contents of a bottle are spilled, carefully replace all bits of charcoal in the bottle, avoiding direct contact with the skin, and decontaminate the area.

i. Do not carry bottles on the person, in pockets or clothing, or in any other manner likely to spill the contents if bottles become uncorked.

Incl. 10, 12

3. FIRST AID: If there is evidence that particles of saturated charcoal have come into direct contact with the skin, prescribed first aid measures will be initiated without delay. (NOTE: Experience has proven that particles of saturated charcoal from H and L bottles will produce serious burns if allowed to come into contact with body for a period of time.)

SAFETY REGULATIONS

CHEMICAL WARFARE TRAINING AMMUNITION

CHLORINE

1. DESCRIPTION:

a. Chlorine is a highly volatile gas with a powerful irritating effect upon the membranes of the nose and throat and is capable of producing death or serious injury if inhaled in sufficient quantities. A lethal concentration is considered to be 5.6 ounces of gas per 1,000 cubic feet of air for a 10-minute exposure.

b. Chlorine is authorized for training purposes in the gas chamber exercise only. Instructions for its use, as prescribed by Section V, WDTC No. 75, 1943, will be followed. The following additional safety precautions are hereby prescribed and will be observed by all concerned.

2. ADDED SAFETY PRECAUTIONS:

a. Prior to the gas chamber exercise, the supervising officer will require each person to inspect his mask in detail as prescribed by paragraph 91, FM 21-40.

b. Defective or damaged masks will be reported to the supervising officer who will examine such masks for serviceability. In addition, he will inspect sufficient masks, as prescribed by paragraph 105, FM 21-40, to insure that individuals are properly examining their masks. Particular attention will be paid to condition of outlet valves, hoses and canister inlet valves.

c. Individuals whose masks show any evidence of unserviceability will not be allowed to participate in the gas chamber exercise until satisfactory repairs have been made.

d. Any individual in the gas chamber who discovers the passage of chlorine into his facepiece will be allowed to leave the chamber. A 10-minute examination will then be made to determine the defect that caused this leakage.

3. FIRST AID: An ambulance will be present to evacuate possible casualties to a medical station. Prescribed first aid measures for a chlorine gas casualty will be administered pending medical treatment.

Encl. No. 2

SAFETY REGULATIONS

CHEMICAL WARFARE AMMUNITION

MUSTARD GAS

1. DESCRIPTION: Mustard gas (H) is a standard war gas capable of producing death or serious injury upon contact with either the liquid or its vapor. Extremely minute particles of the liquid agent will cause serious burns unless proper first aid measures are applied without delay. Full strength mustard is authorized for training purposes under certain prescribed conditions. Its use will be carefully supervised by a chemical officer and all regulations and restrictions strictly adhered to.

2. SAFETY PRECAUTIONS: As prescribed by Change 1, TM 3-305 and AR 750-10.

3. FIRST AID: The supervising officer will insure that all items necessary for applying first aid for mustard gas casualties will be on hand for any exercise involving the use of live mustard. The supervising officer will insure that personnel participating in the exercise are familiar with approved first aid procedures and that prescribed procedures and precautions are observed by all concerned.

Encl. 10-11

SAFETY REGULATIONS

CHEMICAL WARFARE TRAINING AMMUNITION

INCENDIARY BOMBS

1. DESCRIPTION: Four types of incendiary bombs are used for training troops in incendiary control. The bomb, instructional M1 (Magnesium) and M2 (Thermate) are designed and issued specifically for instructional purposes. They are ignited and positioned by hand upon or near the material to be set afire. When afire, they and the materials ignited by them provide a means of demonstrating the control of magnesium and thermate bombs and the fires set by them.

b. The bomb, incendiary, M54 and M54X are standard incendiary bombs, designed for use in bombing missions against enemy targets. At the present time, they are available in 100-pound clusters, M2 for issue to designated organizations for training purposes. The M54 is a 4-pound thermate bomb with a tubular steel body, a striker unit, a first fire charge, and a hexagonal sheet steel tail. The M54X is identical except that a burster charge of 170 grains of black powder is added. Twenty percent of the bombs in a 100-pound cluster are M54X.

c. The M54 and M54X bombs in a 100-pound cluster are automatically armed when the cluster bands are broken. Extreme care must be observed in handling individual bombs after the cluster is broken. Bombs may be unarmed by placing a small block of wood over the safety pin, forcing it back into the unarmed position. The block of wood is then staved firmly to the bomb case. Bombs may be fired by dropping from a height of 25-50 feet, or fired statically by training bomb, instructional M1 or M2, to the M54 or M54X bomb. (NOTE: Precautions for firing M54 bombs.)

SAFETY PRECAUTIONS:

a. Bomb, incendiary, instructional, M1 and M2 -

(1) As prescribed by appendix 4, AFM 3-3.0 (para 3a, b, c).

b. Bomb, incendiary, M54 and M54X -

(1) Unarm individual bombs after breaking cluster bands.

(2) Check marking on individual bombs carefully before firing.

(NOTE: Markings are sometimes indistinct. When an adult treat bomb as a M54X. Be certain of the nomenclature indicated on the bomb. Some types, similar in appearance to the M54X, are capable of throwing fragments to distances as great as 1/4 mile.)

Incl. no. 5

- (3) Place personnel at least 5 yards away from a M54 bomb when it is fired.
- (4) Place personnel at least 25 yards away from a M54X bomb when it is fired. (When dropped from an elevated position, the firer must be protected by a suitable platform or other obstruction.)
- (5) When M54X bombs are fired statically by the use of a bomb, instructional, M1 or M2, the person who lights the lighter fuse must immediately retrieve to a distance at least 25 yards from the bomb.
- (6) Check individual bombs carefully before storing to insure that each bomb is securely unarmed.
- (7) Observe all ordnance regulations for storage of incendiary munitions.

3. FIRST AID: First aid packets containing items for treatment of burns and minor wounds, will be on hand for emergency use.

incl. NO. 5

SAFETY REGULATIONS

CHEMICAL WARFARE TRAINING AMMUNITION

SCREENING SMOKES AND TEAR GASES

1. DESCRIPTION:

a. Screening smokes consist of finely divided solid particles or liquid droplets suspended in the atmosphere. Under ordinary conditions, screening smokes used for training purposes are considered harmless. However, they may be injurious if heavy concentrations are breathed for relatively long periods of time. In addition, there is danger from fire in using burning-type smoke munitions.

b. Liquid smoke agents, particularly FS, have a high acid content which can cause serious burns if the liquid comes into contact with the flesh. FS is also corrosive to both metals and fabrics.

c. White phosphorus is a waxy substance which ignites spontaneously upon exposure to air, producing a dense white smoke. The smoke is harmless in the open, but solid particles will produce severe burns which are very painful and slow to heal. Particles will continue to burn until removed or excluded from the air.

d. Three types of tear gases are available for training purposes: tear gas capsules for use in gas chambers, exercise tear gas pots for outside use, and tear gas solution (TGS) for use in portable cylinders or aircraft spray tanks. While these agents rarely cause serious injury to personnel, they may cause extreme discomfort and temporary incapacitation. They may cause irritation or permanent damage to the eyes if the liquid comes into contact with the body.

SAFETY PRECAUTIONS

a. Do not permit individuals who do not have gas masks to participate in training exercises where screening smokes or tear gases are released.

b. In releasing screening smokes, observe the precautions prescribed by Change 3, FM 21-10.1 (Paragraph 7, (3) Note added). Pending dissemination of this change to all units in the field, the following precautions are quoted for compliance:

- (1) Do not enter enclosed spaces where smoke has been released without masking.
- (2) Do not remain close downwind from smoke generators without masking.
- (3) Persons noticing unpleasant effects while in a smoke cloud, will adjust mask.

(136-0-9)

c. Additional precaution: Do not release burning type munitions in enclosed spaces where the burning may cause a shortage of oxygen.

d. Observe the regulations prescribed by paragraph 25, AR 750-10 in firing grenades and candles.

e. In releasing FS and CNE, observe the regulations prescribed by paragraph 26, AR 750-10.

3. **FIRST AID:** Appropriate first aid items will be on hand at all exercises and training periods where screening smokes or tear gases are used. A plentiful supply of water will be available for instant use whenever quantities of WP or FS are handled.

APPENDIX E-2

Air Service Command Training Center, 1944

Air Service Command Training Center Post History
Quarterly Supplement July-August-September 1944, circa
October 1944, Box 211.1-2 – 211.2-1, Air Force
Historical Research Center, Maxwell AFB, AL

UNCLASSIFIED

AIR SERVICE COMMAND TRAINING CENTER

POST HISTORY P.R.C.

QUARTERLY SUPPLEMENT

JULY-AUGUST-SEPTEMBER

• 1944 •

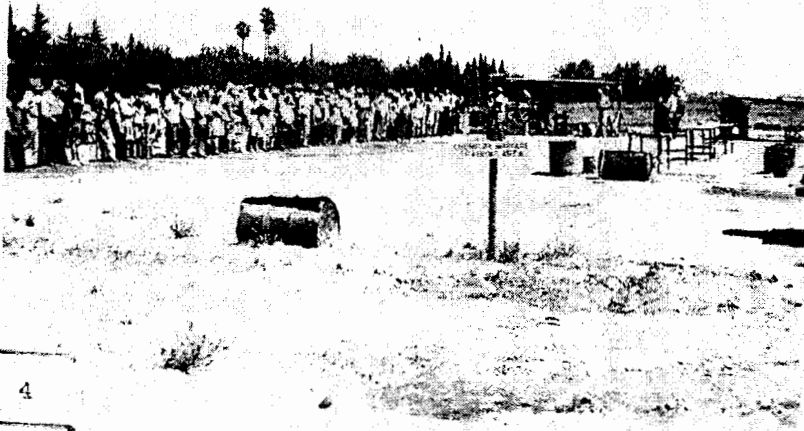
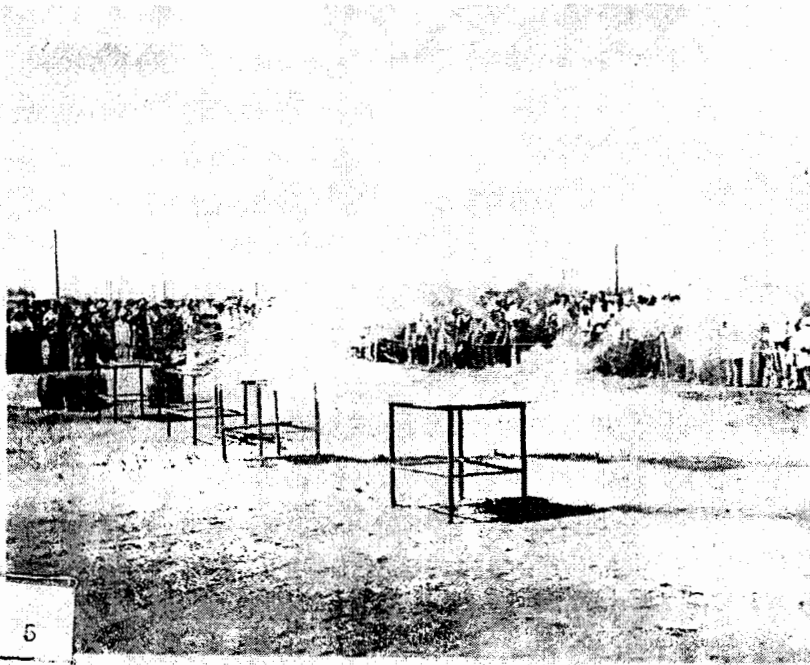
UNCLASSIFIED

NARRATIVE
CHRONICLE
PHOTOGRAPHS

UNIT HISTORIES

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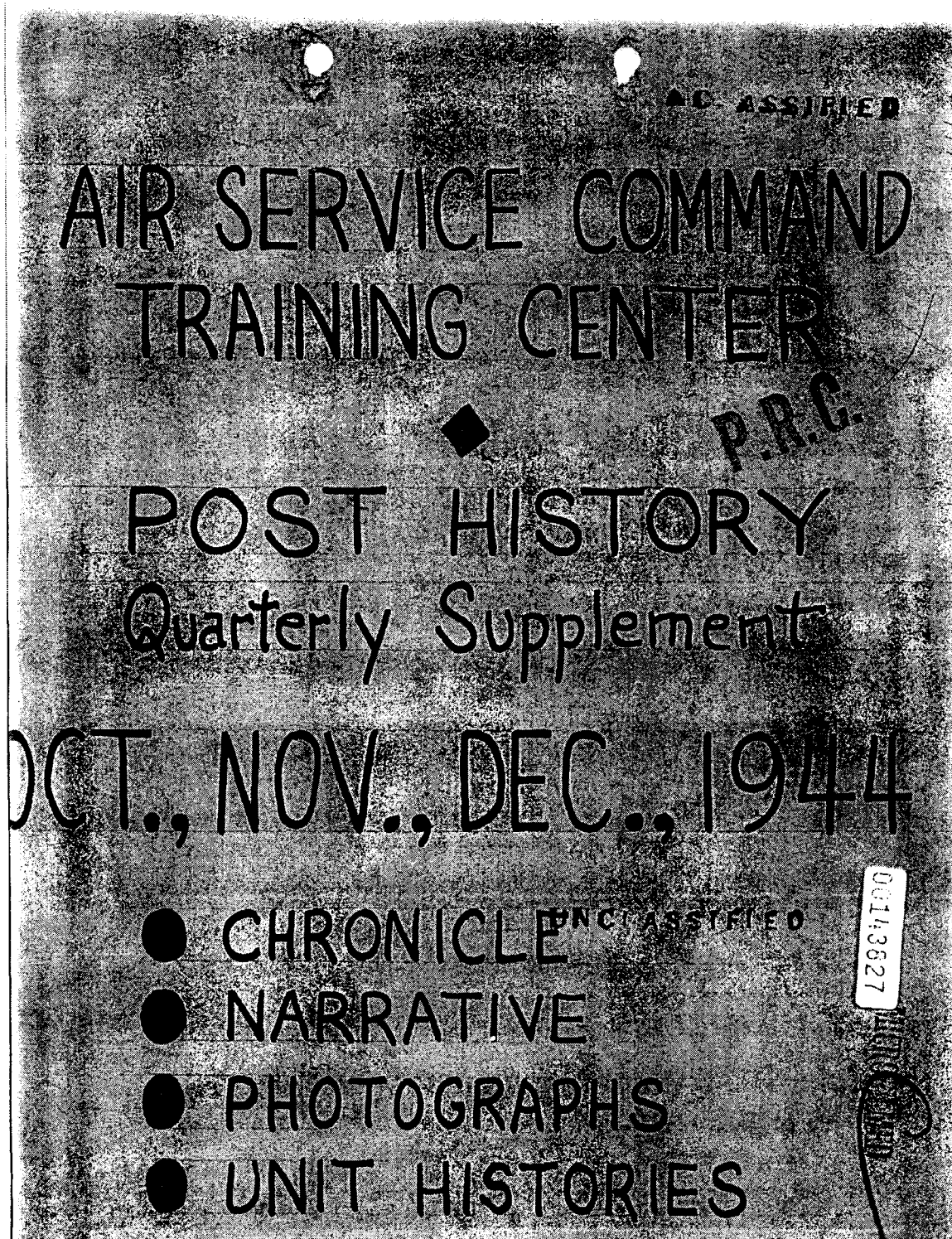
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APPENDIX E-3

Air Service Command Training Center, 1945

Air Service Command Training Center Post History
Quarterly Supplement Oct., Nov., Dec., 1944, circa
January 1945, Box 211.1-2 – 211.21, Air Force Historical
Research Center, Maxwell AFB, AL



AIR SERVICE COMMAND TRAINING CENTER

Quarterly Post History

October, November, December 1944

Recapitulation

The Air Service Command Training Center at Fresno 2, California, began operation officially on 1 September 1943. Prior to 1 September 1943 the post now known as ATSCTC, was designated as Basic Training Center No. 8 under the Technical Training Command of the Army Air Corps. A portion of the site on which the post is located was originally the Fresno County Fairground. The fairground was converted to a relocation center for Japanese in March, 1942 and served that purpose until October, 1942 when the Japanese were moved inland and the Army transformed the camp into a military installation. Although the original Japanese internment camp was erected in only four weeks, nevertheless almost all of the original buildings are still being used by the Air Service Command Training Center.

When the Air Service Command Training Center began operations, its chief mission was to train many chemical and signal companies and to send them to a P.O.E. A replacement depot was activated soon after the ASCTC began operation and is still in operation. Most of the chemical and signal companies had left the post by 1 January 1944 and since that time the primary objective of the post has been the training of service groups and during the first nine months of 1944 nine service groups and a number of other service units were organized.

The post is situated very advantageously for a training area. Fresno lies in the heart of the San Joaquin Valley and enjoys an excellent climate

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the year round. Average annual rainfall is about eight inches and the months of April to October inclusive are usually without rain or dew making the site climatically perfect for training. The post is located just three miles from the center of Fresno, a city of 75,000, and is within one hour of rugged bivouac areas in the Sierras.

October

This month saw the beginning of the important "Miracle Project". Pursuant to instructions contained in "Restricted" letter AAF Headquarters, Air Technical Service Command, Wright Field, Dayton, Ohio, dated 13 October 1944 the five service groups composing the Miracle Project were activated here on 20 October 1944 per General Orders No. 94, Headquarters, Sacramento Air Service Command, dated 18 October 1944. These five groups and their component squadrons are as follows: 555th Service Group, consisting of Hq. & Base Service Sq., 985th Engineering Sq. and 990th Materiel Sq.; 556th Service Group, Hq. & BS Sq., 986th Eng. Sq. and 991st Mat. Sq.; 557th Service Group, Hq. & BS Sq., 987th Eng. Sq. and 992nd Mat. Sq.; 558th Service Group, 988th Eng. Sq., 993rd Mat. Sq.; and the 559th Service Group, Hq. & BS Sq., 989th Eng. Sq., 994th Mat. Sq.

The Miracle Project was an outstanding work of organization. Col. Louis A. Merillat, Jr., West Point graduate, World War I veteran and professional soldier, had charge of the project. Throughout the strenuous organizational period he and the men under his command worked 14, 16 and 18 hours a day. Within a period of three days nearly 3000 men were received by the Replacement Depot earmarked for the project and were assigned to one of the five groups.

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The dance orchestra of the 690th AAF Band journeyed to Hollywood for a three-day stand in the famous Hollywood Canteen where they shared billing with Kay Kyser and his orchestra. The Band was well received and WOJG Jerome R. Bredouw, head of the band, later received a letter from the directors of the canteen praising the playing of the post band.

The Red Cross office instigated a new plan to care for the men of the post whereby each of the four Assistant Field Directors was placed in charge of a certain group of organizations. Also during the month, the Red Cross made their first presentation of vegetable seeds to a unit departing for overseas, initiating a plan by which every unit leaving this post headed for a POE, receives from the local Red Cross office a box of seeds which they may plant at any permanent or semi-permanent overseas location.

All Wacs, some of which were formerly assigned to jobs at the 840th Specialized Depot some twelve miles away, were assigned to jobs on the post. Many of them worked in the motor pool, both as drivers and mechanics.

On 31 December there were 278 officers and 3567 enlisted men assigned to the post.

Final figures for 1944 revealed that approximately 4000 men received training in the Technical School while more than 3000 men were trained in the Post Signal School. During the year 43,854 men completed firing at the Post's Campbell Mountain Rifle Range, while 760 men graduated from the NCO School and 1060 men completed courses in the Camouflage School.

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TYPE OF TRAINING PURSUED (Contd)

(Supplement, 1 January 1945).

During the month of December, three (3) Chemical Warfare Refresher Training Periods were attended by all EM qualified for overseas duty, who were present for duty.

During the month of December, thirty (30) EM attended the eight (8) hour Aircraft and Armored Vehicle Recognition Course.

During the month of December, all EM present for duty attended our regularly scheduled Orientation Hour each week.

On December 7th, one hundred and fourteen (114) EM completed the Chlorine Chamber Exercise.

Three Non-Commissioned Officers from this Unit attended the Non-Commissioned Officer's School. The school was conducted for eighteen (18) training days, extending over a period of three weeks. School started 11 December, and finished 30 December. The following named EM attended from this Unit: S/Sgt Harry E. Ferguson, S/Sgt Harold K. Welch and Cpl Walter Turner.

On December 12th, Close Order Drill was scheduled for two (2) one hour periods. This enabled all EM present for duty to attend.

Our Unit Chemical Defense Plan was tested twice during the month of December. On 1 December, it was tested, with the use of tear gas. On 30 December, gas was used, under the supervision of the Base Chemical Officer.

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TYPE OF TRAINING PURSUED (Contd)

(Supplement, 1 December 1944)

During the month of November three (3) Chemical Warfare Refresher Lectures were attended by all EM qualified for overseas duty.

During the month of November 108 EM attended the eight (8) hour Aircraft and Armored Vehicle Recognition Course.

All EM present for duty attended our regularly scheduled Orientation hour each week during November.

Below is listed the firing of authorized weapons for record during the month of November:

Five (5) EM fired the Carbine, Cal 30, M1, at Campbell Mountain Range for Record, 3 November 1944.

1 EM qualified as Sharpshooter.
3 EM qualified as Marksmen.
1 EM failed to qualify.

Four (4) EM fired the Carbine, Cal 30, M1, at Campbell Mountain Range for Record, 30 November 1944.

1 EM qualified as Sharpshooter.
3 EM qualified as Marksmen.

On 29 November 1944, 5 EM wore their gas masks on their face for four (4) hours, in compliance with training regulations.

On 24 November 1944, the regular monthly test of the Chemical Defense Plan was conducted.

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SECTION "BG"
4128TH AAF BASE UNIT/BASE ADMINISTRATION
AIR SERVICE COMMAND TRAINING CENTER
Fresno 2, California

4 December 1944

SUBJECT: Unit History.

TO : Commanding Officer, Air Service Command Training
Center, Fresno 2, California. Atten: Historical
Representative.

HISTORY OF SECTION "BG"

In compliance with ASCTC Bulletin 20-1 dated 6 July 1944, the following Monthly Historical data of Section "BG", 4128th AAF Base Unit, (Base Adm) is submitted:

Strength of this organization to date is three (3) Officers, and one hundred and fifteen (115) enlisted men.

Mission of this section is training of guard personnel on interior guard duty, firing authorized weapons, for use in security of the Post and security of prisoners confined to Post Guard House.

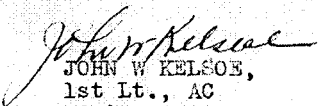
Men are also selected from this organization for the transfer and return of prisoners to and from this post. Enlisted Men are instructed thoroughly for this procedure.

EM are now taking refresher courses in Military Discipline, Interior Guard, Orientation, and Chemical Warfare.

Two (2) EM are selected each month from this organization and sent to Barksdale Field, Louisiana for additional training in the duties of a Military Policeman.

Eleven (11) EM are sent to the Rifle Range each day for the purpose of guard duty and also guard prisoners that are out there for rehabilitation.

For the Commanding Officer:


JOHN W. KELSEO,
1st Lt., AC
Admin. O.

HEADQUARTERS
556th AIR SERVICE GROUP
AIR SERVICE COMMAND TRAINING CENTER
FRESNO 2, CALIFORNIA

5 December 1944

SUBJECT: Unit History (November 1944 Edition)

TO : Post Historical Officer, Air Service Command Training Center,
Fresno 2, California.

ATTENTION: CAPTAIN THOMAS E. BUCHANAN, JR.

1. On 2 November 1944 MAJOR HOWARD A. W. KATES was attached to this group and assumed command per Paragraph 5, Special Order 302, Headquarters, Air Service Command Training Center, on 4 November 1944. LT. COL. EARL H. JACOBSEN was assigned as Group Commander per Paragraph 4, Special Order 304, Headquarters, Air Service Command Training Center Fresno 2, California, vice Major Kates relieved from attachment.

2. On 11 November 1944, Cadre 17 (556th Air Service Group) completed training at Air Service Command Staff School Warner Robins Air Service Command and the 32 Officers and 37 Enlisted Men on Detached Service at that station were transferred to this station.

3. The majority of Enlisted Men were transferred to this unit during the first 15 days of the month and the training program consisted primarily of completing the Enlisted Mens' basic military training. The Enlisted Men were transferred from the replacement pool at this Post. These Enlisted Men had originally been transferred from the numbered Air Forces and the Training Command.

4. Upon the arrival on 20 November 1944 of most of the officers of the training Cadre from Robins Field the various sections were organized. The Enlisted Men were screened to determine if they were qualified to perform the required jobs. The Group began some aspects of unit training during the last 10 days of November 1944.

5. The strength of the Unit increased from 2 Officers and 28 Enlisted Men to 34 Officers and 501 Enlisted Men. On 25 November 1944 1 Officer and 75 Enlisted Men travelled to Mount Owens to fire the M-2 50 calibre Machine Gun for familiarization.


6. On 28 November 1944 the Group traveled 25 miles to the Mount Campbell Range to fire the pistol, M-3 Sub-machine gun and the carbine for qualification.

- 1 -

Unit History (November 1944 Edition) Contd, 5 December 1944.

7. This group dispatched 3 Officers and 16 Enlisted Men to
Trimmer Springs on bivouac at 0300 on 30 November 1944.

For the Commanding Officer:


SMITH E. WILDEMAN
Major., Air Corps
Adjutant

APPENDIX E-4

Air Service Command Training Center, Fresno, 1944

History Air Service Command Training Center, Fresno,
Vol. 1 September 1943- 30 June 1944, June 1944, File
209-2 - 211.1-1, Air Force Historical Research Center,
Maxwell AFB, AL

P.R.C.

*ASC Training Center
Fresno Calif.*

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HISTORICAL DATA

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DOD DIR 5200.9, 27 Sep 58

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HISTORY

AIR SERVICE COMMAND
TRAINING CENTER

- I. Narrative.
- II. Chronicle
- III. Unit Histories
- IV. Photographs

SECRET

00143823

DECLASSIFIED
DOD AIR 5200.9, 27 Sep 58

2-3811-520

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The History of the Air Service Command Training Center at Fresno, California, actually begins on its date of activation, September 1, 1943. Original arrangements for the acquisition of the site were made with the construction of an internment camp for Japanese, and later, with the entrance of the Army, buildings were converted to accommodate a basic training center. Functions of the various units which have occupied this site will be discussed in more detail in sections following the introduction.

By February 3, 1943, the United States Government had determined that the evacuation of Japanese from the West Coast area was necessary for national security. On this date, they conferred with representatives of the Fresno County Board of Supervisors. A temporary lease, placing the County Fairground at the disposal of the Government was negotiated. A Major Yaden and Mr. Joseph C. Lavelle represented the office of the United States Engineers, Pacific Division, San Francisco, California, and Messrs. C. Todd Clark, George Furneaux, William C. Crossland and T. A. Dodge represented the Board of Supervisors during the negotiations. A temporary lease was agreed upon, and later a permanent lease was drawn up and signed on February 19, 1943. On the same date, another lease between Mrs. Edwanda Myron and the Government was signed. The area involved in these actual leases was approximately 150 acres.¹

Until the War Department memorandum entitled "Japanese Evacuation Operation" was issued, April 23, 1942, the Government did not occupy the Fairground and the adjacent tract. At that time it was announced that

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this would be one of the sites of the many Japanese reception centers throughout the State of California. It is interesting to note that although a maximum of but four weeks was sufficient for the construction of the camp, the greater part of the original buildings are still in use by the Air Service Command Training Center.

May 6, 1942 brought the arrival of the first Japanese at the Fresno Reception Center. The Fairground remained an internment camp until the evacuation of the Japanese was completed late in October.²

The evacuation of the Japanese alerted the authorities from Hammer Field near Fresno and from the Santa Ana Army Air Base, Santa Ana, California, to the fact that the Fairground was an ideal site for their purposes, but due to the pressing need for camps suitable for basic training centers, the War Department assigned the site to the Fourth District, Army Air Forces Training Command. Obvious reasons for this decision are the advantages of the temperate climate, available bivouac sites, and room for possible expansion of the already completed camp site.

Conversion of the Japanese internment camp to an Army base entailed certain initial difficulties such as the adaptation of the buildings, which had to be thoroughly cleaned, partitions removed, and satisfactory heating and ventilating systems installed. The work on the change over was expedited and on October 29, 1942, the Army Air Forces Basic Training Center No. 8, Fresno, California, was formally activated.³

Officers and enlisted men began to arrive. The training program, which consisted of making basic soldiers of the men on the streets, was initiated immediately. For a few weeks before the Commanding Officer,

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Colonel Pearne Clark Wilders, assumed command of the Post, Colonels J. C. Pratt and Roy W. Leggett acted as temporary Commanding Officers. Colonel Wilders has been in command since that time, December 4, 1942, with the exception of a period of a few days in early September 1943, and has supervised the building of the Post through its periods of transition from an internment camp to the efficient specialized training center that it is today. It has often been stated that the Post is unique in its arrangement in that the facilities have been efficiently placed according to Colonel Wilder's plans. Commendations have been received on the cleanliness and orderliness of the Post.

The first hint of the change of the basic function of the Post came on June 6, 1943 when, in a telephonic conversation, Colonel D. K. Griggs, Headquarters, Air Service Command, Patterson Field, Ohio, and Captain James C. Richmond, Headquarters, Sacramento Air Service Command, McClellan Field, California, discussed the imminent necessity for a new installation in this sector due to the fact that in mid-1943 the War Department transferred the Army Air Base at Reno, Nevada to the Air Transport Command.⁴ It was finally determined that Basic Training Center No. 8 would be transferred to the Air Service Command during the summer of 1943. Transfer arrangements between the Technical Training Command and the Air Service Command began immediately. The actual reassignment was ordered July 7, 1943.⁵

Negotiations and agreements were completed and the Air Service Command assumed jurisdiction over Basic Training Center No. 8 on September

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1, 1943. The designation was changed to Army Air Forces Fresno Basic Training Center.⁶

The usual problems arose in the adaptation of a base whose primary function was the training of the basic soldier to a base whose object was the training of a specialized combat soldier. A difference of opinion arose over command of the base, the Army Air Forces Training Command wishing to retain Colonel Wilders and the Air Service Command wishing Colonel Wilders to continue as commanding officer of the Post. It was only after considerable pressure had been brought to bear by higher headquarters of the Air Service Command that Colonel Wilders was transferred from the Technical Training Command and returned to Fresno, California, to assume command on 14 September 1943. After much discussion, an agreement was reached as to the transfer of personnel. Approximately fifty per cent of the Basic Training Center personnel was retained. All civilians remained and were transferred to the Air Service Command payroll. Officer personnel was handled much in the same manner.⁷

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APPENDIX E-5

Air Technical Service Command, Construction Office,
1945

ATSC Training Center Fresno, California Inspection File,
Standby Stations, Field Survey, 30 May 1945. RG 342,
Acc. 53F-5038, Box 2, National Personnel Records Center
Military Personnel Records (NPRC, MPR) St. Louis, MO

ATSC TRAINING CENTER
FRESNO, CALIFORNIA

INSPECTION FILE

CONSTRUCTION OFFICE
AIR TECHNICAL SERVICE COMMAND
STANDBY STATIONS - FIELD SURVEY

Date 30 March 1945

1. Name of Station	Fresno Basic Training Center.
2. P. O. Address	Fresno, California
3. ATSC Command	SAITSC
4. Commanding Officer	Lt. Col. James E. Murphy
5. Post Engineer	Capt Chas. W. Zornes.
6. Transferred to ATSC	15 Feb 1945.
7. Last Using Agency	SAITSC
8. Station Location	Fresno, California
9. Station Size	40.25 AC government owned, 972.52 AC leased.
10. Housing Capacity	200 Officers, 8600 R. E.
11. Runways	None.
12. Gas Storage	None.
13. Original Use of Station	Basic training for service units of the Air Force.
14. Present Use of Station	None.
15. Present Personnel	Post Engineer, 41 civilians
16. Persons Interviewed	G. O.
17. Surveying Officers	Lt. Col. Ben Huntington, Major F. D. Root, Capt. Chas. W. Zornes.

	PRESENT CONDITION
18. Airport Beacon	None.
19. Runway Lights	None.
20. Runways	None.
21. Taxiways	None.
22. Airfield	None.
23. Apron	None.
24. Hangar	None.
25. Gas Storage	None.
26. Water Supply	City of Fresno.
27. Sewage Disposal	City of Fresno.
28. Housing	T. O. construction, fairly well maintained.
29. Heating Equipment	A number of barracks were visited and each was equipped with oil space heaters. In each case the stove and smoke pipe needed cleaning and painting. The pipe above the roof appeared to be in good condition in all cases.
30. Messes	No. 1 - 6000 capacity. Range ovens need pickling. No. 2 - 2000 capacity, all in good condition. Service Club ranges need pickling, ovens especially. Officers Club ranges need pickling.
31. Bathhouses and Latrines	Baths and latrines were combined.
32.	All in good condition and well policed. Water not turned off.
33. Housing Area	The area around the building is covered with wild weeds and grass typical of California. Many areas immediately adjacent to the buildings have been landscaped with shrubs and various types of trees and bushes.

34. Walks

Due to the rapid growth of the grass and weeds at this time of year the area presented a rather poor appearance. The growth must be cut, areas close to buildings must be trimmed to prevent a real fire hazard. The Post Engineer realized this fast.

Asphalt, concrete, gravel in good repair.

35. Roads

Asphalt in good repair.

36. Remarks

Specially of note is Bldg. 1208 C8-15. This is a frozen cold storage building, built of concrete, with a capacity for 15,000 persons. The work to place it in a standby status has been almost completed. Some pointing and miscellaneous work is now being done. Central Heating Plant, 2-125 H.P. boilers need work on tubes, front, and general repair. Have not been cleaned internally.

37. Recommendations

The commanding Officer and the Post Engineer, feel that more personnel is necessary to catch up with the work of inactivation. It is felt that this is true and it was suggested that a list of remaining work and the additional personnel to accomplish it be sent to SATSG. This was later done as shown by the attached teletype.

In order to improve the methods to be used in the care of boilers, water tanks and other equipment, the manual entitled "Procedure for Maintenance of Inactive Installations" was left with the Post Engineer.

Survey Officer

Ben Huntington, Lt. Col. C. E.

Approved

Kirk Scott Lt. Col. C. E.

(See attached sheet)

Action Copy to Major Root
Info " - Major Horschman
Info " - Lt. Montgomery
Info " - M/Sgt Nell
Info " - Mrs. Krows.
1 copy in Field

FR 225 V FR 231 HRL
FROM MURPHY COMMANDING ATSCFC FRESNO CALIF 021950Z
TO CG SATSC MCCLELLAN FLD FLD CALIF

ATTN.....CONSTRUCTION AND UTILITIES O

ORNG

PERX-4-1 IN COMPLIANCE WITH VERBAL RECOMMENDATIONS OF LT. COL. HUNTING
CGM MAJ ROOT YOUR HQ CMA FOLLOWING INFO IS FURNISHED RE REQUEST FOR
10 ADDITIONAL SKILLED LABOR POSITIONS THIS POST PD DURING THE INSPECTION
IT WAS DISCOVERED THAT SPACE HEATERS AND SMOKE PIPES WERE STARTING TO
RUST CMA THIS REQUIRING TREATMENT WITH RUST PREVENTIVE PD THERE IS
APPROXIMATELY NINE HUNDRED /900/ SUCH SPACE HEATERS ON THIS POST PD
IN ADDITION TO THE ABOVE WORK THE RECENT WET SEASON HAS CAUSED HEAVY
GRASS GROWTH WHICH WILL REQUIRE HAND MOWING ON APPROXIMATELY SEVENTY-
FIVE /75/ ACRES PD IF SERIOUS FIRE HAZARD LATER IN THE DRY SEASON IS
TO BE AVOIDED CMA THE PRESENT PERSONNEL ALLOTMENT OF THE POST ENGINEER
IS NOT SUFFICIENT TO HANDLE THE ABOVE WORK CMA AND IS ESTIMATED THAT
IT WILL TAKE APPROXIMATELY 3 MONTHS TO ACCOMPLISH THIS WORK WITH THE
ADDITIONAL 10 POSITIONS PD

SENT 2011Z
RND RAK ACK PLS RM TXK
RECD STA 18 022053Z HLD

021950Z-004

021950Z 12:11

C
O
P
Y

APPENDIX E-6

Air Technical Service Command, Headquarters, 1945

Memorandum Subject: Relinquishment of Jurisdiction of
ATSC Training Center Fresno, California and
Redesignation of the 4128th AAF Base Unit Thereat,
4 June 1945. RG 160, Entry 27, Box 50, File Fresno,
NARA-College Park, MD

REPRODUCED AT THE NATIONAL ARCHIVES

~~RESTRICTED~~
ARMY AIR FORCES
HEADQUARTERS
AIR TECHNICAL SERVICE COMMAND

Miller
TSPBS1

Wright Field, Dayton, Ohio
4 June 1945

SUBJECT: Relinquishment of Jurisdiction of ATSC Training Center, Fresno, California and the Redesignation of the 4128th AAF Base Unit Thereat.

TO: Commanding General
Sacramento Air Technical Service Command

1. Announcement is made that the Air Technical Service Command is relieved of command responsibility for the ATSC Training Center, Fresno, California, and facilities, (also known as the AAF Ground Training Center), effective as of 31 May 1945, subject station having been transferred to the Fourth Air Force as of that date.

2. Pursuant to AAF Regulation 20-52, the 4128th AAF Base Unit (Base Administration), Fresno, California, is redesignated as the 4128th AAF Base Unit (Communications Repair) effective 31 May 1945.

3. Personnel and equipment, other than that transferred to Fourth Air Force or performing communications repair activities at the base, will be absorbed in other units under your control. That personnel and equipment required for the operation of the communications repair activity will be transferred from the 4128th AAF Base Unit (Base Administration) to the 4128th AAF Base Unit (Communications Repair), Fresno, California, concurrently with subject transfer.

4. Three (3) copies of general orders published in compliance with this directive will be furnished direct, without delay, to this Headquarters, attention: TSPBS1.

(Authority: Basic letter, Headquarters, AAF, 12 May 1945, subject: "Transfer of AAF Ground Training Center, Fresno, California, to the Fourth Air Force," and teletype, Headquarters, Sacramento Air Technical Service Command, SACPBS-5-15, 31 May 1945.)

BY COMMAND OF MAJOR GENERAL MILLER:

H. O. Allison
H. O. ALLISON
Lieutenant Colonel, AGD
Adjutant General

DISTRIBUTION: :

CC, AAF (Attn: The Air Inspector)

CC, Army Service Forces

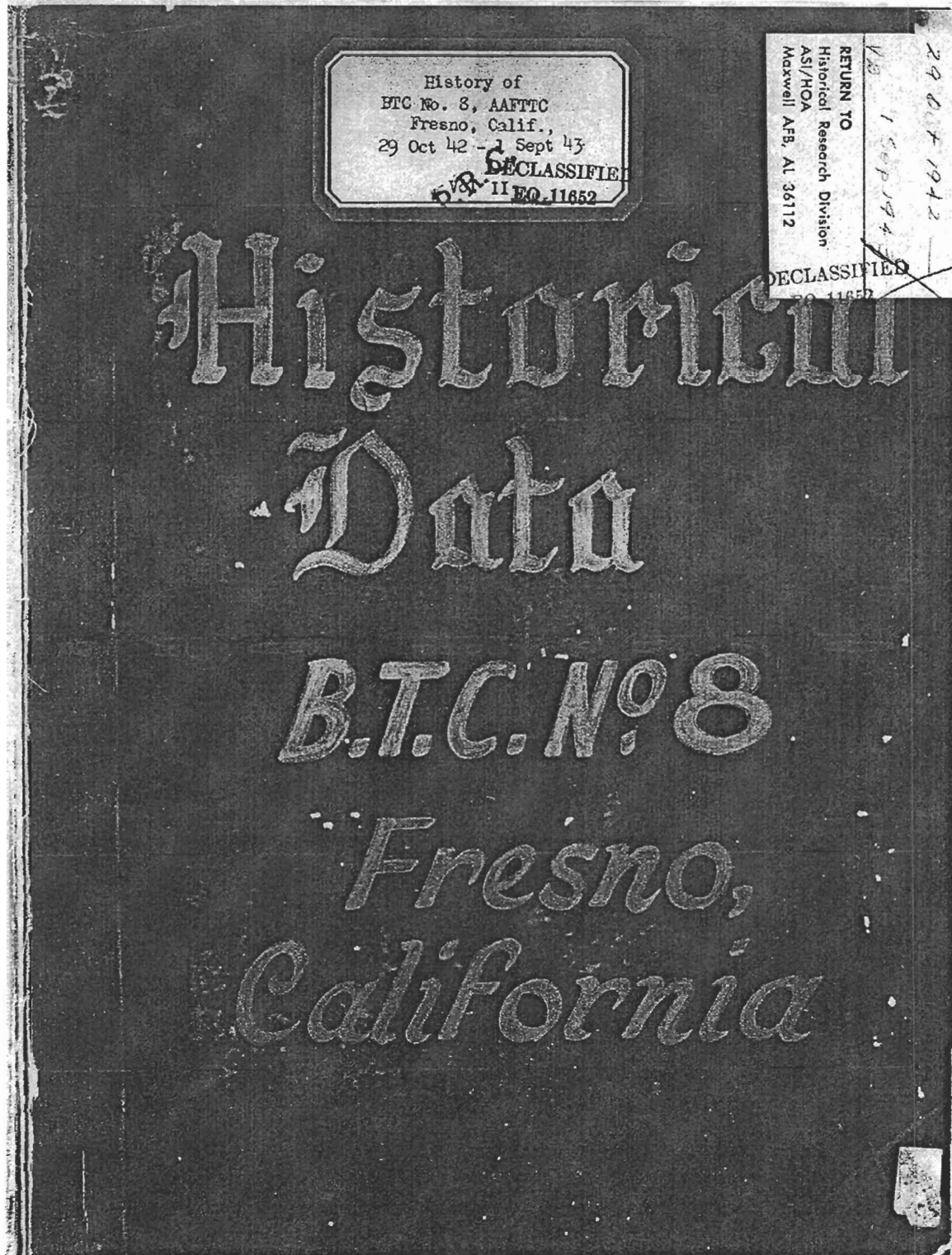
The Adjutant General, (Operations Branch, OB-1), Washington 25, D.C. (3)

~~RESTRICTED~~
REGRADED UNCLASSIFIED
ORDER SEC ARMY BY TAG PER 100203

APPENDIX E-7

Army Air Forces Western Technical Training Command,
Denver, 1943

Appendix History of Basic Training Center No. 8,
29 October 1942 to 1 September 1943, Fresno California,
September 1943, Box 229.12 – 229.27, Air Force
Historical Research Center, Maxwell AFB, AL



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APPENDIX

P. R. C.

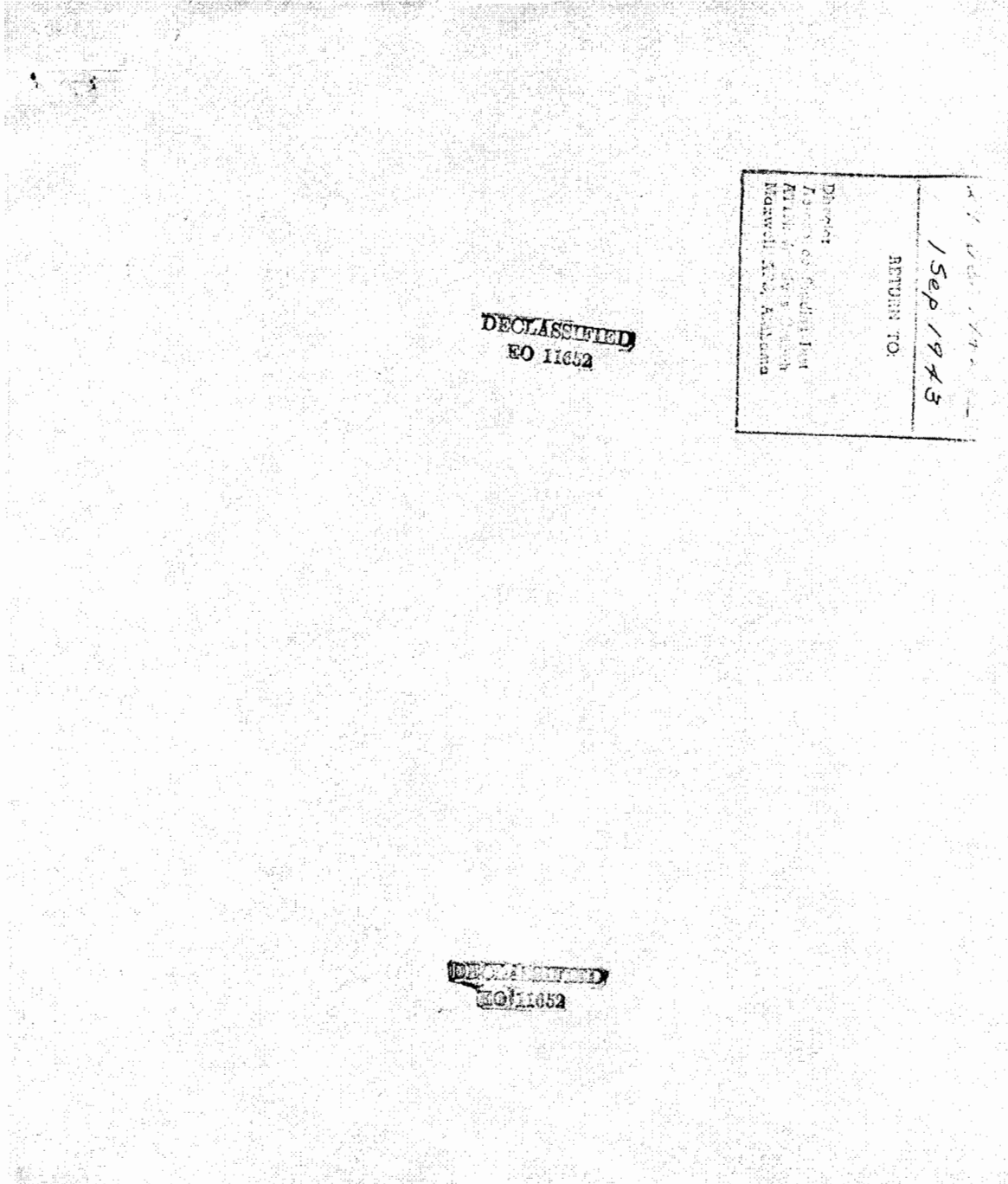
History of Basic Training Center No. 3

29 October 1942 to 1 September 1943

Fresno, California

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MICROFILMED



I-N-D-E-X

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INTRODUCTION

Basic Training Center No. 8 orientated, classified, and basically trained recent Air Corps inductees. The program was designed to establish a high morale founded on the individual soldier's understanding of his duties. The method was military training in basic subjects rigidly applied to furnish a background of readiness and ability to do the job under all conditions. This training was supplemented by constant interviews and testing to screen and prepare the basic soldiers for their next phase of technical training.

The solution of four major problems measured the Post's progress concurrently with the accomplishment of its mission:

1. Basic Training Center No. 8 took over the old Fresno County Fairgrounds, then being used as an alien Japanese relocation center. It was without sufficient mess facilities and lacked certain necessary plumbing; many buildings were in poor repair; heating units were unavailable for barracks; the communications system was inadequate.

2. Essential training facilities were provided throughout. The Post had to acquire most of the necessary training aids after actual training had begun. Classification

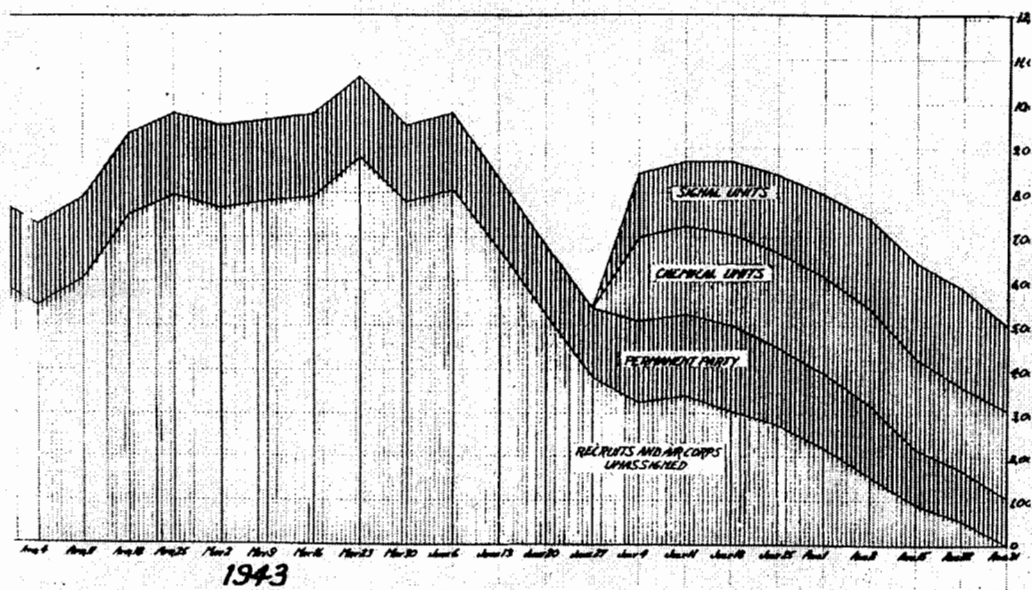
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materiel underwent considerable improvisation before it was secured in necessary quantity. The Campbell Mountain Rifle Range was located and constructed. Drill and maneuver areas were acquired and leveled. Various structures were re-adapted for necessary purposes.

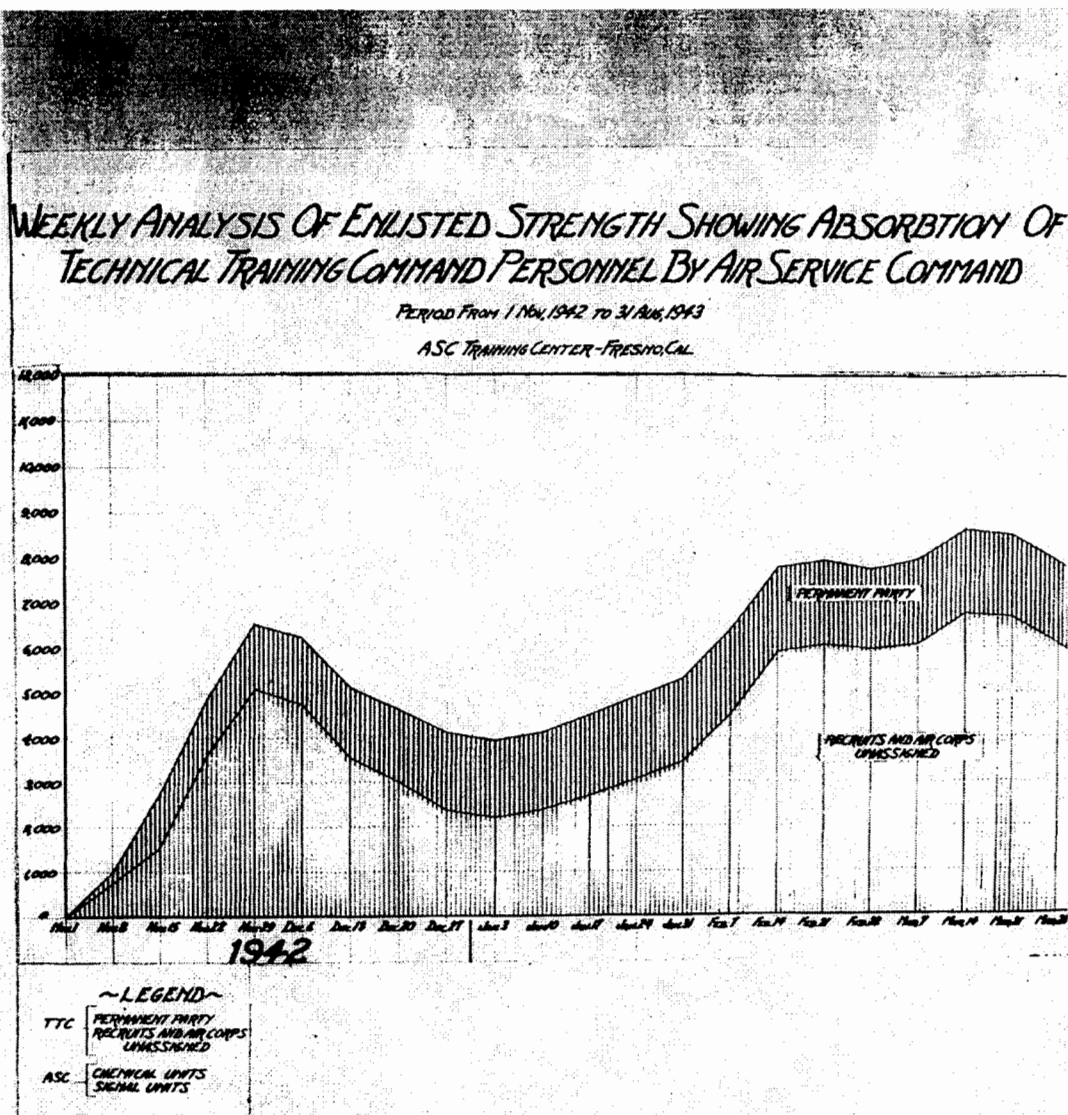
3. A station hospital was organized and eventually provided with X-Ray, diagnostic and emergency surgery facilities, and a well-equipped dental clinic. Medical materiel was almost non-existent on the date of activation.

4. Means were provided for promotion of needed spiritual, morale, and entertainment aids. Proper chapels were erected. Indoor auditoriums were constructed. Physical training and athletic materiel was purchased and installed. Athletics areas were provided, constantly enlarged to meet increased demands, and continually relocated to allow for the progress of new construction. Post Exchanges were founded and organized on a scale necessary to meet the personal needs of all troops.

The history of the solution of these problems during the successful fulfillment of the Post's mission follows in chronological detail.



~SUMMARY~
 1. ANF BTK #8 ACTIVATED UNDER GENERAL ORDER NO 28, HQ FOURTH DISTRICT, AAF T/C, DENVER, CO. 29 OCT. 1942.
 2. ANF BTK #8 REDESIGNATED ANF FRESNO BTK UNDER HQ SACRAMENTO AIR SERVICE COMMAND PER TWA-545C/D-8-31, 29 AUG. 1943. PERMANENT PARTY TRANSFERRED TO 525TH BASE HQ & AB SQUADRON.



WEEKLY PERSONNEL STRENGTH OF AAFTC, BTC #8

November 1942 thru August 1943

DATE	RECRUITS AND AC UNASSIGNED	PERMANENT PARTY
8 Nov 1942	750	250
15 Nov 1942	1500	1200
22 Nov 1942	3600	1250
29 Nov 1942	5200	1450
6 Dec 1942	4725	1525
13 Dec 1942	3500	1600
20 Dec 1942	3000	1650
27 Dec 1942	2400	1775
3 Jan 1943	2200	1750
10 Jan 1943	2400	1775
17 Jan 1943	2700	1825
24 Jan 1943	3050	1875
31 Jan 1943	3450	1875
7 Feb 1943	4500	1875
14 Feb 1943	5900	1900
21 Feb 1943	6050	1900
28 Feb 1943	5950	1900
7 Mar 1943	6050	1900
14 Mar 1943	6750	1875
21 Mar 1943	6700	1850
28 Mar 1943	5075	1850
4 Apr 1943	4475	1850
11 Apr 1943	5050	1850
18 Apr 1943	7500	1850
25 Apr 1943	7950	1875
2 May 1943	7650	1900
9 May 1943	7800	1875
16 May 1943	7900	1900
23 May 1943	8800	1850
30 May 1943	7800	1750

<u>DATE</u>	<u>RECRUITS AND AC UNASSIGNED</u>	<u>PERMANENT PARTY</u>
6 Jun 1943	8050	1775
13 Jun 1943	6700	1650
20 Jun 1943	5200	1600
27 Jun 1943	3800	1600
4 Jul 1943	3250	1850
11 Jul 1943	3400	1900
18 Jul 1943	3050	1975
25 Jul 1943	2750	1800
1 Aug 1943	2200	1750
8 Aug 1943	1600	1700
15 Aug 1943	900	1300
22 Aug 1943	650	1175
29 Aug 1943	----	1150

g.m.

HEADQUARTERS
AAF BASIC TRAINING CENTER #8
COUNTY FAIRGROUNDS
Fresno, California

Capt. Kemp

GENERAL ORDER)
NUMBER 1)

October 29, 1942

1. Pursuant G.O. #28, Headquarters Fourth District, AAFTC, Denver, Colorado, October 29, 1942, The Army Air Forces Basic Training Center #8, Fresno California, is activated.

2. Under the provisions of par. 4, AR 500-20 the undersigned assumes command effective this date.

J. J. Pratt
Colonel, Air Corps,
Commanding.

DISTRIBUTION:

- 1 - The Adjutant General, Washington, D.C.
- 1 - Commanding General, AAFTC, Knollwood Field, D.C.
- 1 - Commanding General, 4th District AAFTC, Denver, Colorado.
- 1 - Commanding General, AAF, Washington, D.C.
- 1 - Consulting General, SOG, Washington, D.C.

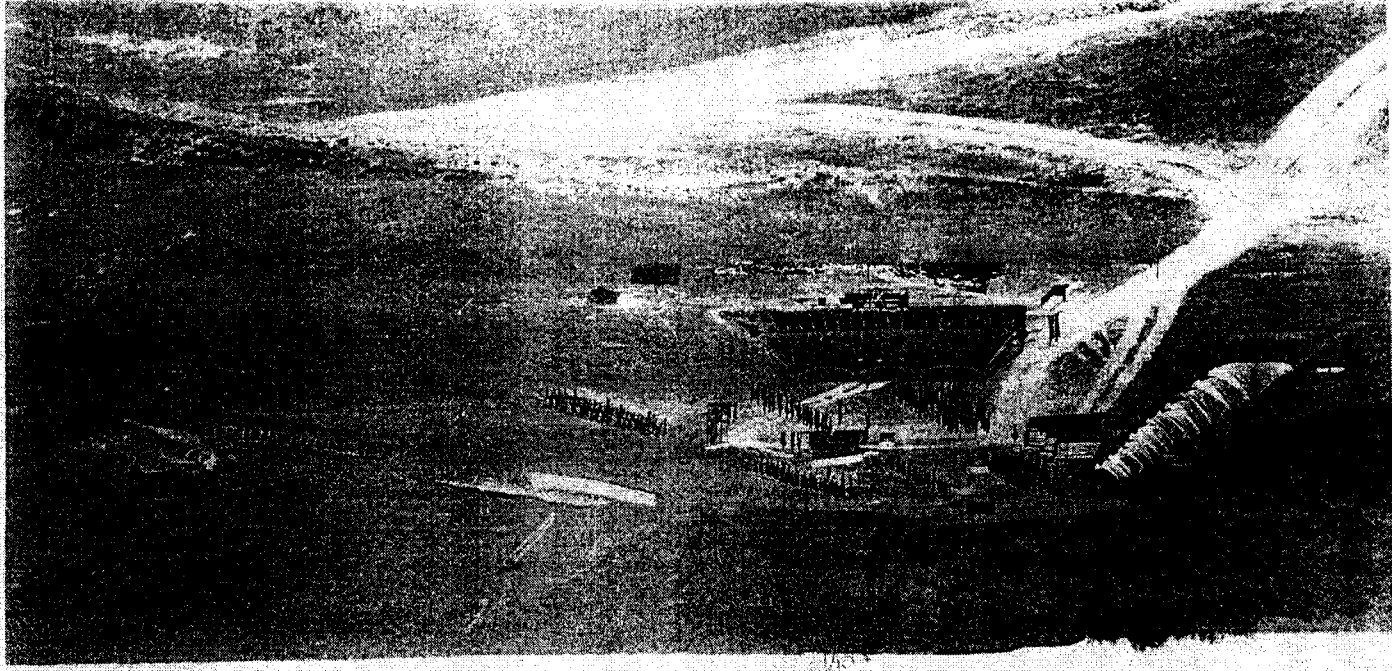


Gas Attack Training.



Temporary Rifle Range.





had been to give basic training. Their arrival meant the Post would also be a Reception Center for pre-flight cadets. These cadets were to be accorded parallel treatment with recruits at the Post.

March 5, 1943:

Construction of a temporary rifle range on Cobb's property was begun and practically completed on this date.

March 6, 1943:

All construction on the rifle range was completed except the observation tower.

March 7, 1943:

Major General John F. Curry, Commanding General of the 4th District, AAFTTC, Denver, Colorado, arrived at 1230 for a two-day tour of inspection.

March 8, 1943:

The growing importance of BTC #8 as a factor of the Army Air Forces Technical Training Command was reflected by recognition accorded it by high ranking officers. Completing a thorough two-day inspection of the Post, including the proposed Campbell Mountain Rifle Range, Maj.

June 4, 1943:

Preliminary work on a rifle range at Campbell Mountain, 25 miles northeast of Fresno, started today.

June 6, 1943:

A 55 foot by 7 foot mural, depicting the men who "Keep 'Em Flying", in school and on the battlefield, was completed today. Located in the classification building, this mural was painted by Pfc. Arthur F. Ames.

June 11, 1943:

General John F. Curry and staff arrived at 1600. A garrison parade was held.

June 12, 1943:

General Curry left at 1430 after inspecting the Campbell Mountain Rifle Range.

June 15, 1943:

Col. Brown, Area Executive Officer under Brigadier General Clinton W. Howard, Sacramento Air Service Command, arrived on a preliminary inspection of the Post in view of the contemplated transfer to the Air Service Command.

June 17, 1943:

A liaison officer, Lt. Marvin J. Nyby, arrived at the Fresno Basic Training Center #8 from the Reno Army Air Base to lay the groundwork for an advance movement of Signal units to be transferred from Reno, Nevada to Fresno.

June 18, 1943:

Lt. Leonard Brickey and seven enlisted men arrived to complete arrangements for the transfer of Chemical Warfare Service Groups from the Reno Army Air Base.

June 20, 1943:

The 56-day basic training program for trainees became effective.

June 21, 1943:

Two officers, Captain Rue S. Link and 2nd Lt. William J. Curry, were sent to Seattle Schools Area to prepare and inaugurate a basic training program at that station.

June 22, 1943:

A contingent of Signal men and supplies from the Reno Army Air Base arrived by motor convoy.

June 25, 1943:

During the retreat parade, Col. Wilders awarded an excellence banner to the 805th Training Group for its outstanding achievements.

June 26, 1943:

Because of increased demand for firing training, arrangements for an additional preliminary marksmanship course at the range were made.

June 28, 1943:

A large number of officers and enlisted personnel of the signal units, whose equipment and supplies had been shipped here on June 22, 1943, arrived by troop train.

June 29, 1943:

Troops began firing on the newly completed 1000 inch rifle range at Campbell Mountain. Construction of other ranges and several more buildings at Campbell Mt. continued.

July 1, 1943:

Twenty companies of Chemical Warfare troops arrived from the Reno Army Air Base.

Approximate strength: 4,000 recruits; permanent party 1,750.

July 2, 1943:

Major General John F. Curry arrived on an inspection tour. Dinner was held for him at the new Officer's Club. A string orchestra from the band personnel furnished the music.

July 7, 1943:

The Army Air Forces Training Command was activated with Headquarters in Fort Worth, Texas. The Army Air Forces Flying Training Command and the Army Air Forces Technical Training Command were transferred to the Army Air Forces Training Command.

Captain Philip Levoff, who came from Edgewood Arsenal, became Director of Chemical Warfare Service training. Major Albert O. Roberts was officially designated Director of Signal training.

A school for technical training of the specialized jobs necessary for the accomplishment of the primary mission of the Signal Companies which had been in operation at the Reno Army Air Base was moved here intact.

July 9, 1943:

Warner Baxter arrived. With Major Wagner, Mr. Baxter

visited Campbell Mountain Range, where he entertained the men on bivouac there with camp fire songs and tricks.

The electric lighting system at the rifle range was completed and the lights turned on for the first time at approximately 2100.

July 12, 1943:

Major Woods, Finance Officer, became a Class A Accountable Disbursing Officer. Previous to this, Major Woods had been a Class B Agent Officer to the Finance Office at Hammer Field.

July 13, 1943:

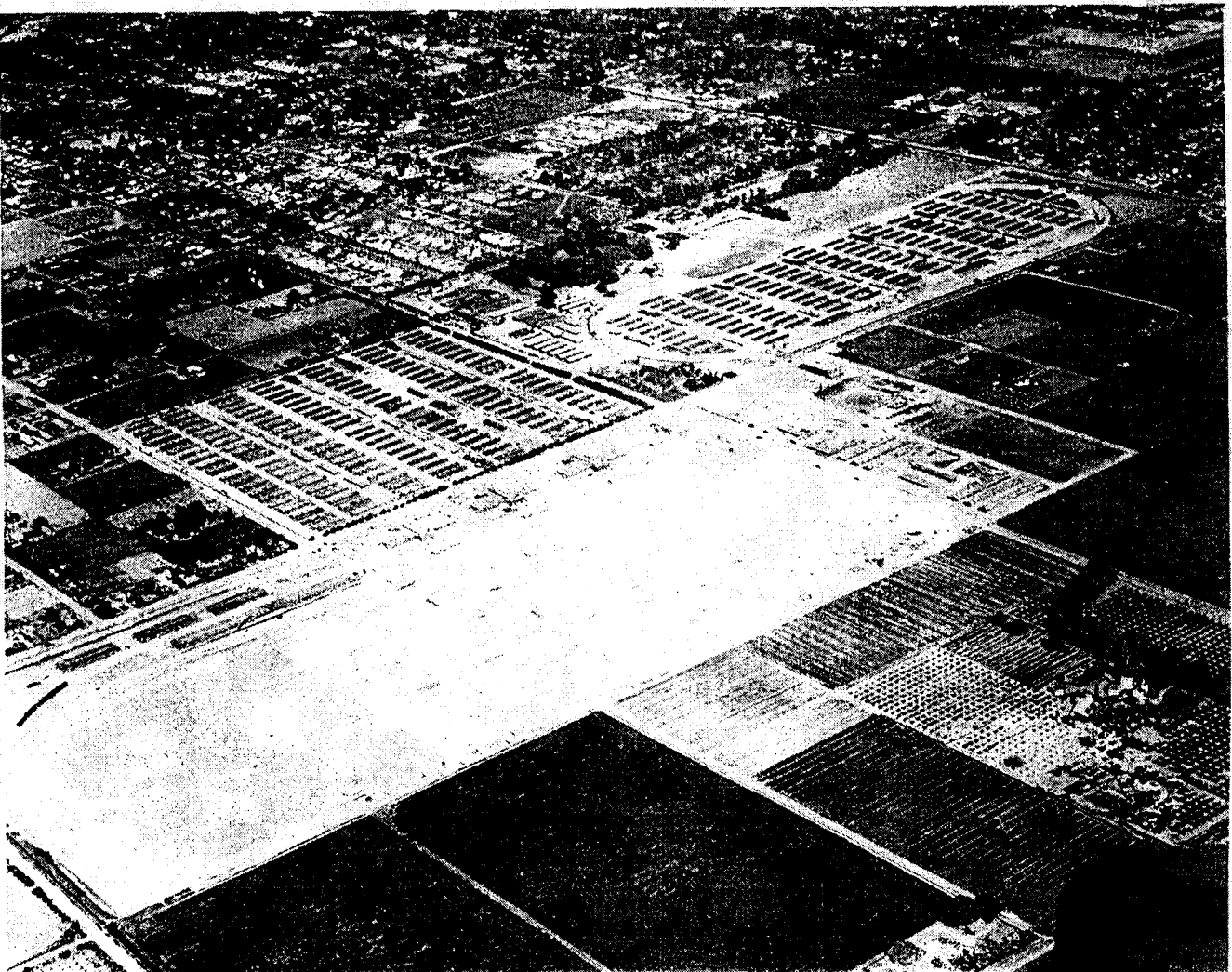
Brigadier General Clinton W. Howard, Commanding General, Sacramento Air Service Command, visited the Post and had a conference with Colonel Wilders regarding the proposed transfer of the Post to the Air Service Command.

July 18, 1943:

1st Lt. Grimes, Post Inspector, was transferred to Salina, Kansas, and Major Charles S. Boehme, Commanding Officer of the 81st Training Wing, was made Post Inspector.

The last of the Chemical Companies, the 858th, which had been on maneuvers at the Desert Training Center for the past three months, arrived from Reno, Nevada.





the Officer's Club.

August 31, 1943:

Col. Wilders departed.

September 1, 1943:

The Fresno Basic Training Center No. 8, was transferred to and became an Air Service Command installation under the Sacramento Air Service Command, McClellan Field, California. The name of the Post was changed to Army Air Forces Fresno Basic Training Center. With this change, the Post ceased connections with the Training Command with which it had been connected since 7 July 1943.

As an added point of information, one of the best rifle ranges on the West Coast was scheduled to be completed within the next two weeks. This range, located at Campbell Mountain, 25 miles northeast of the Post, when finished will contain two 50 target 1000 inch ranges and one unit of 100 targets with 100, 200, and 300 yard firing points. A tent camp to accommodate 1800 or more troops will be completed concurrently. Messing facilities, latrines, a temporary water system, road graveling, and installation of a sub-post of the Post Fire Department, and miscellaneous temporary buildings, were constructed by the Post Engineers. An out-

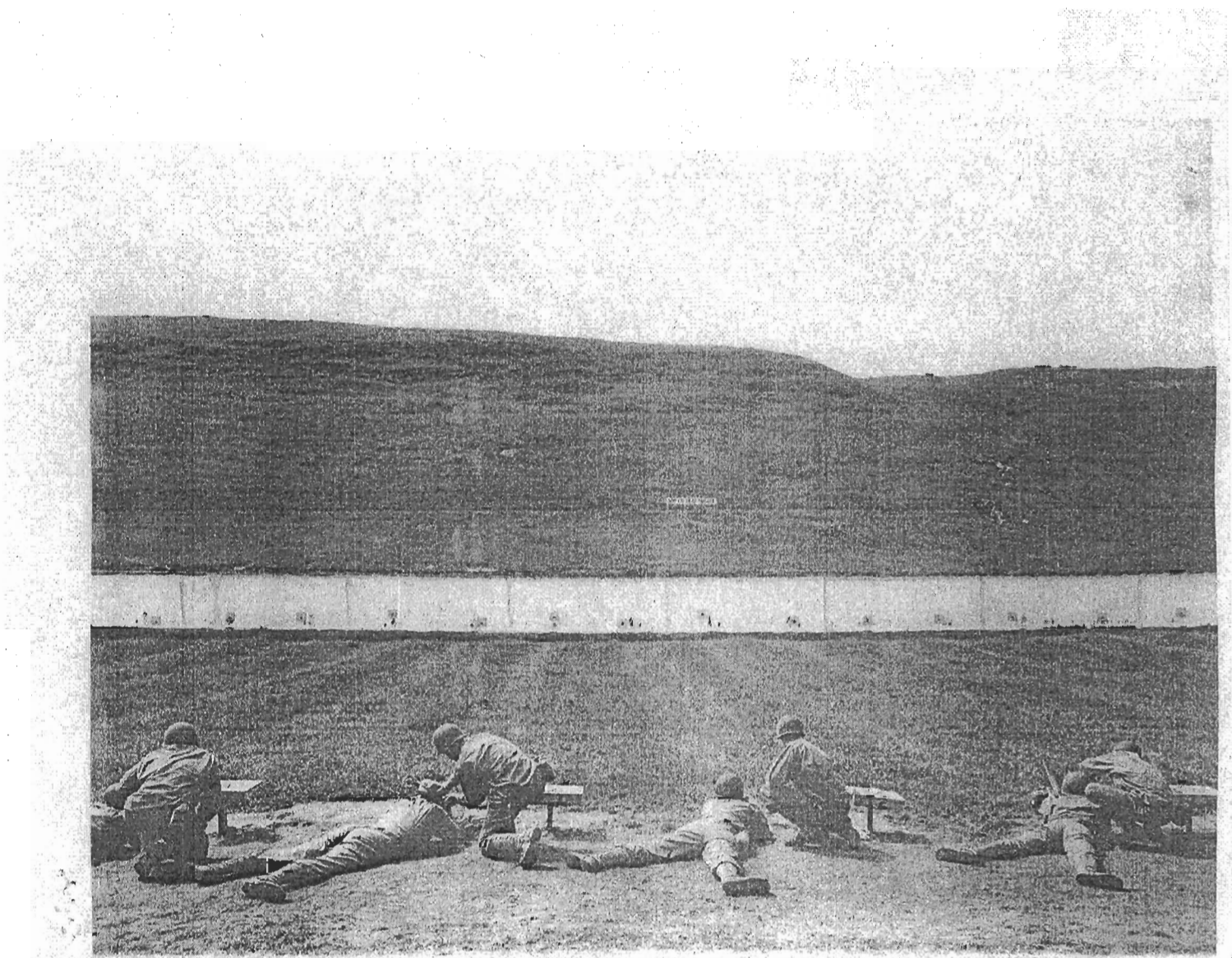
side contract was let by the United States Engineers, for the construction of the actual ranges. The value of the buildings and facilities had increased from \$601,000 on November 11, 1942 to approximately \$2,500,000 on September 1, 1943.

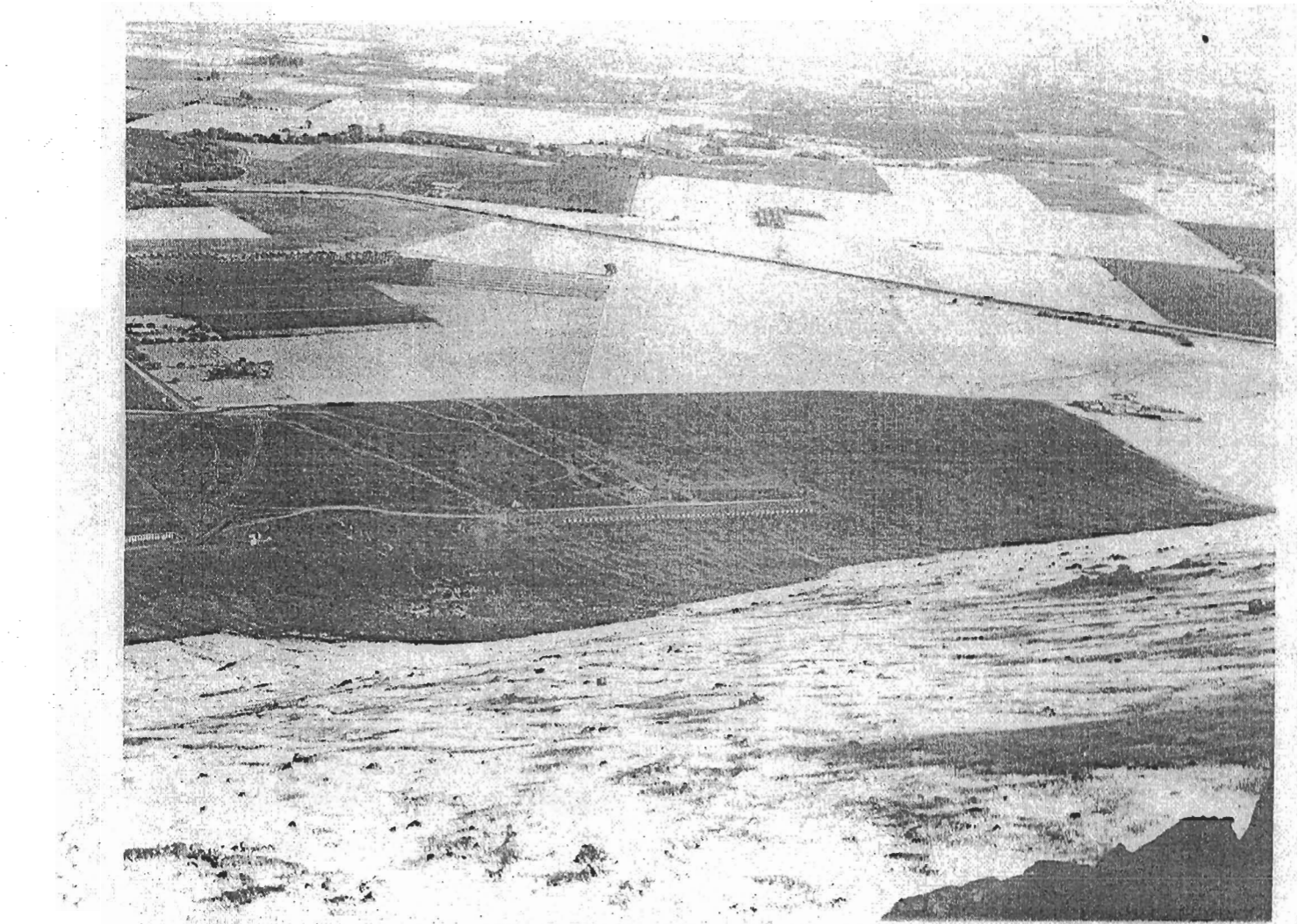
The Post leveled off into a new stride and continued to function uninterrupted in its mission of training and shipping troops, for which it was originally activated and built.

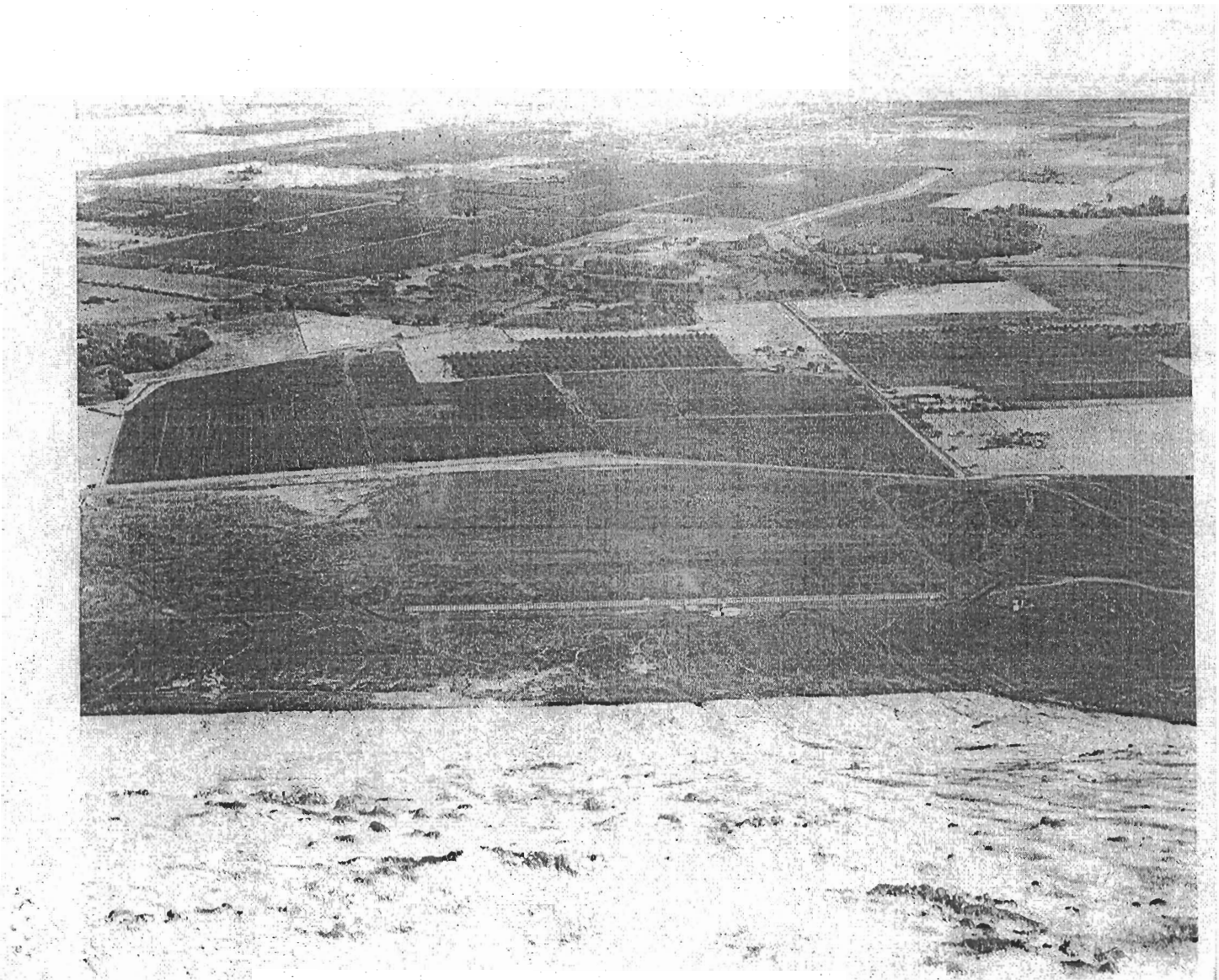
The foregoing covers the chronological history of Basic Training Center No. 8 from the date of its activation on 1 November 1942 to the date of its transfer to the Air Service Command on 1 September 1943.

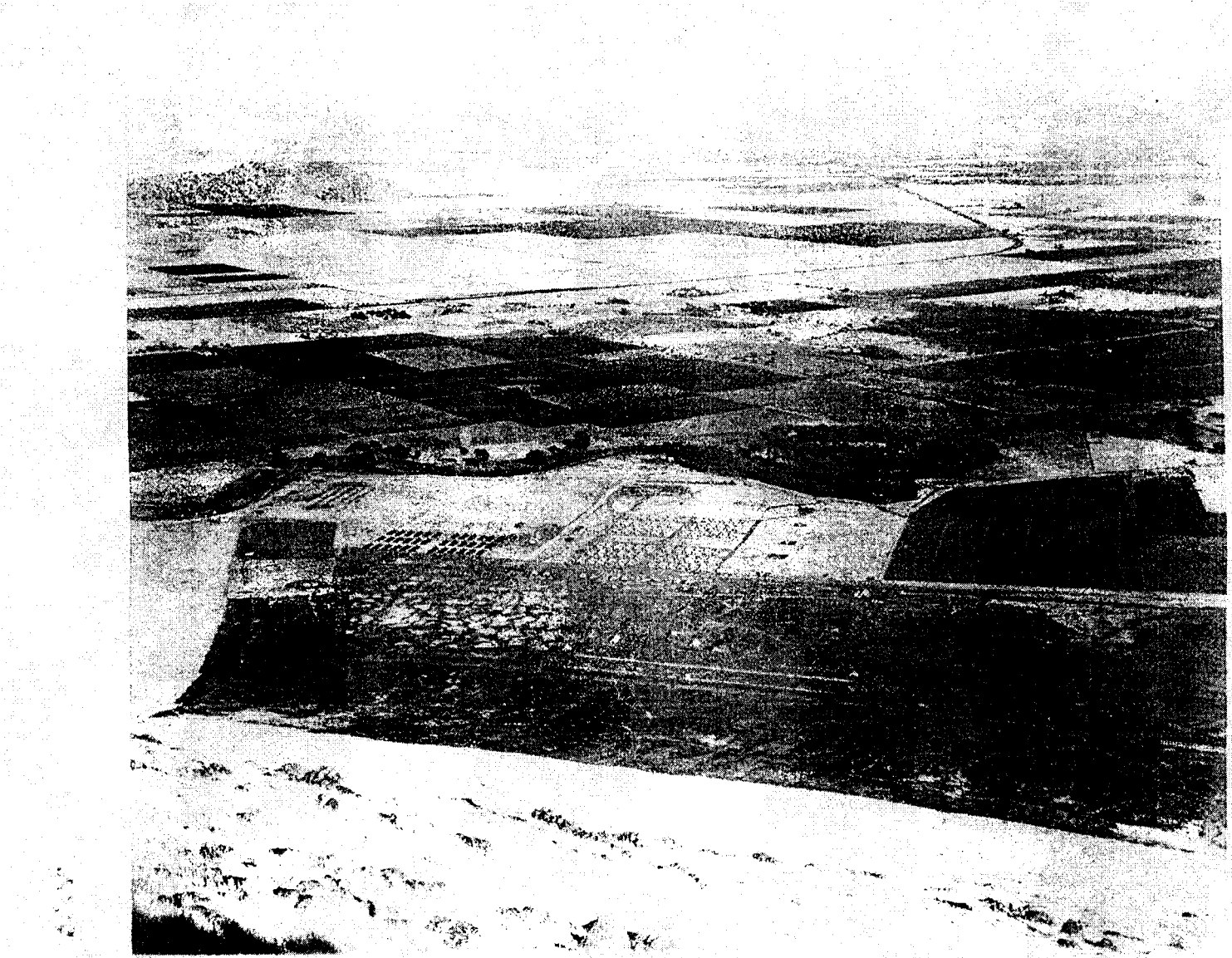
Trainees Firing on the 1000" Range.

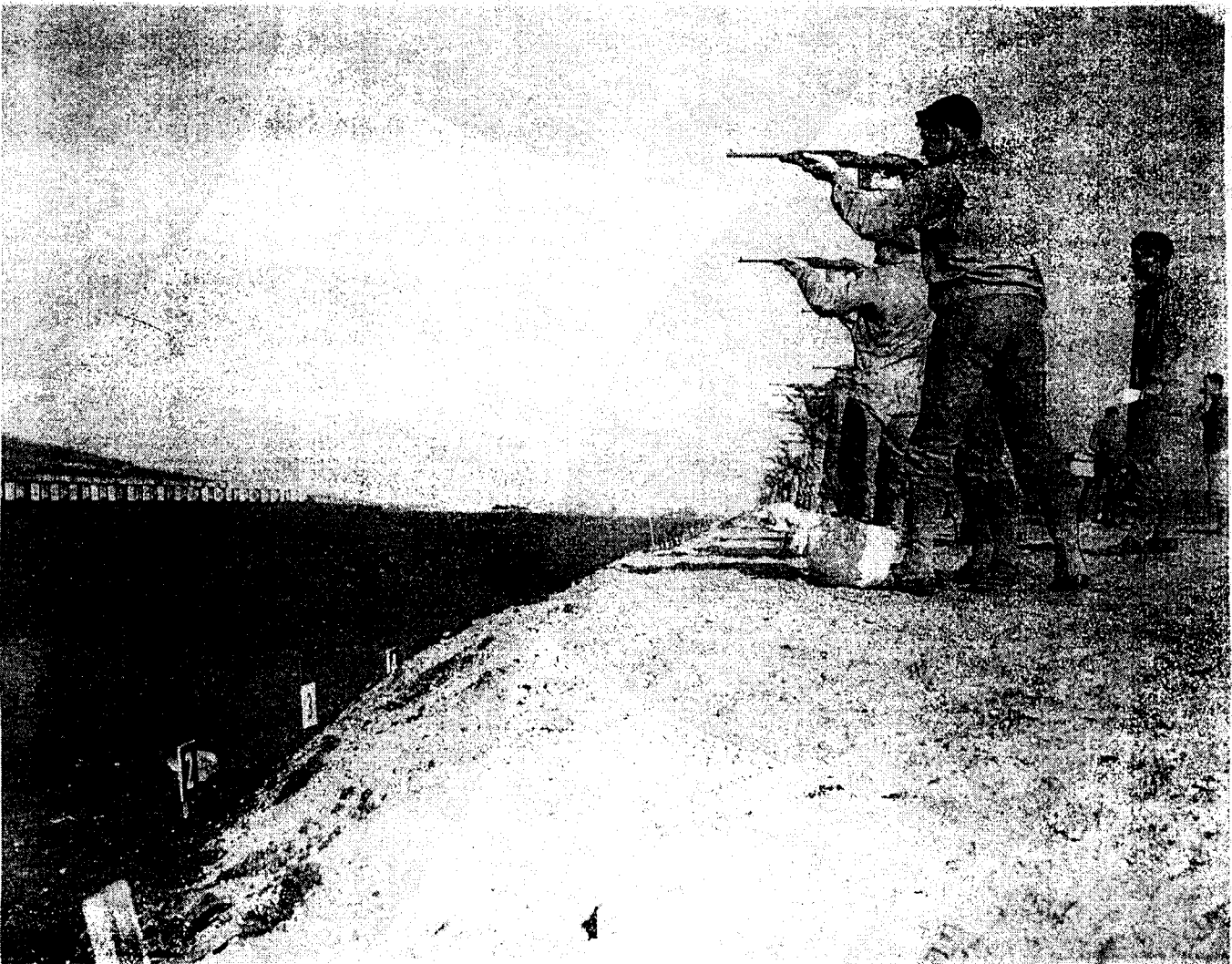












APPENDIX E-8

Army Air Forces Western Technical Training Command,
Denver, 1944

*The History of Basic Training Center No. 8, Army Air
Forces Technical Training Command Fresno, California,
29 October 1942 to 1 September 1943, June 1944, Box
229.12 – 229.27, Air Force Historical Research Center,
Maxwell AFB, AL*

THE HISTORY OF
BASIC TRAINING CENTER NO. 8
ARMY AIR FORCES TECHNICAL TRAINING COMMAND
FRESNO, CALIFORNIA
29 October 1942 to 1 September 1943

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Army Air Forces Technical Training Command
Fresno, California

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PREFACE

The following History of Basic Training Center No. 8, Fresno, California, was rewritten in the Historical Section, Headquarters, AAF Western Technical Training Command, Denver, Colorado. Recourse could not be made to many of the sources since this Basic Training Center was transferred to the Air Service Command on 1 September 1943, and all the files pertaining to this activity which were formerly located in the Denver Headquarters, were transferred to the Air Service Command. A representative from the Denver Headquarters was sent to the Fresno installation to comb the files and card all available information. The results obtained from these files were far from satisfactory, and since the personnel formerly with Basic Training Center No. 8 are widely scattered, information in the form of interviews could not be obtained.

All available information was, however, compiled into the History which appears on the following pages, and the original History, as submitted to this Headquarters has been included as an appendix.

CHAPTER I

ACTIVATION, CONSTRUCTION, ADMINISTRATION

On 6 October 1942, Col. J. G. Pratt, Executive Officer of Buckley Field, Colorado, enroute to California, stopped at Kearns, Utah to formulate plans for activation of a new Basic Training Center, preferably on the West Coast. Col. Pratt and Major Harold S. Wagner, Assistant Executive Officer, and Group Supervisor at Kearns, worked for two days laying out a proposed Post into squadron areas and setting up squadron facilities, and preliminary plans were drawn. Col. Pratt, and Major Frank H. Prior, Surgeon for the new post, departed from Kearns on 8 October for California. Previous orders had instructed Col. Pratt and Major Prior to inspect the Tanforan Race Track near San Francisco and the Fresno County Fairgrounds and to determine which of the two would be more suitable for basic training of Army personnel. A preliminary inspection of Tanforan was made on 10 October.

On 11 October, Col. Pratt, who was to be the temporary Commanding Officer of the contemplated Post, Major Edgar P. Sparks, QMC, 2nd Lt., M. H. Schaeffer, QMC, and a master sergeant arrived in Fresno preparatory to surveying the Fairground site. The following day they made a tour of inspection, finding it to be located approximately 2½ miles southeast of downtown Fresno. The grounds had been used since May 1942 as an Assembly Center for Alien Japanese, who were

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now being evacuated.

On 13 October, Major Prior, who had arrived, and Col. Pratt and Major Sparks left for San Francisco to again inspect the Tanforan Race Track with the view of making an immediate decision as to which of the two sites was to be selected, as the proposed Post was to be activated on 1 November. After inspecting Tanforan, they once more returned to Fresno and on 14 October, after a final inspection of the Fresno site, decided that the Fresno County Fairgrounds was better suited for the proposed Basic Training Center. Preparations for opening the Post began immediately.

It was believed that, with modifications of existing buildings together with new construction it could easily be made to accommodate 8,000 troops. The existing camp could be put into temporary immediate use upon evacuation of the Japanese, and could house, at once 5,000 troops by utilizing existing buildings as improvised headquarters for S-1, Classification, etc.

In order to use the existing facilities to accommodate the largest number of enlisted men, the following changes were recommended: removal of existing mess halls and erection of 4 2000 man type mess halls, removal of existing bath houses and toilets, which were inadequate, and erection of 40, L-S type latrines. The following new construction was also recommended: extension of railroad trackage into the camp to provide for shipping and receiving of troops; nine standard

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warehouses and one refrigerated warehouse; one 350 bed hospital, a headquarters building or buildings; Officers mess and quarters; Quartermaster offices and buildings; stockage area; two chapels; one theatre; 40 recreation halls; eight post exchanges and PX warehouses.

Other services were available and convenient. The servicing of motor vehicles could be accomplished by utilizing the existing facilities on the site then occupied by the 4th Echelon Ordnance Department. Laundry facilities and bakery supplies could be obtained in the City of Fresno by contract. City fire hydrants were available, however it was recommended that at least two fire stations be provided. It was also felt that the purchase of additional land adjoining the site would be necessary to provide drill grounds, and athletic areas.¹

By 17 October, it was determined that the Alien Assembly Center would be officially turned over to the Air Force around 1 November. A close study revealed that 8,000 to 10,000 men could be accommodated in existing structures although mess, latrine, and storage facilities limited the population to a maximum 5,000. Housing, mess and latrine facilities would be available for only about 300 men between 26 and 31 October. There were several items requiring immediate action, which 4th District Headquarters, Denver, were requested to initiate. First, it was necessary to immediately secure from the Commanding General, 9th Service Command, a fund of approximately

¹ 601 Hq. BTU 5, Learn to CG 4th Dist. Denver. Subj. "Conversion of Japanese Camp, Fresno, Cal., to BTU" 30 Oct. 1942

\$25,000 and a Post Engineer and staff for renovation, repairs, remodeling 200 barracks, 10 mess halls, 40 latrines, 3 hospitals, and miscellaneous storage buildings. Next, approximately 225 BTU oil heaters, at an estimated cost of \$40,000 were needed, one for each barrack, the hospital and administration buildings. Personnel were requested for the Air Corps, Medical, Quartermaster, and other detachments and funds were required for approximately 100 civilians for Post and Squadron Headquarters and a cadre of five for training those hired. Funds necessary should be based on job classification required by a station of approximately 10,000 troops.

It was reported that an average of 30 beds was available for surgical and other serious cases by contract with the Fresno County hospital, adjacent to the Camp. It would be necessary, however to set aside 7 barracks pending completion of hospital facilities. These barracks, together with three existing hospital buildings would provide space for approximately 250 minor cases. Transportation items were expected within a week and Quartermaster supplies and non-perishable subsistence were requisitioned. The existing stock of kitchen ware, stoves, blankets and beds and the continuation of utilities service, ie, water, light, ice, garbage and trash removal, teletype and telephone service, were being maintained.¹

¹ 601, Hq. BTC. 17 October, 1942 to CG 4th Dist. Denver, Subj. "Utilization of Existing Facilities at Fresno, Cal."

The Fresno County Fairgrounds, was taken over by the Army Air Forces without difficulty in so far as obtaining rights to the land was concerned, for a lease dated 19 February 1942 had been negotiated between the Fresno District Fair Association and the United States of America whereby the Government took over 130 acres and 55 buildings "to be used for Japanese Reception Center and other military purposes", for \$560 per month. The lease, which had expired 30 June 1942, was renewed until 30 June 1943 and could be extended each year until June 1947.¹ Another lease, also negotiated 19 February 1942 between Edwanda Myron and the US of A added 20 acres to the area at a rental of \$20 per month. This lease also expired in June 1943, but was renewable.² There were three additional leases negotiated between 24 December 1943 and 17 July 1943 adding 220 acres. They were all between individuals and the Government and were renewable until six months after the national emergency.³ In addition to these, 656.6 acres was later leased from Jwanchi and Arkalian at Campbell Mountain for a rifle range, and 40.25 acres near the Fairgrounds was condemned and purchased by the United States, but details are not available concerning these transactions.

1

Lease No. WO-193 eng-210 dated 19 Feb. 1942

2 Lease No. W-868 eng-4207 dated 19 Feb. 1942

3 Lease No. WO 4-193 eng-1154, 24 Dec. 1942; Paul A. Mosesian & Son Inc. & USA, 2 parcels 60 and 60.73 acres, Rental on parcel 1 \$200 monthly, No. 2, \$152 monthly. Compensation for loss of Alfalfa Crop \$1168.

Lease No. W 2972 eng 1357, 8 May 1943; Marg Schneider & USA, 20 acres, rental \$20 monthly.

Lease No. WO 04-193 eng-978 17 July 1943; David Andreas and Christina Andreas and USA, 60 acres, rental \$180 per year (used as overnight bivouac area)

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The total acreage amounted to 1002.74 and the annual rental, \$11,564.00, excluding the rifle range and the 40.25 acres condemned. The value of the physical properties of the Post on 1 November 1942 was \$601,273.23. This increased to \$2,748,496.00 by 1 September 1943. The value of Campbell Mountain Rifle Range was placed at \$70,789.00.¹

On 29 October 1942, the Army Air Forces Basic Training Center No. 8 was activated and Col. J. G. Pratt assumed command.² The same day, Hq. Army Air Forces, Washington, D. C. authorized construction of additional facilities providing for the housing and messing of 3,000 men, in addition to providing necessary Administrative and Storage facilities in order to convert the existing camp into a Basic Training Center of 13,000 men and 200 officers. Hospital construction was not included because plans were in progress for the building of hospital buildings to be located adjacent to Hammer Field which would serve several stations in the immediate vicinity, including the Basic Training Center.³

The construction authorized was as follows:

Officers	Units required
Quarters	13

¹ Information furnished by Post Engineers, Fresno, California.

² GO No. 1, Hq. BTU No. 8, 29 October 1942.

³ HQ. 1, Hq. AAF, Wash. DC, 29 October 1942 to Chief of Engineers Subj. "Construction of Basic Training Center for the AAFTIC, at Fresno, California."

Laboratories	4
Mess	1
Enlisted Men	
Barracks	60
Messes	6
Laboratories	26
Administration	13
Station	
Chapels (w/organ)	1
T & T Building	1
Finance Building	1
Post Office	1
Theatre (w/stage)	1
Hdqtrs. Building	1
PX	2 (combined into 1 building)
Warehouse	6
Class T & T Building	1
Guard House	1
QM Office	1
Gatehouse	1
Gold Storage	1
Troop loading Platform	1
Railroad Spur	1700 feet

Word arrived at BTE 8 from the Division Engineers, Salt Lake City on 9 December authorizing the construction and alterations, but deleting three mess halls, three warehouses,

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and the classification and Trade Test Building.¹ This was the result of a communication forwarded to Washington on 15 November, informing the Army Air Forces that Fairground buildings recently vacated by Military Police and Ordnance units, were made available to Basic Training Center No. 8, and as a result, sufficient buildings and space were provided to permit the deletion of the above mentioned construction.² It was estimated that the construction requested would approximate the sum of \$2,000,000. However, Gen. Curry felt that the expenditure for construction in addition to the available facilities would result in an excellent Basic Training Center.³ Completion of these facilities was promised by 15 February 1943. As of 1 January, the sewage system was 60% complete, barracks 90% complete, BOQ 20% complete, squadron administration buildings 15% complete, and the latrines 5% complete.⁴

Meanwhile preparations were under way to take care of the advance troops. This was hindered in some measure by the fact that the alien Japanese still occupied many of the buildings. These buildings were partitioned into apartments. As the Japanese families were moved out, it was necessary for workmen to convert them into barracks. Headquarters was situated under

¹ 600.1 Div. Engineer, Salt Lake City, Utah, 9 Dec. 42 to CG BTC 8, Subj. Memo regarding teletype from Washington.

² 600.1 BTC 8, 15 November 42, to AAF, Wash. (Thru 4th Dist.) Subj. Construction Changes to BTC 8

³ 333.1 Gen. Curry, 4th Dist. 13 Nov. 42, to CG Knollwood, Subj. Inspection trip to Northwest Area.

⁴ Hq BTC 8 1 Jan 1943 to CG 4th Dist. Subj. "Semi Monthly Progress Report"

under the grandstand and the only storage space available were the former stables adjacent to the race track. Despite these inconveniences, however, troops began to arrive. On 22 October 25 enlisted men of the Quartermaster Corps arrived from Buckley Field. The following day, the first assigned officer arrived from Mather Field, California. All previous officers arriving had been on detached service. Other enlisted men continued to arrive as the Japanese moved out, and by 29 October, the area was entirely cleared and available for basic trainees.

Little time was wasted. On 6 November the 779th Tech. Sch. Squadron arrived and was followed by the 790th Tech. Sch. Squadron. On 8 November, the 365th Tech. Sch. Squadron and the 1106th Guard Squadron on 9 November, and the 364th Tech. Sch. Squadron on 15 November. Each school squadron arrived with a complement of 10 officers and 150 enlisted men.¹ By 8 November, there were 750 Basic Trainees and 250 Permanent Party; the following week this increases to 1500 Basic Trainees and 1200 Permanent Party and by the end of the month 5200 recruits had arrived with 1450 assigned personnel on the Post.

By 29 November the complete list of organizations and detachments at Fresno were as follows: 913 Quartermaster, 790th, 779th, 365th, and 364th Technical School Squadrons, 1106

¹ 320.2 Hq. AAFTC (Maj. H. P. Bonnewitz) 22 Nov. 1942, to CG, 4th Dist. Subj. "Report of Completion of Temporary movement Technical School Squadrons to BTC 8, Fresno."

Guard Squadron, Headquarters & Headquarters Squadron, 858
Ordnance Detachment and 22nd Air Force Band. Two additional
units arrived on 5 December. They were the 363rd and the 778th
Technical School Squadrons, both of which came with a complement
of only one man each.

Two changes in command took place during this period, on
16 November, Lt. Col. Roy W. Leggett assumed command, relieving
Col. Pratt. Col. P. G. Wilders relieved Col. Leggett, assuming
command on 4 December. Col. Wilders remained Commanding Officer
of BTC 8 during the remainder of the period that the Post was under
the jurisdiction of the Technical Training Command.

Soon after troops arrived on the Post and routine
administrative and training functions began operation a need for
additional construction presented itself. On 24 December basic
Training Center No. 8 requested that \$18,400 be allotted for the
construction of two additional chapels. It was stated that 90%
of the personnel at the Post had stated a preference for some
church denomination and the average attendance for outdoor religious
services amounted to 750 men. Winter conditions made this type
of service impractical. Only one chapel (Type CH-1) with a seating

1

320.2 Hq. BTC 8 29 November 1942 to Personnel Office, Hammer
Field, Subj. "List of Organizations at this Station"

2

Hq. 4th Dist. (Maj. Roy Collins) 11 Dec 1942 to CG 4th Dist.
Subj. "Report of Completion of Temporary Movement TSS's to BTC
8, Fresno."

3

GO 4, BTC 8, 16 November 1942

4

GO 9, BTC 8, 5 December 1942

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capacity of 315 had been authorized and it was felt imperative that indoor facilities be provided in order that the health of the personnel would not be impaired.¹

In as much as requisitions from the General Mess would soon reach a 5 car per week capacity, additional construction in the amount of \$17,611.10 was requested for construction of a fruit and vegetable storage room. It was necessary to order in large carload lots due to inadequate rail transportation and due to the extreme summer heat at Fresno, perishables needed cold, wet storage facilities.²

Class room buildings and a field latrine were requested on 25 January 1943. \$73,769.28 was needed to construct three classrooms and the latrine, needed in conjunction with training activities. There was no space which might be used for indoor instruction required by training schedules for basic soldiers, which included lectures, training films, and class instruction on rifle, machine gun, pistol, carbine, grenades, etc. Outdoor instructions in these subjects was not considered feasible because of the lack of any natural shade on the Post during the summer season, and the fact that rainy day schedules called for indoor instruction. The field latrine was considered essential in as much as control had to be maintained over the basic soldier at all times, and it was impossible for them to leave the drill

1

600.1 Hq. BTC 8 (Col. P. C. Wilders) 24 Dec 1942 to CG, 4th Dist. Subj. "Construction of Additional Chapels"

2

600.1 Hq. BTC 8 (Col. P. C. Wilders) 26 Dec 1942 to CG, 4th Dist. Subj. "Conversion of CE-10 to C515 Warehouse"

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area for any purpose whatsoever during the courses of instruction.¹

Authorization was requested for the construction of additional warehouses to house Ordnance, Signal, Chemical Warfare and Quartermaster Supplies and a magazine for the storage of ammunition. Quoting AG 600.12, Subject. "Warehouse space at Camps and Stations", dated 20 January 1942, it was pointed out that a Post the size of Fresno installation should be equipped with 150,000 sq. ft. of warehouse space, while available space, including those buildings under construction totaled only 106,135 sq. ft. This resulted in the use of barracks for storage purposes which would shortly be needed for the housing of troops. Other reasons for the request for added space included the fact that Chemical Warfare had a monthly flow of 12,000 gas masks necessitating 3,000 sq. ft., the Signal Office estimated its storage needs at 1,000 sq. ft. Ordnance required a shop, storage and office space for the maintenance of 2,700 weapons requiring 2,000 sq. ft., and the Quartermaster required excessive amounts of enlisted men's issue on hand, because of the flow of approximately 10,000 recruits per month and because of the inadequate transportation facilities.²

All the above requests were approved. However a request

¹ 600.1 Hq. BTC S, (Col. P. C. Wilders) 25 January 1943, to CG 4th Dist. Subj. "Construction of Class Room Buildings and Latrine (Mod.) "

² 600.1 Hq. BTC S, (Col. P. C. Wilders) 26 January 1943, to CG 4th Dist. Subj. Additional Construction (ORD Warehouse and Magazine and three QM Warehouses).

for funds amounting to \$53,544.00 for the construction of colored troop facilities and additional land acquisition was not approved by Headquarters, 4th District, because it was felt racial discrimination could be claimed by approving a segregation of this kind.¹

One indispensable facility still lacking was a suitable rifle range. It soon became apparent that a 100 target range would be necessary to handle the large number of trainees received at this Post. A project was submitted to Denver in January 1943, which was estimated at \$128,342. This plan was however considered too elaborate for a station which was only a temporary post. Its location was not considered good, in as much as it was to be situated in a hollow with an indication of poor drainage.²

As Fresno did not have sufficient engineering personnel to prepare an itemized and detailed plan for the new rifle range, the U.S. Engineers Office in Sacramento prepared a revised cost estimate, totaling \$122,501 and including a concrete retaining wall, 100 targets, telephones, and three buildings for storage purposes. Denver was not long in replying that the cost was still excessive. It was suggested that the concrete retaining wall should be replaced by log cribbings that, in as much as targets and frames were items of issue, they should not be included on the cost of construction, that only one building for storage be built and

1 600.1

Hq. BTC 8, (Col P. C. Wilders) 31 January 1943 to CG 4th Dist.
Subj. "Proposed Colored Troop facilities and Additional Land Acquisition".

2 600.1

4th Dist. Hq. Denver, (Leslie I Gumpert, Capt.) 8 Jan. 43 to G-4
Subj. Report Fresno Rifle Range.

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that field sets be substituted for telephones listed. It was stated that these measures of economy plus a few others should result in a range being constructed for \$40,000 or less.¹ The range was to be located at the foot of Campbell Mountain. The Sacramento Engineer Office consequently designed a range costing less than \$40,000 which was approved. Inasmuch as Campbell Mountain was 1300 feet high the customary safety zone of 4000 yards² was waived. As previously stated, however, the evaluation of this range, upon completion amounted to \$70,789.00.

During the period in which Basic Training Center No. 8 was under the command of the Technical Training Command, every one worked long, hard hours. The official day for officers and permanent party enlisted men was from 0800 to 2100 daily.³ The day began usually with a staff meeting which, at first all officers attended, but which was later limited to only certain key personnel. All officers concerned with training were required to spend at least two hours per day, actually instructing troops. The luncheon period was limited to one hour. At about 1600 each afternoon a daily activity report was turned into the Adjutant's Office by each department or organization. Three hours of physical training per

1

CE 614 US Eng. Off. Sacramento, Cal. 12 Feb. 1943 to CG 4th Dist. Subj. "Rifle Range".

2

Ibid

3

Minutes of Staff Meetings, HHC 8, Fresno Cal. Nov. 1942 - Aug. 1943

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week were demanded of each officer plus two evenings devoted to Officers School. Neatness, Military courtesy and discipline were stressed at all times, and formal weekly inspections were held each Saturday morning by the Commanding Officer. It was found necessary to apply pressure periodically to accomplish an adequate policing of the Post. Weekly parades were also held at which all officers and men were present. ¹ Several distinguished visitors appeared on the Post during the period under discussion. On 26 February Brig. Gen. Kerly E. W. Duncan, Commanding General of the Army Air Base at Lincoln, Nebraska, arrived for a courtesy inspection of the Post. He was particularly desirous of obtaining information on the training program, in view of the contemplated activation of a Basic Training Center at Lincoln. On 7 March, Major General John F. Curry, Commanding General of the 4th District, Denver, Colorado, arrived for a two day tour of inspection. He characterized progress of the Post as "remarkable", adding "it proves a concrete example of the ability of the United States Army to accomplish things. This Basic Training Center is a high tribute to its entire officer and enlisted personnel." General Curry made two additional visits on 11 June and 2 July. Brig. Gen. Clinton W. Howard, Commanding General of the Sacramento Air Service Command visited the Post and held a conference with Col. Wilders regarding the proposed transfer of the Post to the Air Service Command.

¹ Minutes of Staff Meetings, BTC 8, Fresno, Cal. Nov. 1942 - Aug. 1943

Effective 1 March 1943 a reorganization and redesignation of the units of the Post was accomplished and the following School Squadrons became Training Groups: 363rd - 801st; 364th - 802nd; 365th - 803rd; 778th - 804th; 779th - 805th; 790th - 806th. The 81st and 82nd Training Wings were activated as was the 6th Mess group, composed of the newly activated 22nd and 23rd Mess Squadrons. The 802nd, 803rd, and 805th Training Groups were assigned to the 81st Training Wing, while to the 82nd Training Wing were assigned the 801st, 804th and 806th Training Groups.¹

On 15 June 1943, a Col. Brown, Executive Officer of the Sacramento Air Service Command arrived on the Post for a preliminary inspection in view of the contemplated transfer to the Air Service Command and on 18 June announcement was made that approximately 1346 Air Service Command Troops would arrive early in July. They were composed of Signal and Camouflage men and considerable movement about the Post was accomplished in preparation of the arrival of these troops. The first advance contingent arrived on 22 June and from this time forth, close coordination was necessary to accomplish the transition of the Post to the Air Service Command.²

In anticipation of the transfer, an agreement as to the disposition of the Post Personnel was reached on 28 July by Lt. Col. R. W. Leggett and Lt. Col. H. N. Cowles, representing the 4th District.

¹

320 BTC 8, 4 March 1943, to CG 9th Service Command, Subj. "Activation and Redesignation of AAF Units" and GO No. 7, BTC 8, AAFTTC, Fresno, Cal.

²

Minutes of Staff Meetings, 18 June 1943

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TTC, and Col. Thomas Hanson and Major E. P. Wilson representing the Air Service Command. It was agreed that the 82nd Training Wing, composed of the 801st, 804th and 806th Training Groups, and the 23rd Mess Squadron would be transferred with all personnel to Buckley Field on 15 August. The 81st Training Wing, composed of the 802nd, 803rd and 805th Training Groups, the 6th Mess Group, 22 Mess Squadron, Hq. & Hq. Squadron, 1106th Guard Squadron, Finance Detachment, Medical Detachment and Veterinary Detachment were to be disbanded. All enlisted personnel and 12 officers were to remain with the 81st Training Wing and subordinate Groups and be transferred to the Air Service Command. All personnel, officers, civilian, and enlisted, who were assigned to the Finance, Medical, Veterinary, Ordnance, Signal and Quartermaster Detachments were to be transferred to the Air Service Command. Four officers and 58 enlisted men of the 6th Mess Group were likewise to be transferred while two officers and approximately 97 men were to remain with the TTC. One warrant officer and 32 bandmen were to be transferred and 28 enlisted bandmen to remain. The Post Surgeon, and all medical officers, Judge Advocate, Post Exchange Officer, Chaplains, Ordnance Officer and Quartermaster were to remain at Fresno for transfer to the Air Service Command, as were 36 other officers belonging to various other departments on the Post. All other personnel were to be kept by the TTC to be transferred to other stations when the transfer was accomplished.

¹
200.3 Agreement on Base Personnel Basic Training Center 8, Fresno, Cal. 28 July 1943

CHAPTER IV

TRAINING

S-3

The S-3 Section was organized with the activation of the Post on 29 October 1942. Its functions began soon after when a combination staff and officers meeting was held in the S-3 office. At this meeting many of the Posts policies were determined and a program was begun for the establishment of unit areas and the training of troops.¹

The Basic Training Centers first Training Circular was issued on 2 November laying some of the primary policies of the S-3 Section. It was stated that the primary mission of the Post was the training and instruction of enlisted men in the basic requirements of a soldier assigned to the Army Air Forces. All officers assigned or attached to Technical School Squadrons or the Post Staff, (S-3 Section) were expected to be qualified as a primary duty, as instructors and to instruct enlisted men assigned for basic training. Consequently, all School Squadron Officers were expected to personally instruct enlisted men a minimum of two hours each training day. Full and complete knowledge of the subject matter of any phase was the professional responsibility of the individual officer.²

1

Report of Staff Meeting 5 November 1942

2

BTC 8, Training Circular no. 1, 2 Nov. 42

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Tactical
Training

A tentative training schedule was drawn up and put into effect on 13 November. The schedule was for twenty-six days and was used until 23 November when a complete one was mimeographed and distributed to all organizations. It too was a twenty-six day schedule and in addition, contained rainy day schedules and an outline of the processing procedure for newly received men.

On the day of arrival and day following, which would be known as the "First Day" the following functions were scheduled: Issuance of bedding and equipment, orientation lecture, clothing inspection, dental inspection, physical examination, blood typing, articles of war, issue of clothing, immunization, and lectures on wearing of the uniform and care of mess kits. The men were assigned to barracks in groups of forty-five with a permanent party man designated to serve as barracks leader. Eight of these groups were designated as a flight and a squadron was composed of four flights. Consequently a squadron was designed to contain 1440 trainees.

Training in each squadron was designated as the responsibility of the Squadron Commander. A senior drill instructor, appointed by the Squadron Commander coordinated all training functions within the squadron and supervised the activities of the flight senior drill instructors. The flight senior drill instructors and the squadron senior drill instructor were charged

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by the Squadron Commander with the execution of the training program by the drill instructors in charge of the separate barracks in each flight.

The second day was occupied with classification and Military courtesy and customs training films. Beginning with the third day, training started in earnest; school of the soldier, physical training, close order drill and lectures occupied the entire day from 0800 to 2100. A complete test of the subjects taught and the time devoted to each follows:

Air Drome Defense	1:45
Aptitude Testing	6:45
Bayonet Training	1:00
Cal. 30 Carbine	1:30
Cal. 30 Machine Gun	1:30
Cal. 30 Rifle	3:15
Calisthenics	33:45
Chemical Agents Lecture	1:30
Close Order Drill w/o arms	36:40
Close Order Drill with arms	13:50
Defense against Chemical Attack	1:50
Display of Equipment	1:30
Extended Order Drill	7:20
Field Demonstration (Gas)	2:40
First Aid and Personal Hygiene	1:45

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Gas Chamber	1:30
Gas Mask Drill	1:30
Hand Grenades	5:20
Identification of Surface vessels	1:45
Infantry Pack	1:30
Inspections	5:30
Interior Guard	6:20
Interview & Classification	3:40
Make up Time	12:15
Map Reading	4:35
Marches	4:50
Math. re-examination	1:45
Math. refresher course	1:45
Military Courtesy & Customs	1:45
Military Sanitation	1:00
Mission of Air Force	:30
Obstacle Course	11:15
On Range	5:20
Organization of Army & AAF	1:45
Pistol, Shotgun	:50
Processing	10:50
Protective concealment	5:10
Rifle marksmanship	6:40
Safeguarding Military Information	1:45
Scouting and Patrolling	1:00
Sex Hygiene and Morality	1:45
Tent Pitching	2:30

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Thompson Sub-Machine Gun	2:20
Uniform Regulations & Equipment	1:45
"Victory in the West"	2:50
War Bonds & Insurance	1:00

The foregoing syllabus totaled 229 hours and 35 minutes.¹

A directive from Knollwood dated 30 December increased the training period of basic trainees from one month (26) days to two months (56) days. This increase was to take place over a period of time until the full two months training would be in operation.² On 1 February the training was increased to 5 weeks, on 1 March, to 6 weeks, etc. By 1 May the total of two months was reached.

On 7 January 1943, an inspection of training activities was made by the 4th District. It was stated that, on the whole, considering the limited training facilities available, the training directive was being carried out in a satisfactory manner. There was no rifle range, visual aids had been used only slightly, a training film library had not been established and there was a shortage of instructors. The instructors available were considered to be well trained because of an extensive instructor program which was gradually supplying instructor needs as well as improving instructor efficiency. The one major defect seemed to be that recruits were inadequately trained in the use of small arms³ because of the lack of range facilities.

¹ Hq. BTC 8, Training Memorandum No.1, 23 November 1943 (Training Schedule)

² 353, Hq. AAFMTC Knollwood 30 Dec. 42 to CG 4th Dist. Subj. "Lengthening of Recruit Basic Training"

³ 333.1 Hq. 4th Dist. 7 Jan 1943, BTC Inspection Form, Fresno, Cal. F-61

Training in Interior Guard Duty was increased to include a 24 hour tour of ward details as the result of a directive from Knollwood on 12 January. It was suggested that this training be accomplished by the formation of instructional guard details in sufficient number to provide each trainee with this instruction, each detail of trainees to contain all personnel and to perform, under supervision, guard duties as proscribed in the appropriate Field Manual.¹ Commissioned officers were detailed to inspect the guard on duty thereby giving the trainees additional practice in challenging, reciting general orders etc.

On 5 February a Basic Training Circular directed that, as the trainee reached his ninth day of training the gas mask would be carried at all times during drill hours on training days. A portable gas alarm was installed for use on the field by the Chemical Warfare Section and all basic soldiers upon the sounding of this alarm, were to immediately stop drill or other instruction being engaged in and put on their masks. They were to be worn until the command to remove them was given. It was decided, however, that the masks would be unslung before engaging in Physical Training or during extended order, so that injury to the masks² would be avoided.

It was the policy of the S-3 office to leave the decision of declaring rainy day schedules entirely to the discretion of

¹
353 Hq. Knollwood 12 Jan 43 to CG 4th Dist. Subj. Recruit Training Guard Duty

²
BTC 8, Training Circular No. 1, 5 February 1943

the Training Groups. This was done because of the intermediate rainy and sun shiney periods, sometimes prevalent on rainy days at the Post. On some rainy days it was possible to include as much as one half of a day's training on the outside because of the short periods of rain. Whenever a rainy day schedule was called, and a lecture was given which was ordinarily scheduled for the evening period, it became the responsibility of the Training Group to notify the S-3 Section in order that credit might be given for this lecture on the trainees record cards¹ and that the evening lecture could be cancelled.

Eliminated cadets continued to be a problem for the S-3 Section until a special training program was designed for them. It was designed as an advanced schedule for advanced trainees. Its purpose was to occupy the time of the eliminated cadet. An attempt was made to make the program broad enough in scope so that the men could be kept busy and out of trouble, give them ample activity and still keep them segregated from the rest of the trainees.²

On 15 May another inspection by Hq. 4th District was made. The primary need indicated was a sufficient number of lecture halls in which to show training films and give lectures involving the use of visual aids. Most of the instructors were found to be

¹ 353, 81st Tng. Wing; BTC 8, 5 March to CO, 802 Tng Gp. Subj. Failure to Follow Instructions.

² Report of Staff Meeting 31 March 1943

qualified, however there were some who lacked a complete knowledge of their subject and several were observed to be using Field Manuals during the instruction. It was also felt that the men had not received proper instruction in personal hygiene because a number had developed blisters on their feet because of not changing socks at frequent intervals. Some groups also had difficulty in getting a 100% turn out on the drill field. Men were lost between the barracks and the training area, so that it was necessary to call the roll at both places causing a waste of time. Training Groups were found to have from 8 to 11 officers each, but a lack of officers supervising the training was noted. Not more than four officers were observed at any one time, in spite of the fact that one was required to be on the field from each Squadron at all times. It was also noted that many officers were not familiar with the subject being taught, and no effort was being made to correct the errors of the¹ instructors and trainees.

A new training program was issued on 1 May 1943 but was rescinded on 1 June by a new one - Training Memorandum No. 2. This new schedule provided for 56 days training and included one week of bivouac and range firing. The total time was increased to 407 hours and 30 minutes and was divided as follows:

Aircraft Recognition	24:00
Airdrome Defense	1:45

¹
333.1 Hq. 4th Dist. (1st Lt. George M. Kimmel) BTC Inspection Form BTC 8, Fresno, Cal. Date of Inspection - May 15-18, 1943.

Army Orientation Course (film)	7:15
Army Orientation Course (discussion)	9:00
Articles of War	1:00
Bayonet Training	6:00
Blood Typing	1:00
Camouflage	6:30
Care of Clothing & Equipment	1:45
Chemical Warfare	19:45
Classification	15:00
Clothing Inspection & Issue	3:00
Close Order Drill with arms	18:00
Close Order Drill W/o Arms	27:30
Display of Equipment	1:00
Extended order drill	15:00
First Aid & Personal Hygiene	1:45
Hand Grenades	4:30
Hasty Entrenchments (Field Fortifications)	1:30
Immunization	1:30
Infantry Pack	3:00
Insignia of Allied Nations	5:00
Inspections	2:00
Instruction Firing	11:30
Interior Guard (Instruction, practice tours)	8:15
Machine Gun Cal 30	1:30
Make up Time	1:00
Manual of Arms	4:00

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Map Reading	5:30
Marches, practice	46:00
Military Courtesy, Customs	3:30
Military Sanitation, First Aid	1:00
Mission of AAF	1:30
Morale Singing	2:00
Organization of AAF	1:45
Physical Examinations	2:30
Physical Training	73:00
Preparation for Inspection	1:00
Record Firing	11:30
Recreation	3:30
Retreat	:15
Review & Parade Formations	2:00
Range Procedure	10:00
Rifle Marksmanship	13:00
Sex Hygiene & Morality	1:00
Scouting & Patrolling	5:30
Tactical Problem	3:30
Tent Pitching	1:30
Thompson Sub-Machine Gun	4:00
Transfer to New Organization	1:45
U.S. Carbine Cal. 30 Mi.	2:30
U.S. Rifle Cal. 30	4:45

F-66

period copies of most of the requisitions originally submitted to the Air Service Command were returned bearing the notation "Extracted" which indicated that they would be received as soon as available. Practically none of these films were ever received.

Failing to obtain the needed films it became necessary to borrow films from all available places. A sex hygiene film was borrowed from the California State Commission for Control of Venereal Disease and other films were borrowed from Hammer Field. The Signal Corps at San Francisco also loaned several. These films, however were subject to recall at any time without notice.¹ From June on, the situation assumed less importance, since the Post strength decreased and the recruit flow was stopped.

Range

As early as 10 November 1942 a conference was held by the Commanding Officer, Executive Officer, and S-3 Officer for the purpose of discussing range facilities. Plans were made for the construction of a 1,000 inch range on the site chosen for a drill and training area. This was soon, however, considered inadequate for the amount of firing to be accomplished and a preliminary inspection of a site at Campbell Mountain was made on 12 December. It was decided that with the butts built directly at the toe of the slope of the mountain, it would be an especially good location with very little danger of ricochet

1

413.53 Hq. 4th Dist. 10 June 1943, to CO BTC 8, Subj. "Training Films".

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outside of the proposed boundary. Furthermore, there would be room at the site for 100, 200, and 300 yard firing points.

Campbell Mountain was approximately 22 miles from the Basic Training Center but this distance was considered desirable as trainees, marched from the Post to the site could be very advantageously given training in march discipline, overnight camps, care of the feet and other valuable instruction. It was proposed to erect a tent camp capable of housing 1500 men adjacent to the range which would provide for 300 permanent party, 400 trainees firing, 400 awaiting firing (doing target duty, KP, etc) and 400 new arrivals. In addition to the main camp, several staging camps were also to be erected where trainees¹ on the march could spend the night.

On 14 February an additional survey at Campbell Mountain was made for the purpose of determining what installations were necessary and what work had to be done in the construction of the range; and on 1 March plans for construction of a temporary range 14 miles north of the Post were drawn. This, a 1,000 inch range, was to be used pending the approval and construction of the Campbell Range. The temporary range was completed and firing began on 9 March.²

Construction and consequent completion of Campbell Mountain range was delayed pending revision of cost and

¹600.1 Eq BTC 3 (Col. P.C. Wildes) 31 Dec. 1943 to CG 4th Dist, Subject: "Rifle Range."

²Report of Staff Meeting, BTC 8, 9 March 1943.

elimination of some of the construction considered necessary (See Chapter I). Meanwhile, difficulty arose in firing the men. Directives made it mandatory for trainees to fire a qualifying course with a weapon with which they were to be armed. Trainees at Fresno fired the caliber 30 rifle and carbine but qualification with these on the 1,000 inch course was not possible. Consequently the pistol was substituted as the qualifying weapon. Few marksmanship instructors had had experience with the pistol, however, and the first group to fire for qualification fired on 12 June and only 17% qualified. The second group fired on 13 June with 10% qualifying. The third, fourth and fifth group resulted in 7%, 18% and 15% qualifications. This firing was done with completely inadequate training facilities and a small number of pistols. Succeeding groups, receiving preliminary instruction, improved to some extent.

Firing was begun on the 1,000 inch range at Campbell Mountain with the Enfield rifle on 28 June. Considerable preliminary instruction was given with the result that qualification rose to above 50%, and continued to improve as the instructors became better acquainted with their subject.¹

Construction on the Campbell Mountain Range was begun on 4 June 1943, and continued throughout the period of

¹ 684, Hq BTC 8, 3 July 1943, Memorandum to Major General John F. Curry.

this History. It was scheduled for completion about 15 September, too late for use by the Technical Training Command.

Garrison
Schools.

On 8 December 1942, an Officer School was begun with classes scheduled for Tuesday and Thursday evenings at 1930. Attendance was compulsory for all officers and permission to be absent could be obtained only from the Commanding Officer. A drill instructor's school for enlisted men was begun a month later, on 14 January.¹ They were organized in compliance with higher headquarters for the purpose of increasing the knowledge and efficiency of all assigned personnel on the Post in the performance of their duties. Subjects taught at the Drill Instructor's School were naturally limited to topics of basic training. However, the Officer School covered a wide range; and it was soon discovered that, in order to become effective, it would be necessary to conduct a series of concurrent courses, each dealing with the specific topics most useful to officers in their respective assignments.

On 11 February, therefore, a training circular was issued establishing this policy. Effective 1 March, each Group Supervisor, Department Head, Detachment Commander and Unit Commander was to organize and conduct a school for all

¹ Reports of Staff Meetings, ETC 8, 8 Dec. 1942 and 11 Jan. 1943.

An obstacle course for the conditioning of trainees was completed on 23 November. However, it was not considered adequate and it was revised during January 1943 to include stagger walls to replace tree stumps for quick direction change, a running trench ditch to replace logs, better spacing of hand vaults and a running wall to be attached to the back side of the jumping wall already constructed. A second obstacle course was constructed which was designed to give training simulating combat conditions. This course contained running and jumping walls, jumping ditch, running trench ditch, bear pit (5 feet deep lined with sand bags), stagger lanes (for quick direction change) and a running trough (for quick shifting of weight).¹

On the 6th, 7th and 8th of February, the Physical Training Program at Fresno was inspected by Blair Gullion, Director of Physical Training at Headquarters, 4th District, and a number of recommendations were made by him for the improvement and operation of the program. His recommendations included: (1) that proper assignment be made of personnel to the duties involved; (2) that no outside athletic participation be permitted by individuals or groups within the Command; (3) that a master attendance report be maintained in the S-3 Physical Training unit showing the daily

¹AG 333, 3rd Ind. Hq BTC 8, 3 Feb. 1943 to CG 4th Dist.

This not only was considered a drain on civilian supplies but resulted in large amounts of unconsumed food at the Post. Men were consequently urged to eat all meals on the Post.¹ In order to reduce the waste of food left on trays a non-commissioned officer was appointed in each mess hall to observe all trays. If any leftover food was noted, the soldier was instructed to eat it. If he refused, his name and serial number was taken. Although these names were not used for any disciplinary action, the desired psychological effect was produced. As a result, every tray turned in was clean and one inspecting officer remarked that there was less waste here than at any other mess he had ever seen.²

Ordnance.

The Ordnance office at Basic Training Center No. 8 was responsible for the procurement of motor vehicles as well as the supply and maintenance of fire arms and ammunition. In this regard, it was noted soon after the initial destination of weapons to the squadrons that proper care and supervision was not being exercised in the maintenance of these arms. Orders were consequently issued to each squadron to appoint one officer who would be charged with the supervision of storage, cleaning and preserving ordnance material assigned

¹ Report of Staff Meeting, BTC 8, 11 May 1943.

² 333.1, Hq 4th Dist, 22 May 1943, Subject: "Mess Inspection Report BTC 8, Mess Hall No. 15."

to it.¹

On 23 December, Fresno reported that, although there were 93 vehicles on hand, they were not adequate to supply the necessary transportation because of the fact that all troops had to be transported to and from Railroad stations, a distance of three miles, and that it was necessary to provide transportation for certain recreational facilities in Fresno, which were not available at the Post. There was also motor transportation required in connection with the transportation of troops and supplies to Hammer Field for firing on the range. Troops also needed to be transported to the Base Hospital at Hammer Field. Inasmuch as supplies and troops would have to be transported to the Campbell Mountain Range, when completed, and because all supplies had to be brought into the Fresno Post by truck, it was requested that the station be allowed a total of 152 motor vehicles. This communication was indorsed to Knollwood and Washington by the Fourth District with the recommendation that this total of 152 vehicles, based on the authorized strength of 13,000 be approved. Washington however responded that the issuance of motor vehicles was not based on authorized strength, but rather on actual strength. Inasmuch as the actual strength of Fresno was

¹ 210.6, Memo Post Ord. Off. 8 Dec. 1942 to S 3 Officer, BTC 8, Subject: "Ordnance Supervision in the Squadron."

5,837, the total authorized vehicles was only 79. Under these circumstances it was felt that 93 vehicles should be sufficient to service the Post, and at such time as the station increased in strength to 13,000 men, requisition for additional vehicles was to be submitted to the Ninth Service Command. These vehicles could, it was estimated be supplied in two weeks.¹

Sufficient weapons were received so that little difficulty was encountered, except in the matter of pistols which were unexpectedly used as qualifying weapons because of lack of range facilities. On 25 January the Post Ordnance Office requisitioned 100 sub-machine guns, caliber 45, 5 carbines, 500 rifles, caliber 30 1917, and 500 bayonets and scabbards. The Fourth District notified Fresno on 16 February that the requisition was changed to include 800 carbines, which, together with the sub-machine gun was considered the basic armament of air force personnel.²

A memorandum was issued on 19 February to using units of ordnance vehicle equipment stating that they were charged with first and second echelon maintenance of these vehicles.

¹451, Hq BTC 8, 23 Dec. 1942 to CG 4th Dist, Subject: "Administrative Vehicles for Post, Camps and Stations of the AAF."

²400, BTC 8 25 Jan. 1943 to Hq 4th Dist, Subject: "Equipment."

The Ordnance Department was charged with Third and Fourth Echelon Maintenance, but since there were no third or higher echelon shops at the Post, the shop at Hammer Field would perform these functions for Basic Training Center Number 8.¹

By April the need of permanently assigned heavy motor equipment for sweeping and sprinkling manifested itself. The Post had 42, 801 square yards of bituminous streets requiring constant cleaning, and the assignment of a pick-up type street sweeper was considered urgent because of dust conditions. Two street sprinklers were also desired for sprinkling streets graveled roads and 40 acres of parade grounds, from which much of the dust originated. These items were requested from the Ninth Service Command who responded that a 1000 gallon sprinkle-flusher, auxiliary engine powered was on order, and that the request for the street sweeper was forwarded to the Chief of Engineers.²

During the Annual General Inspection on 10-24 May 1943 it was discovered that the magazine lock consisting of a small spring, on caliber 22 model 513 T rifles was often broken which rendered the rifle unserviceable. When this occurred, it was necessary to send them to Benicia Arsenal

¹451 BTC 8 19 Feb. 1943 Memo for Post Distribution, Subject: "Supply of Ord. Vehicles & Maintenance Equipment."

²451 - BTC 8, 13 April 1943 to CG 9th Service Command, Subject: "Permanent Assignment of heavy equipment to the Post."

for repair which usually took about one month. At the time of the inspection thirteen of the fifty rifles on hand had broken magazine locks. Inasmuch as their Post had a sufficient number of ordnance personnel who were familiar with small arms maintenance, it was believed that if these magazine locks were made available to the Post, much training time could be saved and repair accomplished with a minimum of effort. An attempt to obtain these locks was unsuccessful. This matter was called to the attention of Headquarters, Washington, D.C., and action was taken from there to improve the supply problem. It was pointed out, however, that there was no basis of issue established for caliber 22 rifles for training units of the Technical Training Command.¹

Motor
Pool.

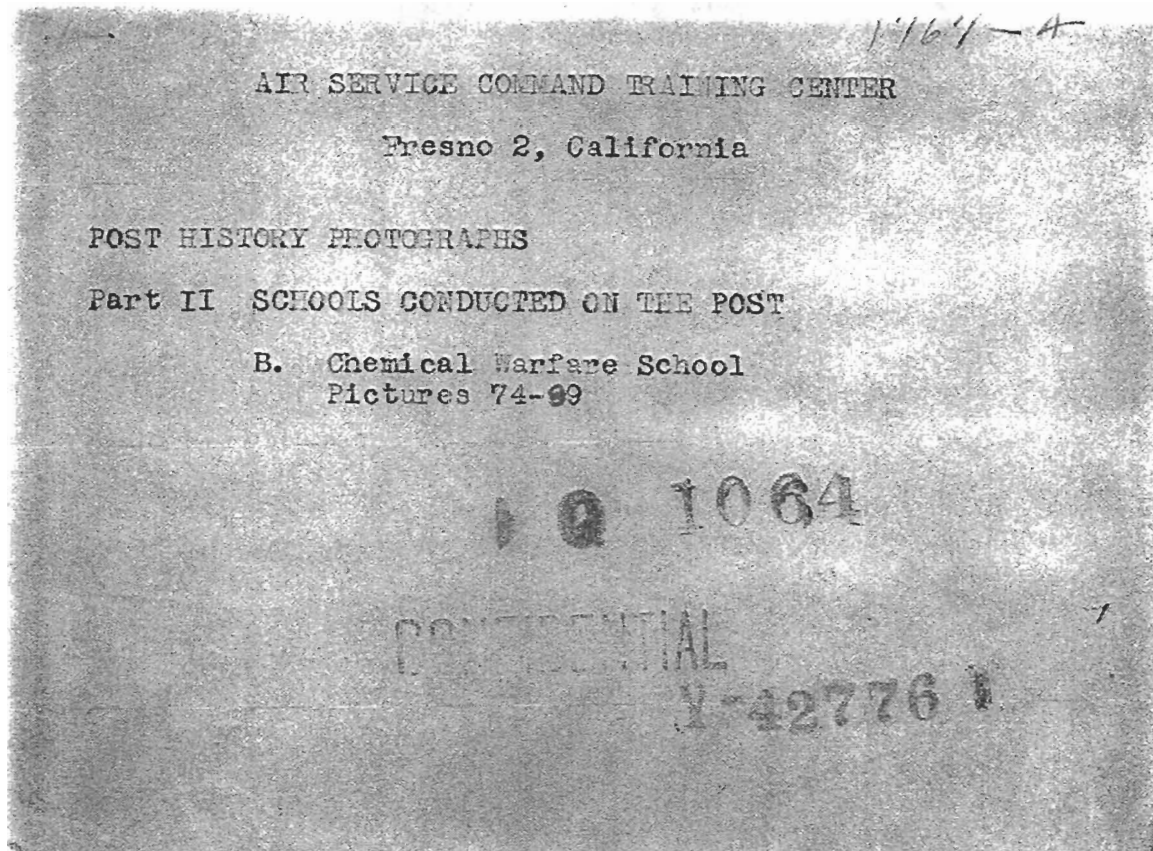
On 28 December a directive was issued for the organization of a school for drivers of motor vehicles in order to give all personnel concerned instruction on the proper care and handling of government vehicles. It was stated that the school was being organized for the explicit purpose of reducing accidents which had occurred on the Post. It was believed that the proper instruction would greatly reduce the number of accidents caused through carelessness on the part of the drivers. The course was begun on 6 January when a copy of

¹ IG 333.1 Hq 4th Dist, (Office of Insp Gen) 28 May 1943 to CG 4th Dist thru 11 BTC 8, Subject: "Action Letter IGD - Lock, Magazine for Rifle Cal. 22 Model 513#."

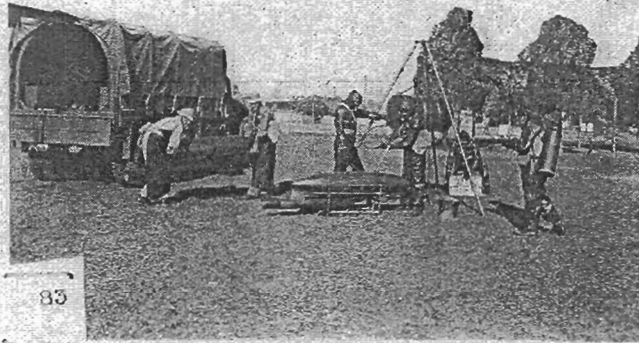
APPENDIX E-9

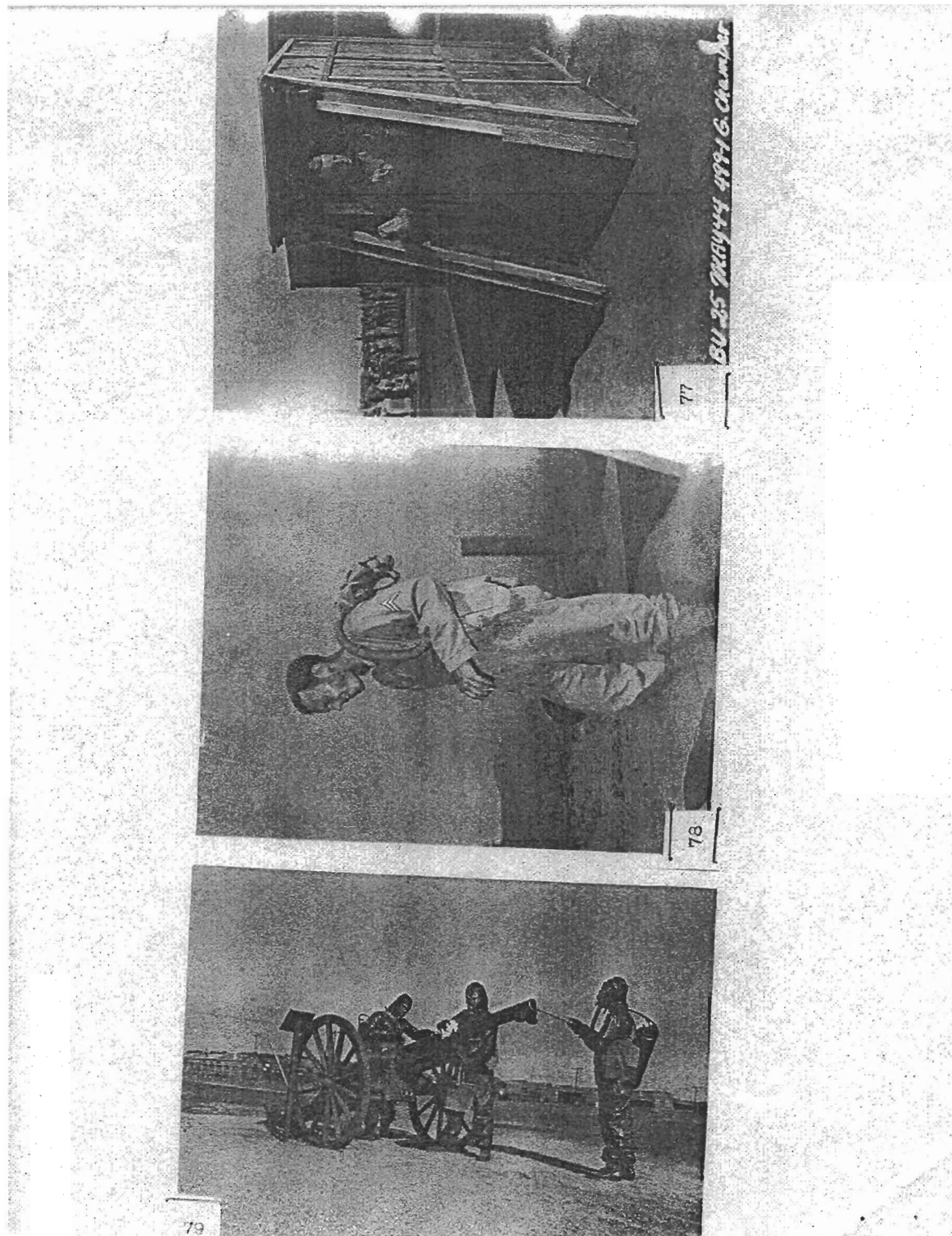
Army Service Command Training Center, Fresno,
California, Circa 1944

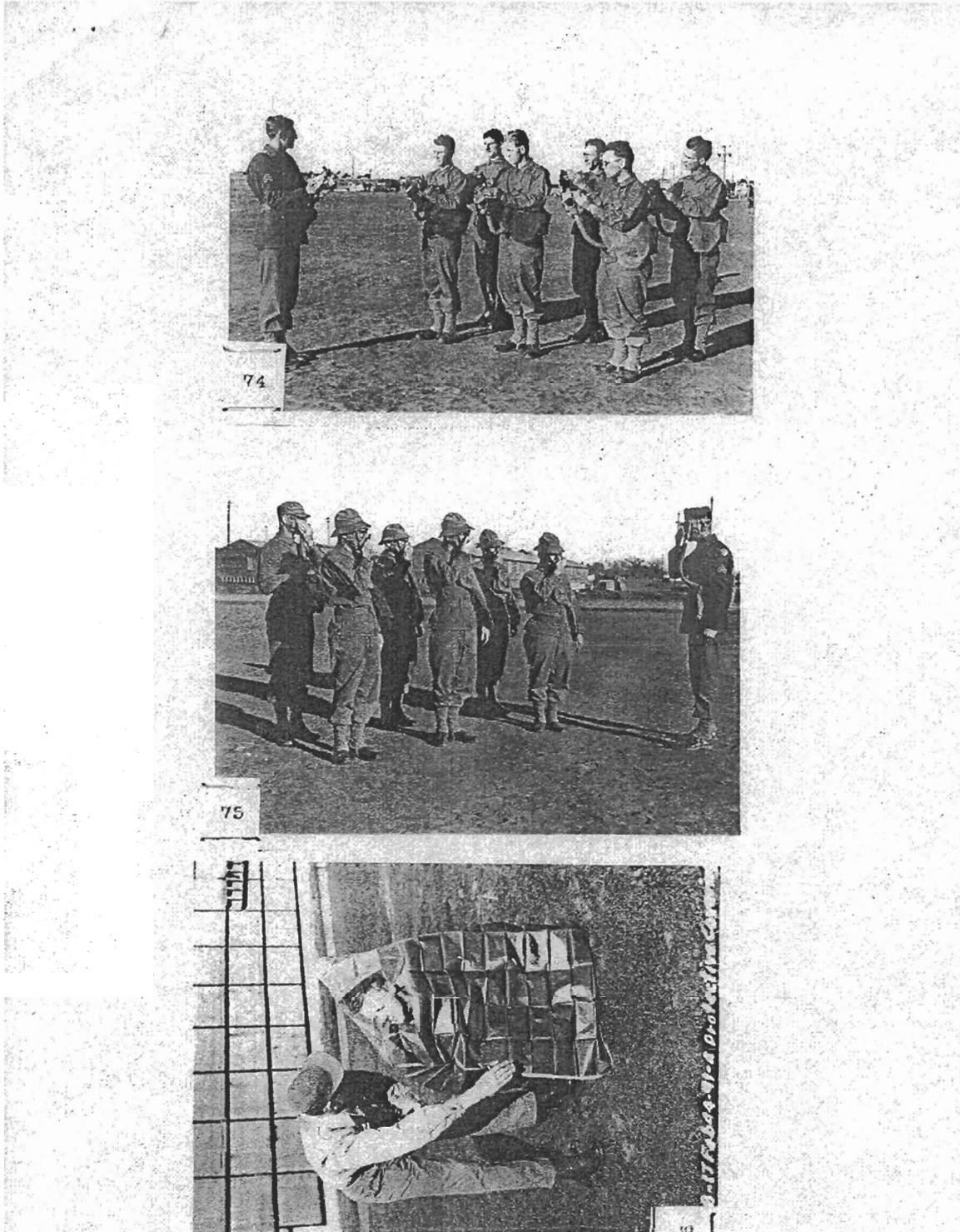
Post History Photographs, Part II School Conducted on
the Post, B. Chemical Warfare School Pictures 74-99,
undated, circa 1944. Box 209-2 – 211.1-1, Air Force
Historical Research Center, Maxwell AFB, AL











APPENDIX E-10

Army Service Command Training Center, Fresno, Circa
1945

Army Service Command Training Center, Fresno,
California Building List, undated, circa 1945. RG 342,
Acc. 53F-5038, Box 2, National Personnel Records
Center Military Personnel Records (NPRC, MPR) St.
Louis, MO

AIR SERVICE COMMAND TRAINING CENTER
 Fresno, California

BUILDING LIST

Bldg. No.	Designation	Bldg. No.	Designation
T-20	Off. Office	T-141	Barracks
T-21	Library	T-142	Barracks
T-22	Chapel (with organ)	T-143	Barracks
T-23	Theater (with stage) (80' x 163')	T-144	Barracks
T-24	Service Club	T-145	Barracks
T-25	Gate House	T-146	Barracks
T-26	Officers Quarters & Lav. (joined 2 quart; 1 Lav; 80' x 224')	T-147	Barracks
T-27	" " " "	T-148	Barracks
T-28	" " " "	T-149	Barracks
T-29	Officers Quarters & Mess (joined & enlarged by Post E)	T-150	Barracks
T-30	Officers Quarters & Lav. (joined 2 quart; 1 Lav. 20' x 224')	T-151	Barracks
T-31	" " " "	T-152	Barracks
T-32	" " " "	T-153	Barracks
T-33	" " " "	T-154	Barracks
T-34	" " " "	T-155	Barracks
T-35	Finance Bldg (100' x 120' " shaped)	T-156	Barracks
T-36	Hdqs Bldg (80' x 140' " shaped)	T-157	Barracks
T-37	Hdqs Bldg (100' x 140' " shaped)	T-158	Barracks
T-38	Telephone & Telegraph Bldg (25' x 110')	T-159	Barracks
T-39	Post Office (20' x 200' " shaped)	T-160	Barracks
T-103	Barracks	T-161	Barracks
T-104	"	T-162	Barracks
T-105	"	T-163	Barracks
T-106	Reception Bldg.	T-164	Barracks
T-107	Gate House	T-165	Barracks
T-117	Underground Water Stor- age Tank	T-166	Barracks
T-119	Barracks	T-167	Barracks
T-120	"	T-168	Barracks
T-121	"	T-169	Barracks
T-122	"	T-170	Barracks
T-123	"	T-171	Barracks
T-124	Underground Water Stor- age Tank	T-172	Barracks
T-125	Lavatory (20' x 104')	T-173	Barracks
T-126	Administration	T-174	Barracks
T-127	Lavatory (20' x 104')	T-175	Barracks
T-128	Mess (20' x 100')	T-176	Barracks
T-129	Barracks	T-177	Barracks
T-130	"	T-178	Barracks
T-131	"	T-179	Barracks
T-132	"	T-180	Barracks
T-133	"	T-181	Barracks
T-134	"	T-182	Barracks
T-135	"	T-183	Barracks
T-136	"	T-184	Barracks
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		T-237	Barracks
		T-238	Barracks
		T-239	Barracks
		T-240	Barracks

ARCHIVES SEARCH REPORT - FINDINGS
 Fresno Army Air Forces Ground Training Center
 Fresno, CA

BUILDING NO.	DESIGNATION	BUILDING NO.	DESIGNATION
T-310	Barracks (20' x 104')	T-341	Class Room
T-311	Barracks (20' x 104')	T-342	Toilet (20' x 104')
T-312	Barracks (20' x 104')	T-343	Barracks (20' x 104')
T-313	Cross	T-344	Toilet
T-314	Hospital (20' x 100')	T-345	Administration
T-315	Lavatory (20' x 104')	T-346	Guard Stand
T-316	Administration	T-347	Engineer Marshall's Office (20' x 60')
T-317	Lavatory (20' x 104')	T-348	Paint Warehouse
T-318	Mess (20' x 100')	T-349	Post Engineer - Electrician & Plumber
T-319	Chlorination Control Bldg	T-350	Post Engineer - Paint Shop
T-320	Underground Water Storage Tank	T-351	Post Engineer - Office
T-321	Barracks	T-352	Post Engineer - Warehouse
T-322	"	T-353	Guard House
T-323	"	T-354	Gate House (20' x 100')
T-324	" (enlarged by Post Engr 20' x 100')	T-355	Warehouse
T-325	"	T-356	"
T-326	"	T-357	"
T-327	"	T-358	"
T-328	"	T-359	"
T-329	"	T-360	"
T-330	"	T-361	"
T-331	"	T-362	"
T-332	"	T-363	Barracks
T-333	Dental Clinic (25' x 112')	T-364	"
T-334	Barracks	T-365	"
T-335	"	T-366	"
T-336	"	T-367	Lavatory (20' x 104')
T-337	"	T-368	"
T-338	"	T-369	Administration
T-339	Barracks	T-370	Barracks (20' x 100')
T-340	"	T-371	"
T-341	"	T-372	"
T-342	"	T-373	"
T-343	"	T-374	"
T-344	"	T-375	"
T-345	"	T-376	"
T-346	"	T-377	"
T-347	"	T-378	"
T-348	"	T-379	"
T-349	"	T-380	"
T-350	"	T-381	"
T-351	"	T-382	"
T-352	"	T-383	"
T-353	"	T-384	"
T-354	"	T-385	"
T-355	"	T-386	"
T-356	"	T-387	"
T-357	"	T-388	"
T-358	"	T-389	"
T-359	"	T-390	"
T-360	"	T-391	"
T-361	"	T-392	"
T-362	"	T-393	"
T-363	"	T-394	"
T-364	"	T-395	"
T-365	"	T-396	"
T-366	"	T-397	"
T-367	"	T-398	"
T-368	"	T-399	"
T-369	"	T-400	"
T-370	"	T-401	"
T-371	"	T-402	"
T-372	"	T-403	"
T-373	"	T-404	"
T-374	"	T-405	"
T-375	"	T-406	"
T-376	"	T-407	"
T-377	"	T-408	"
T-378	"	T-409	"
T-379	"	T-410	"
T-380	"	T-411	"
T-381	"	T-412	"
T-382	"	T-413	"
T-383	"	T-414	"
T-384	"	T-415	"
T-385	"	T-416	"
T-386	"	T-417	"
T-387	"	T-418	"
T-388	"	T-419	"
T-389	"	T-420	"
T-390	"	T-421	"
T-391	"	T-422	"
T-392	"	T-423	"
T-393	"	T-424	"
T-394	"	T-425	"
T-395	"	T-426	"
T-396	"	T-427	"
T-397	"	T-428	"
T-398	"	T-429	"
T-399	"	T-430	"
T-400	"	T-431	"
T-401	"	T-432	"
T-402	"	T-433	"
T-403	"	T-434	"
T-404	"	T-435	"
T-405	"	T-436	"
T-406	"	T-437	"
T-407	"	T-438	"
T-408	"	T-439	"
T-409	"	T-440	"
T-410	"	T-441	"
T-411	"	T-442	"
T-412	"	T-443	"
T-413	"	T-444	"
T-414	"	T-445	"
T-415	"	T-446	"
T-416	"	T-447	"
T-417	"	T-448	"
T-418	"	T-449	"
T-419	"	T-450	"
T-420	"	T-451	"
T-421	"	T-452	"
T-422	"	T-453	"
T-423	"	T-454	"
T-424	"	T-455	"
T-425	"	T-456	"
T-426	"	T-457	"
T-427	"	T-458	"
T-428	"	T-459	"
T-429	"	T-460	"
T-430	"	T-461	"
T-431	"	T-462	"
T-432	"	T-463	"
T-433	"	T-464	"
T-434	"	T-465	"
T-435	"	T-466	"
T-436	"	T-467	"
T-437	"	T-468	"
T-438	"	T-469	"
T-439	"	T-470	"
T-440	"	T-471	"
T-441	"	T-472	"
T-442	"	T-473	"
T-443	"	T-474	"
T-444	"	T-475	"
T-445	"	T-476	"
T-446	"	T-477	"
T-447	"	T-478	"
T-448	"	T-479	"
T-449	"	T-480	"
T-450	"	T-481	"
T-451	"	T-482	"
T-452	"	T-483	"
T-453	"	T-484	"
T-454	"	T-485	"
T-455	"	T-486	"
T-456	"	T-487	"
T-457	"	T-488	"
T-458	"	T-489	"
T-459	"	T-490	"
T-460	"	T-491	"
T-461	"	T-492	"
T-462	"	T-493	"
T-463	"	T-494	"
T-464	"	T-495	"
T-465	"	T-496	"
T-466	"	T-497	"
T-467	"	T-498	"
T-468	"	T-499	"
T-469	"	T-500	"
T-470	"	T-501	"
T-471	"	T-502	"
T-472	"	T-503	"
T-473	"	T-504	"
T-474	"	T-505	"
T-475	"	T-506	"
T-476	"	T-507	"
T-477	"	T-508	"
T-478	"	T-509	"
T-479	"	T-510	"
T-480	"	T-511	"
T-481	"	T-512	"
T-482	"	T-513	"
T-483	"	T-514	"
T-484	"	T-515	"
T-485	"	T-516	"
T-486	"	T-517	"
T-487	"	T-518	"
T-488	"	T-519	"
T-489	"	T-520	"
T-490	"	T-521	"
T-491	"	T-522	"
T-492	"	T-523	"
T-493	"	T-524	"
T-494	"	T-525	"
T-495	"	T-526	"
T-496	"	T-527	"
T-497	"	T-528	"
T-498	"	T-529	"
T-499	"	T-530	"
T-500	"	T-531	"
T-501	"	T-532	"
T-502	"	T-533	"
T-503	"	T-534	"
T-504	"	T-535	"
T-505	"	T-536	"
T-506	"	T-537	"
T-507	"	T-538	"
T-508	"	T-539	"
T-509	"	T-540	"
T-510	"	T-541	"
T-511	"	T-542	"
T-512	"	T-543	"
T-513	"	T-544	"
T-514	"	T-545	"
T-515	"	T-546	"
T-516	"	T-547	"
T-517	"	T-548	"
T-518	"	T-549	"
T-519	"	T-550	"
T-520	"	T-551	"
T-521	"	T-552	"
T-522	"	T-553	"
T-523	"	T-554	"
T-524	"	T-555	"
T-525	"	T-556	"
T-526	"	T-557	"
T-527	"	T-558	"
T-528	"	T-559	"
T-529	"	T-560	"
T-530	"	T-561	"
T-531	"	T-562	"
T-532	"	T-563	"
T-533	"	T-564	"
T-534	"	T-565	"
T-535	"	T-566	"
T-536	"	T-567	"
T-537	"	T-568	"
T-538	"	T-569	"
T-539	"	T-570	"
T-540	"	T-571	"
T-541	"	T-572	"
T-542	"	T-573	"
T-543	"	T-574	"
T-544	"	T-575	"
T-545	"	T-576	"
T-546	"	T-577	"
T-547	"	T-578	"
T-548	"	T-579	"
T-549	"	T-580	"
T-550	"	T-581	"
T-551	"	T-582	"
T-552	"	T-583	"
T-553	"	T-584	"
T-554	"	T-585	"
T-555	"	T-586	"
T-556	"	T-587	"
T-557	"	T-588	"
T-558	"	T-589	"
T-559	"	T-590	"
T-560	"	T-591	"
T-561	"	T-592	"
T-562	"	T-593	"
T-563	"	T-594	"
T-564	"	T-595	"
T-565	"	T-596	"
T-566	"	T-597	"
T-567	"	T-598	"
T-568	"	T-599	"
T-569	"	T-600	"
T-570	"	T-601	"
T-571	"	T-602	"
T-572	"	T-603	"
T-573	"	T-604	"
T-574	"	T-605	"
T-575	"	T-606	"
T-576	"	T-607	"
T-577	"	T-608	"
T-578	"	T-609	"
T-579	"	T-610	"
T-580	"	T-611	"
T-581	"	T-612	"
T-582	"	T-613	"
T-583	"	T-614	"
T-584	"	T-615	"
T-585	"	T-616	"
T-586	"	T-617	"
T-587	"	T-618	"
T-588	"	T-619	"
T-589	"	T-620	"
T-590	"	T-621	"
T-591	"	T-622	"
T-592	"	T-623	"
T-593	"	T-624	"
T-594	"	T-625	"
T-595	"	T-626	"
T-596	"	T-627	"
T-597	"	T-628	"
T-598	"	T-629	"
T-599	"	T-630	"
T-600	"	T-631	"
T-601	"	T-632	"
T-602	"	T-633	"
T-603	"	T-634	"
T-604	"	T-635	"
T-605	"	T-636	"
T-606	"	T-637	"
T-607	"	T-638	"
T-608	"	T-639	"
T-609	"	T-640	"
T-610	"	T-641	"
T-611	"	T-642	"
T-612	"	T-643	"
T-613	"	T-644	"
T-614	"	T-645	"
T-615	"	T-646	"
T-616	"	T-647	"
T-617	"	T-648</	

BLDG NO.	DESIGNATION	BLDG NO.	DESIGNATION
T-553	Warehouse	T-648	Barracks
T-556	Lavatory (20'x 104')	T-649	"
T-558	Lavatory (20'x 104')	T-650	"
T-560	Mess (20'x 100')	T-651	Mess (20'x 100')
T-561	Identification & Registration Bldg.	T-652	Lavatory (20'x 104')
T-662	Underground Water Storage Tank	T-653	Administration
T-664	Barracks	T-654	Pump House
T-665	"	T-655	Barracks
T-666	"	T-656	"
T-667	"	T-657	"
T-668	"	T-658	"
T-669	"	T-659	"
T-670	"	T-660	"
T-671	"	T-661	"
T-672	"	T-662	"
T-673	" (Enlarged by Post to 20'x 140')	T-663	"
F-674	Warehouse	T-664	"
F-675	"	T-665	Barracks (20'x 100')
F-676	"	T-666	"
F-677	"	T-667	"
F-678	"	T-668	"
F-679	"	T-669	"
F-680	"	T-670	"
F-681	"	T-671	"
F-682	"	T-672	"
F-683	"	T-673	"
F-684	"	T-674	"
T-601	Barracks (20'x 104')	T-675	Lavatory (20'x 104')
T-602	"	T-676	"
T-603	"	T-677	Administration
T-604	"	T-678	Barracks (20' x 100')
T-605	"	T-679	"
T-606	"	T-680	"
T-607	"	T-681	"
T-608	"	T-682	"
T-609	"	T-683	"
T-610	"	T-684	"
T-611	Mess (20'x 100')	T-685	"
T-612	Lavatory (20'x 104')	T-686	"
T-613	"	T-687	"
T-614	Administration	T-688	"
T-621	Barracks	T-689	"
T-622	"	T-690	"
T-623	"	T-691	"
T-624	"	T-692	Lavatory (20'x 104')
T-625	"	T-693	Barracks (20' x 100')
T-626	"	T-694	"
T-627	"	T-695	"
T-628	"	T-696	"
T-629	"	T-697	Administration
T-630	"	T-698	Barracks
T-631	Chapel	T-699	"
T-632	Laundry	T-700	"
T-641	Barracks	T-803	"
T-642	"	T-804	"
T-643	"	T-805	"
T-644	"	T-806	"
T-645	"	T-807	"
T-646	"	T-808	"
T-647	"	T-809	"
		T-810	"
		T-811	Administration

ARCHIVES SEARCH REPORT - FINDINGS
 Fresno Army Air Forces Ground Training Center
 Fresno, CA

BLDG NO.	DESIGNATION	BLDG NO.	DESIGNATION
T-013	Lavatory (20' x 104')	T-008	Barracks (20' x 100')
T-014	"	T-009	"
T-015	Mess (20' x 100')	T-010	"
T-021	Barracks (20' x 100')	T-011	"
T-022	"	T-012	"
T-023	Office	T-013	"
T-024	"	T-014	"
T-025	Garage (with porch)	T-015	Lavatory (20' x 104')
T-026	Magazine (with sheds)	T-016	Barracks (20' x 100')
T-027	20' x 124'	T-017	"
T-028	Garage (with porch)	T-018	"
T-029	Garage (with porch)	T-019	"
T-030	Officers Quarters & Lav.	T-020	Recreation & Administration
T-031	Lavatory (20' x 104')	T-021	(20' x 20' 20' x 20')
T-032	Hospital (20' x 100')	T-022	Barracks, WAO (100' x 96')
T-041	Barracks	T-023	"
T-042	Officers Quarters & Lav.	T-024	Barracks, WAO (100' x 96')
T-043	"	T-025	Mess (40' x 140')
T-044	"	T-026	Barracks (100' x 96')
T-045	"	T-027	Barracks, WAO (100' x 96')
T-046	"	T-028	"
T-047	"	T-029	Recreation & Administration
T-048	"	T-030	(20' x 20' 20' x 20')
T-049	"	T-031	Post Exchange (100' x 128' "P" shaped)
T-050	"	T-032	Pipe Station (40' x 80')
T-051	Administration (100' x 100')	T-033	Pipe Station (40' x 80')
T-052	Auto Wash Tower	T-034	Mess (20' x 144')
T-053	Lavatory (20' x 104')	T-035	"
T-054	Lavatory (20' x 104')	T-036	"
T-055	Mess (20' x 100')	T-037	Gate House
T-056	Barracks & Salvage Yard	T-038	Warehouse, Cold Storage (95' x 187')
T-057	Mag (25' x 110')	T-039	(100' x 85' 5" - 15,200
T-058	Post Office (20' x 80')	T-040	"
T-059	"	T-041	"
T-060	"	T-042	Salvage Yard
T-061	Barracks (20' x 100')	T-043	Pipe Station (40' x 80')
T-062	"	T-044	Barracks (20' x 100')
T-063	"	T-045	"
T-064	"	T-046	"
T-065	"	T-047	"
T-066	"	T-048	"
T-067	"	T-049	"
T-068	"	T-050	"
T-069	"	T-051	"
T-070	"	T-052	"
T-071	"	T-053	"
T-072	"	T-054	"
T-073	"	T-055	"
T-074	"	T-056	"
T-075	"	T-057	"
T-076	"	T-058	"
T-077	"	T-059	"
T-078	"	T-060	"
T-079	"	T-061	"
T-080	"	T-062	"
T-081	"	T-063	"
T-082	"	T-064	"
T-083	"	T-065	"
T-084	"	T-066	"
T-085	"	T-067	"
T-086	"	T-068	"
T-087	"	T-069	"
T-088	"	T-070	"

APPENDIX E-11

Basic Training Center Number Eight, Fresno, California,
Headquarters, 1943

Memorandum Subject: Additional Construction
(Ordnance Warehouse and Magazine and Three
Quartermaster Warehouses.), 26 January 1943. RG 342,
Acc. 50E-4001, Box 6, National Personnel Records
Center Military Personnel Records (NPRC, MPR) St.
Louis, MO

HEADQUARTERS
 ARMY AIRFORCES TECHNICAL TRAINING COMMAND
 BASIC TRAINING CENTER NUMBER EIGHT
 FRESNO, CALIFORNIA

41/87

600.1 Fresno

January 26, 1943

SUBJECT: Additional Construction (Ordnance Warehouse and Magazine and Three Quartermaster Warehouses.)

TO: Commanding General, Fourth District, AAFTH, 1108 - 17th Street, Denver, Colorado

1. Enclosed herewith is a layout plan of Basic Training Center #8, AAFTH, Fresno, California, showing the proposed location for an Ordnance Storage Warehouse and Magazine, together with three Quartermaster Warehouses. Also included is a cost estimate on War Department, OGN Form 103, covering the cost of construction.

2. There has been no provision made for the storage of Ordnance equipment nor is there any building available for such use. It is anticipated by the undersigned that the Warehouse as requested will provide an Ordnance storage and workshop together with space for Chemical Warfare and Signal Corps storage. There will be a monthly flow of 12,000 gas masks at this post, which necessitates a large storage and issue space, of approximately 3,000 square feet. The Post Signal Officer has estimated that his storage needs for supplies and necessary equipment will be 1,600 square feet. A shop, storage and office space section for Ordnance is necessary for the upkeep and maintenance of 2,750 weapons which will require 2,000 square feet of floor space. It is essential that the above requested building be provided inasmuch as this post will shortly be at full strength of 13,000, which will necessitate all barracks buildings now used for storage purposes be assigned for troop housing.

3. In addition to the Ordnance storage requested in the preceding paragraph, it will be necessary also to provide a small magazine constructed of timber and earth (10'x20'). This magazine is necessary for the storage of small arms ammunition and Number Eight detonator caps which are used in the Chemical Warfare Identification classes. Inasmuch as there is no building available on the Post for this purpose, it is requested that this magazine be authorized.

4. Present and authorized storage and shop space available at Basic Training Center #8, totals 106,135 square feet, which is assigned as follows:

Quartermaster (Present available)	-----	\$5,300 S.F.
Post Magazine (Present available)	-----	12,775 S.F.
Quartermaster (Authorized and Under Construction)	-----	88,060 S.F.
Total		106,135 S.F.

Barracks buildings which will soon be used for the housing of troops are now utilized by the Quartermaster, Chemical Warfare, Ordnance and Signal Corps for storage purposes. Present construction at this post will provide housing for 13,000 troops. On the basis of letter, file #60-18, subject,

Warehouses: Space at Camps and Stations, dated January 20, 1942, 400, copies of which are inclosed, there is provided 10 square feet of Warehouse space per enlisted man at stations with a strength of from 7,500 to 16,000 which would allow a total of 120,000 square feet of Warehouse space for the entire post. Additional Warehouses are needed inasmuch as supplies of all kinds must necessarily be ordered in earliest lots due to the present shortage of railhead transportation facilities. Also, a basic training center, such as this post, requires extensive amounts of inclosed and inclosed items due to the large flow of basic soldiers who, it is estimated, will enter and leave at the rate of 10,000 men per month. It is, therefore, essential that these additional Warehouses, type WW-8-B, (20,000 sq. ft.), be provided. These three warehouses would increase the total square footage of warehousing to 120,000 square feet.

5. The criteria established in "Directive for Wartime Construction", dated May 20, 1942, paragraph 4(a) through (f) inclusive have been met. The answers to paragraph 4(g) are all affirmative to the extent that they are pertinent.

6. In view of the foregoing and inasmuch as the shortage of available warehouses constitutes a serious deficiency, it is urgently requested that funds in the amount of \$79,111.00 be allotted the District Engineer, Sacramento District, Sacramento, California, for construction of the above requested buildings.

J. G. WILSON
Colonel, US
Commanding

3 Inclosures

- Incl. 1 - Cost Estimate WW 602 Form 105 (in sept.)
- Incl. 2 - Ltr. - File #8 600.12 (in sept.)
- Incl. 3 - Layout Plan of WW 88 (in sept.)

APPENDIX E-12

Corps of Engineers, Pacific Division, San Francisco Sub-
Office Real Estate Division, 1945

Memorandum Subject: *Real Property Inspection Report –*
W 04-193-eng-210, 28 April 1945. RG 342, Acc.
53F-5038, Box 1, National Personnel Records
Center Military Personnel Records (NPRC,
MPR) St. Louis, MO

Form No. PAD-39 (Rev 10-44) WAR DEPARTMENT
Office of the Division Engineer
Pacific Division
San Francisco Sub-Office Real Estate Division
~~San Francisco, California~~
San Francisco, California
19

APR 2 # 1945


601.53 (Fresno Co., Calif.)
W 04-193-eng-210
Co. of Fresno and 21st Agr. Dist.
SF PADRE 6.2

SUBJECT: Real Property Inspection Report - W 04-193-eng-210

TO: Commanding General
Air Technical Service Command
McClellan Field
SACRAMENTO, CALIFORNIA

1. Inclosed for your information and files is copy of approved Real Property Inspection Report, Form No. 577, dated 28 March 1945, covering property designated in the above file.
2. Subject report was prepared by a representative of this office in accordance with memorandum dated 16 November 1943, from the Under Secretary of War to the Commanding General, Army Service Forces, and pursuant to directive of higher authority.

For the Division Engineer:


CECIL L. deWOLFE
Chief, San Francisco Sub-Office
Real Estate Division

Incl:
Report

Control Approval Symbol SPEKL-6

CORPS OF ENGINEERS
OFFICE OF THE DIVISION ENGINEER
PACIFIC DIVISION

C. O. Lt. Col. J. M. Murphy
Post Eng. Capt. Zornes
Ch. Clerk. H. O. Thompson

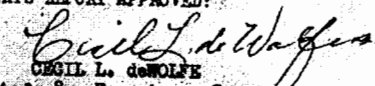
28 March 1945
(Date of Inspection)

LEASED PROPERTY INSPECTION REPORT

1. Location: Fresno, California
2. Description of area: 90 acres - Fairgrounds. 55 buildings containing 230,200 s/f
3. Name of Lessor: County of Fresno and 21st Agriculture District.
4. Annual Rental: \$6,720.00
5. Lease No. W 04-193-eng-210
6. Date first occupied: 1 December 1941
7. Using agency Fresno Basic Training Center.
8. Is space completely utilized? No. If not, give details (State location of unoccupied space, i.e., floors and square feet on each floor; floor load, if storage; number of regular and intermittent employees if office; attach explanation for non-occupancy, if obtainable from Commanding Officer). This post on standby status,
9. Present use and whether it conformed with purpose of lease: Main Cantonment Area. Conforms.
10. Are premises adapted to each purpose? Yes.
11. Is more suitable space available? If so, give details including moving costs. No.
12. If space is occupied by obsolete or inactive property, what arrangement can be made by C.O. for its removal or disposition? Not applicable.
13. Is Warehouse Package Plan or a Railroad Open Storage Yard adaptable for any stored materials? If so, state area that would be released thereby: Not applicable
14. State condition of building: See consolidated report attached.
15. Is lessor maintaining premises and furnishing services in accordance with terms of lease? Govt. Maintained
16. State nature and cost of alterations and improvements, if any, by Government: See supp. sheet attached. Cost to date \$2,746,480.00
17. General Remarks: Supplemental report on this and all contiguous leases, licenses, etc. attached hereto.


SAM B. BRITTON INSPECTOR

THIS REPORT APPROVED:


CECIL L. deWOLFE
Chief, San Francisco, Sub-Office
District Engineer

Real Estate Division

(Where there is not sufficient space on this form to prepare full report supplemental sheets may be attached) G. G.

W.D. Eng. Form No. 577
(26 January 1944)

Air Technical Service Command
McClellan Field
Sacramento, California

C. O.
Fresno Basic Training Center
Fresno, California

AIR TECHNICAL SERVICE COMMAND

TRAINING CENTER

Fresno, California

March 28, 1945

1. This post, situated on eastern limits of Fresno, Fresno County, California, consists of the following leases, easements, and acquisitions:

Tract No.	Owner	Acreage	Lease No.	Int. Taken	Date Taken	Rental
1	Co. of Fresno 21st Dist.) Agr. Assn. Fresno Dist.) Fair Association	90.	W 04-193-eng-210	Lease	19 Feb. 1942	6,720.
2	Georgia Kratzer, Trustee	40.	Govt. Owned	Fee	5 Nov. 1943	Fee 16,100.
3	Edwana Myron	20.	W 868-eng-4207	Lease	19 Feb. 1942	240.
D	Paul A. Mosesian	129.60	W 04-193-eng-1154	Lease	24 Dec. 1942	4,230.
E	Mary Schweizer	20.	W 2972-eng-1357	Lease	8 May 1942	360.
TOTAL --		299.60 acres			ANNUAL RENTAL	\$11,550.

STORM SEWER RIGHT OF WAY--EASEMENTS

L (1)	Fresno County	.009	W 04-193-eng-615	License	17 Aug. 1943	1.00 ack.
L (2)	G. L. & Sade E. Smith	.083	W 04-193-eng-616	License	17 Aug. 1943	1.00 ack.
L (3)	G. E. & Opal Gentry	.023	W 04-193-eng-617	License	17 Aug. 1943	1.00 ack.
L (4)	Everette E. Hollister	.059	W 04-193-eng-618	License	"	"
L (5)	Fresno County	.017	W 04-193-eng-619	License	"	"
L (6)	Brix Brixon & Paul Jepperson	.083	W 04-193-eng-620	License	"	"
L (7)	Philip W. German	.083	W 04-193-eng-621	License	"	"
L (8)	Fresno Irrigation District	.001	W 04-193-eng-622	License	"	"
		.358	TOTAL			

No outleases in existence on this property.

2. Leased and Government Built facilities as follows:

3 concrete warehouse 96 x 167	48,096 s/f	X
15 wood warehouse	40,430 s/f	X
3 - 42 x 120		
1 - 22 x 65		
8 - 22 x 100		
1 - 65 x 80		
1 - 25 x 130		
1 - 22 x 85		
1 concrete Cold Storage 95'10" x 175' 9"	17,860 s/f	X
1 asphalt warehouse 40' x 80'	3,248 s/f	X
4 concrete warshouse	17,400 s/f	X
1 - 100 x 40		
1 - 20 x 40		
1 - 75 x 165		
1 - 15 x 15		
252 Barracks 20 x 100	504,000 s/f	
6 WAC Barracks	31,680 s/f	
35 Administration Buildings	119,364 s/f	
1 Mess Hall (WAC)	5,280 s/f	
3 Mess Hall (2000 capacity)	57,600 s/f	
1 Mess Hall (6000 capacity)	35,431 s/f	X
1 Theater	8,070 s/f	
Building F-203 (90 x 140) and F-204 (90 x 140) each used as signal school	25,200 s/f	X
Building F-209 (130 x 280)	36,400 s/f	X
95 Miscellaneous Buildings (Latrines, chapel, service club, fire stations, gatehouse)	232,115 s/f	
1 Officers Mess & Club	9,588 s/f	
9 Hospital Area	24,072 s/f	
6 Officers Quabters	27,000 s/f	
Double track railroad spur (Spur Track #1),	1,274 lineal feet	
(Spur Track #2),	1,000 lineal feet	

Billeting Capacity	8,204
Officers	201
Enlisted Men	7,711
WACS	292

Total Costs To Date \$2,746,480.

X denotes leased buildings. All other buildings T/O type.

3. Post at present inactivated. Held as standby under command of Commanding General, Air Technical Service Command, McClellan Field. Date of Inspection, Personnel on duty as follows:


2 Officers and ten civilian employees at Headquarters.
 1 Officer and 65 civilian employees at Post Engineers.

4. Under existing conditions (standby status) no suggestions in order.
 5. Off-Post Leases.

(a)	<u>Lease No.</u>	<u>Lessor</u>	<u>Date</u>	<u>Rental</u>
	W 04-193-eng-3578 4.82 acres east of cantonment (dump area)	R. D. Fausler	23 Dec. 1943	\$ 100.
X (b)	W 2972-eng-1154 247 acres grazing land.	Juanche Telesford and wife	1 July 1943	1,112.
X (c)	W 2972-eng-1156 393 acres grazing land.	K. Arkenlen	1 July 1943	589.50
X (d)	No lease No. assigned 13.225 acres grazing land.	Gertrude Wyant	1 July 1943	see note.

X Leases B-C-D cover area known as Mt. Campbell Rifle Range. Total 653.225 acres are under condemnation #237. This facility not being used. Improvements consist of rifle pits, targets and bunkers only. Costs \$47,000.00. No personnel on duty. Lessors of (b) and (c) have leased pasture rights, instruments now being processed.

6. As Mt. Campbell Rifle range is not being used, suggest Commanding Officer declare leases W 2972-eng-1154 and W 2972-eng-1156, and Condemnation #237 inactive.


 SAM B. BRITTON
 Inspector

SUPPLEMENTAL STATEMENT

Tract No.	Owner	Acreege	Lease No.	Int. Taken	Date Taken	Rental
1	Co. of Fresno 21st Dist.) Agr. Assn. Fresno Dist.) Fair Association)	90.	W 04-193-eng-210	Lease	19 Feb. 1942	\$ 6,720.
2	Georgia Kratzer, Trustee	40.	Gov't. Owned	Fee	5 Nov. 1943	Fee 16,100.
3	Edwana Myron	20.	W 868-eng-4207	Lease	19 Feb. 1942	240.
D	Paul A. Mosesian	136.66	W 04-193-eng-1154	Lease	24 Dec. 1942	4,230.
E	Mary Schweizer	20.	W 2972-eng-1357	Lease	8 May '42	360.
A	Richard D. Fausler	4.82	W 04-193-eng-3778	Lease	23 Dec. '43	100.
TOTAL		271.48 Acres Leased 40. Acres G.O.	ANNUAL RENTAL			\$11,650.00

STORM SEWER RIGHT OF WAY--EASEMENTS

L (1)	Fresno County	.009	W 04-193-eng-615	License	17 Aug. 1943	1.00 ack.
L (2)	G.L. & Sade E. Smith	.083	W 04-193-eng-616	"	"	"
L (3)	G. E. & Opal Gentry	.023	W 04-193-eng-617	"	"	"
L (4)	Everette E. Hollister	.059	W 04-193-eng-618	"	"	"
L (5)	Fresno County	.017	W 04-193-eng-619	"	"	"
L (6)	Brix Brixon & Paul Jepperson.	.083	W 04-193-eng-620	"	"	"
L (7)	Philip W. German	.083	W 04-193-eng-621	"	"	"
L (8)	Fresno Irrigation Dist.	.001	W 04-193-eng-622	"	"	"
		.358	TOTAL			

~~RESTRICTED~~

OUT LEASES

Owner	Amount Paid	Lease No.	Int. Taken	Date Taken	Purpose
Fresno Irrigation District	\$ 0.	None assigned	License	21 Sept. 1943	Drainage Tile
Allie Savino	171.	" "	Permit	15 Oct. 1944	Sale of Figs
Anna Wilde, Walter Wilde	0.	" "	"	16 Aug. 1944	Motor Service
Edward M. Edded	0.	" "	"	"	"
Fresno City Lines, Inc.	0.	" "	"	12 Aug. 1944	"
D Moyes	0.	" "	"	"	"

~~RESTRICTED~~

APPENDIX E-13

War Department, 1944

TM 3-305, Use of Chemical Agents and Munitions in
Training, dated 2 June 1944

WAR DEPARTMENT TECHNICAL MANUAL

TM 3-305

This manual supersedes TM 3-305, Use of Smokes and Lacrimators in Training, 5 July 1940, including C 1, 17 November 1943 and C 2, 10 February 1944; and Section V, Training Circular No. 75, War Department, 1943.

USE OF
CHEMICAL AGENTS
AND MUNITIONS
IN TRAINING



WAR DEPARTMENT

2 JUNE 1944

United States Government Printing Office

Washington: 1944

5m

Section II.

IDENTIFICATION OF WAR GASES

8. Purpose

a. The sense of smell as a means of identification of war gases has several shortcomings. First, the enemy mixes gases to "mask" the odor. Second, impurities in mustard gas may cause an odor to linger after the gas itself has disappeared. Third, the sense of smell becomes dulled with exposure, so that even harmful concentrations become imperceptible. Finally, there are conditions under which certain blister gases may have almost no detectable odor. Standard detection devices provide the only conclusive means of identification.

b. Nevertheless every soldier should become proficient in identification of gases through odor and other sensory reactions, since other means may not be available. Many gases affect senses other than smell. For example, lewisite irritates the nasal passages, phosgene irritates the throat, and chlorpicrin produces tears. The exercises outlined below involve two specially designed kits, one for indoor instruction and the other for field exercises.

9. Instructional Gas Identification Set M1

The "sniff set" consists of seven wide-mouthed 4-ounce bottles, each with a stopper ground to fit. (See fig. 13.) Each bottle is packed in a sawdust-filled metal container. The containers are in turn packed in sawdust-filled compartments of a wooden case 30 inches long, 14 $\frac{1}{4}$ inches wide, and 11 inches high. One compartment is empty. Four bottles in the M1 set contain about 50 cubic centimeters (3.7 cubic inches) of granular activated charcoal saturated with a gas. Two of these bottles contain mustard gas, one chlorpicrin, and the fourth lewisite. The remaining three bottles contain solids without charcoal, one adamsite, a second chloracetophenone, and the third solid triphosgene. Solid triphosgene decomposes upon contact with the air to give off pure phosgene.

Figure 12. Mustard gas smells like garlic or horseradish—to some people!





CAUTION: Stoppers must be kept tight except when the bottles are being used, otherwise the contents will be exhausted prematurely. When contents of bottles are expended a requisition for replacements should be made through normal supply channels.

Figure 13. Instructional gas identification set, M1, showing method of packing.

10. Use of Instructional Sets

a. The set is primarily used for indoor instruction prior to a field exercise with the detonation gas identification set. Trainees should not smoke immediately before or during the exercise. Instructors should pass around each bottle individually, with sufficient interval between bottles; otherwise the trainees' senses of smell will be dulled.

b. Directions for use: Holding the bottle at arm's length, remove the stopper. Using the open palm of the hand which holds the stopper, fan air across the mouth of the bottle toward the nose.

Sniff—do not breathe normally or inhale deeply. If the odor is not detected, bring the bottle closer. Another method is to wave the stopper back and forth several inches in front of the nose. Take care not to break the bottles or spill the contents; dangerous burns may result.

c. Use of the sniff set should be preceded by an explanatory talk. After trainees have been warned about the danger of dropping or spilling, and instructed in the proper method of sniffing, the bottles may be passed around. To introduce com-

Figure 14. Procedure for using "sniff set." First remove stopper, touching only the handle portion. Then fan with open palm across top of bottle towards nose. Alternate method (right) is to wave stopper in front of nose, as near as necessary to detect odor.



petition, a contest may be arranged: Cover the labels on the bottles and assign each sample a number. After sniffing each bottle the trainee writes down the number of the bottle and the war gas he believes it contains.

d. Thorough instruction should be given with the sniff set before beginning instruction with the detonation set. The cost of each use of a bottle is negligible, compared with the cost of a tube in the detonation set.

11. Detonation Gas Identification Set M1 (figs. 15, 16, and 17)

a. This set is for field identification tests of war gases. It consists of 48 sealed 1-ounce pyrex glass tubes, 1 inch in diameter and 7½ inches long. There are 12 tubes each of mustard gas, lewisite, chlorpicrin, and phosgene. Mustard gas and lewisite are 5-percent solutions in chloroform; the chlorpicrin is a 50-percent solution, and the phosgene is undiluted. Each tube comes in an individual cardboard container. For shipment the 48 tubes and individual containers are packed 12 to a multiple metal container. Four multiple containers, in turn, come in a steel shipping container with a flanged and bolted top. The steel container must be returned when replacements are required.

b. An accessories set M1, is provided for operation of the detonation gas identification set. Its contents are shown in figure 18.

12. Preparation and Use of Detonation Set

a. Personnel handling detonators and blasting equipment will observe safety precautions outlined in FM 5-25. Gases are fired one at a time, using as many tubes as required by the size of the class. Normally one tube is enough for about 25 men. Shallow holes are dug as shown in figure 15. The holes should be 10 to 20 yards apart, with the line of holes at right angles to the wind direction.

b. To prepare for firing, No. 8 detonators are fastened to each tube with adhesive plaster. (See figure 19.) One detonator is used with each phosgene, chlorpicrin, and lewisite tube, and two with mustard gas tubes. *Phosgene tubes are always fired in the regular cardboard shipping containers to avoid an explosion from increased gas pressure formed by heat or low atmospheric pressure.* Tubes are laid in the holes with detonators underneath, so that explosion will throw the liquid filling into the air and produce a better cloud of vapor.

c. The setup is wired in series to a blasting machine placed about 25 yards upwind from the firing line. If a blasting machine is not available,

detonators may be fired with batteries. For this purpose individual cells are wired in series and detonators in parallel.

d. An assistant should handle mechanical details for the instructor. A wind indicator is set up and the class placed downwind, normally 30 to 35 yards from the emplacement. This distance may be modified: On a calm day it may be only 20 to 25 yards; on a windy day 40 to 50 yards. Since glass and liquid spray may be thrown as far as 15 yards when the tubes explode, no persons or animals should be allowed within this danger radius. Before each gas is fired the instructor will instruct trainees:

- (1) To breathe deeply.
- (2) To exhale partially.
- (3) If the wind is shifting, to walk into the cloud when the gas is fired.
- (4) To take a sniff—just enough to recognize the odor.
- (5) To walk out of the cloud to the flank and then exhale.

e. If a gas is not recognized by this method students may sniff a spadeful of soil from the detonation hole. When blister gases are being identified in this way, the soil must first be carried at least 15 yards downwind in order that trainees' shoes may not become contaminated. (After the demonstration, the area should be restricted for at least 1 day to prevent injury from contaminated vegetation. Broken glass and detonator wires should be raked up and buried.)

f. Normally, four gases are detonated in succession, with an interval between gases. For effective instruction the name of the gas should not be announced before it is fired, although the men should be told in advance which four war gases will be used. If the four gases are fired several times during the exercise, the firing sequence should be changed. Men should be taught to scorn the easy method of exchanging identifications with their fellow trainees. It should be made clear that any man who "cribs" in this test is cheating only himself. Each man should be provided with a card (fig. 20) on which to mark the name of each gas as it is fired and state the odor he perceived. These cards are collected after the exercise and checked against the actual sequence of firing to determine the standard of proficiency attained. Men who fail to identify the gases should go through the exercise again. It should be made clear to them that this is an opportunity, not a penalty, for their lives may later depend on their individual judgment.

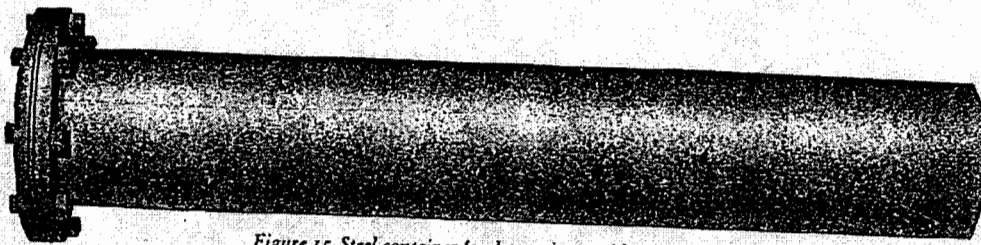


Figure 15. Steel container for detonation gas identification set.

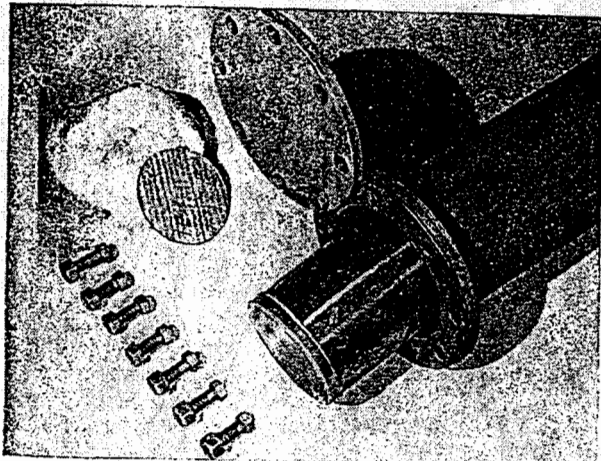


Figure 16. Five multiple containers are packed inside steel container. Always leave one lid bolt attached to steel tube so lid may be closed quickly in an emergency.

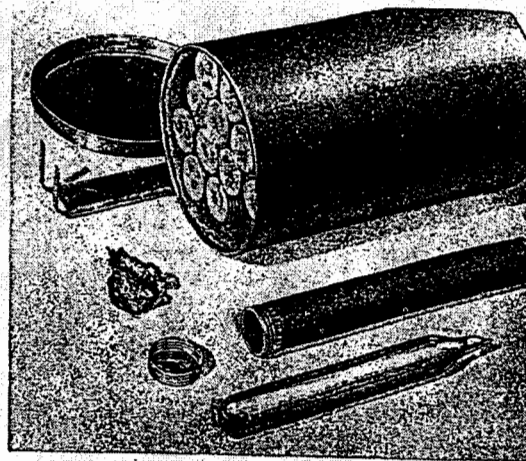


Figure 17. Twelve tubes are packed in each multiple container. Cotton wad fits in end of each cardboard tube. Strip of adhesive plaster is placed in each can for attaching detonators.

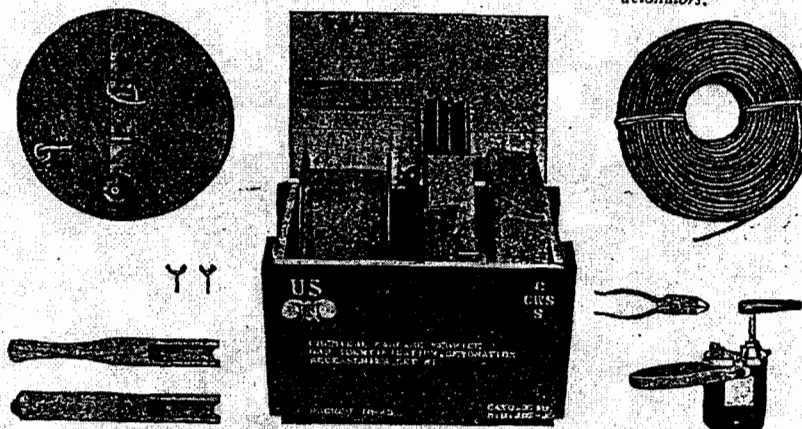


Figure 18. Accessories kit for detonation gas identification set includes items shown: 1,000 feet of No. 18 B and S gage firing wire, 500 feet on a reel and 500 feet coiled; a 10-cap blasting machine; 8-inch side-cutting pliers; two

handles for the reel, and screws to hold the handle in place. These accessories are packed in a compartmented box 23 inches long, 14½ inches high, and 13½ inches deep. All items except handles are treated and/or wrapped to protect against water and rust.

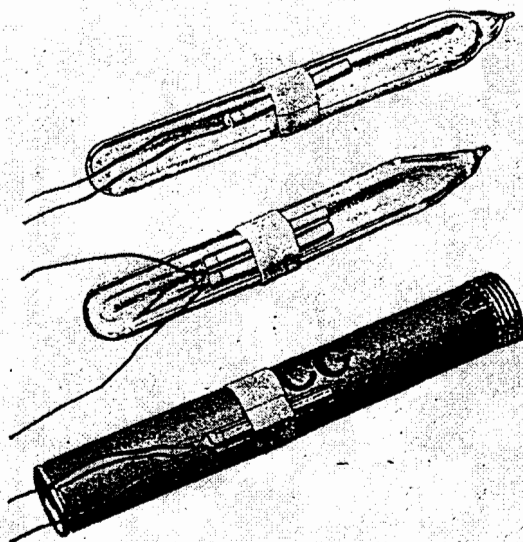


Figure 19 (above). Attaching detonators with adhesive plaster. Top: One detonator for chlorpicrin and lewisite. Center: Two for mustard gas. Bottom: One for phosgene, which is fired in container.

AGENTS IDENTIFICATION CARD

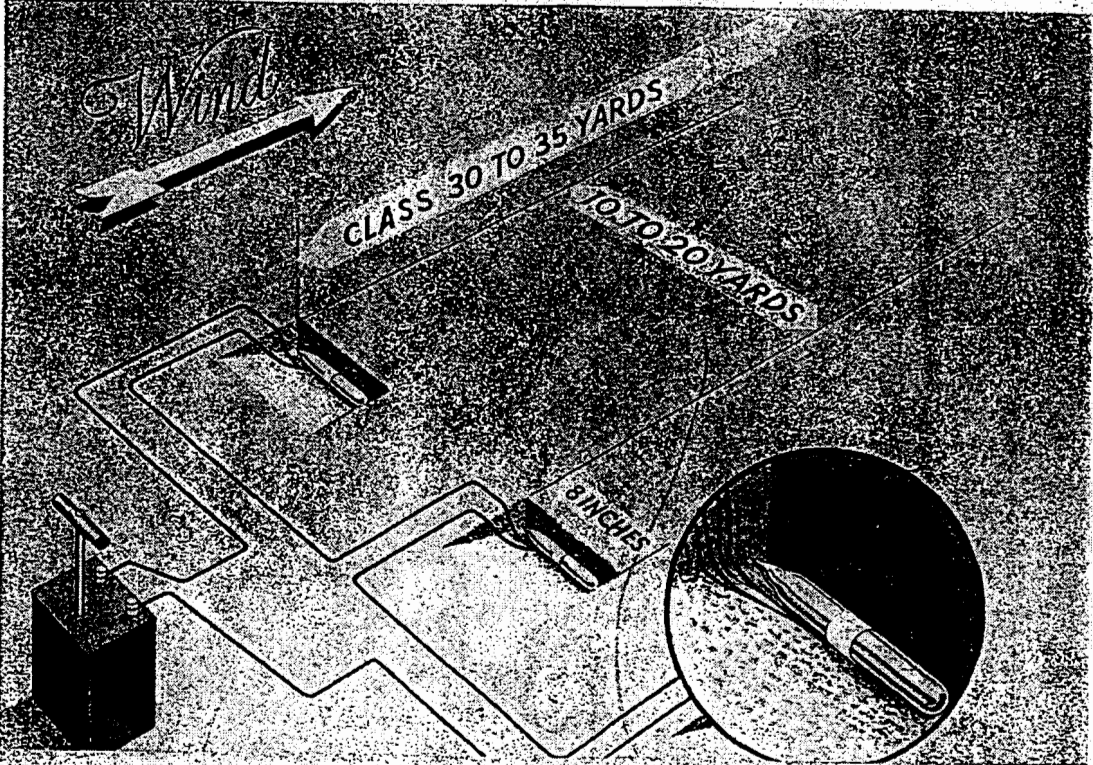
NAME _____

(NOTE: Place your name on above line. As each agent is fired, write your identification under "Agents" column. Beside it, under "Odor" column, state the smell impression YOU received. Do NOT compare notes with other students. Hand in your card at end of exercise.)

AGENT	ODOR
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____

Figure 20. Agents identification card.

Figure 21 (below). Diagram of installation.



Section III.

GAS OBSTACLE COURSE

13. General

The gas obstacle course provides training in chemical reconnaissance and defense against chemical attack under simulated combat conditions. It is designed for unit gas officers and noncommissioned gas officers, but may be modified for general use by removal of elements applying solely to chemical reconnaissance. Size and scope of the course need be limited only by the resources and ingenuity of the training organization. It is recommended, however, that gas obstacle courses be designed to confront the trainee with as many problems as possible in defense against chemical attack. Suggested features include:

- a. Collective protection, using a gasproof shelter.
- b. Individual protection, including personal decontamination, and use of the gas mask and protective clothing. (Every effort should be made to teach conformity with doctrine and to emphasize the importance of common sense in preventing injury.)
- c. Chemical reconnaissance, including identification of gases, use of detector devices, sampling of contaminated earth, examination of enemy shell, and investigation of abandoned enemy installations. (Emphasis should be placed on caution in reconnaissance; trainees should be warned to examine no matériel not of a chemical nature. Booby

traps which explode remote detonators may be used to check their obedience to this warning, as well as to provide useful booby-trap training.)

- d. Troop movement in smoke.
- e. Battlefield realism, including liberal use of barbed wire entanglements, simulated small arms and artillery fire, destroyed and abandoned enemy matériel, and signs printed in the enemy language—such as markers pointing to enemy aid stations, signs indicating enemy command posts, gas warning signs, order for withdrawal of chemical battalion, etc.
- f. Field decontamination of personnel. (This is an essential feature after the exercise if blister gases are used.)

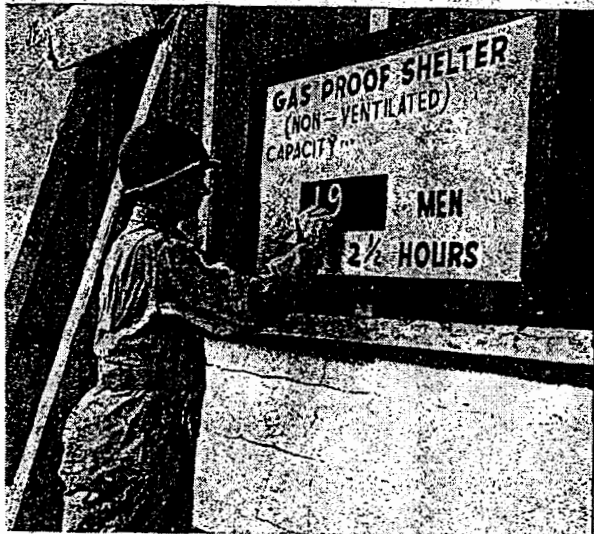
14. Description

The following outline describes each station on the model gas obstacle course developed by the Chemical Warfare School at Edgewood Arsenal, Md. The entire course, about ½ mile long, is marked off with boundary fences on either side. Signs are posted to guide trainees from one station to the next and to warn of contaminated terrain and matériel.

- a. PRELIMINARY. Trainees are divided into squads of 8 to 12 men, each under a squad leader. Uniforms consist of full permeable protective

Figure 22. Marking capacity on gasproof shelter after estimating size.

Figure 23. Dry mix of earth and bleach is prepared in shuffle box.



clothing, gas masks, and shoes treated with impregnate. No packs or rifles are carried. Every man receives a sheet of instructions describing the course briefly and telling what he should do at each station. He also receives a form on which he will list the chemical agents and matériel encountered at each station, a supply of detector paper, a map of the area, and a small wide-mouthed bottle with which to remove a sample of contaminated earth from one of the shell holes at station five. The bottle has a blank label, and waxed paper is provided for wrapping it. Instructors and safety officers are on duty at each station to give trainees specific instructions before they start.

b. STATION ONE. An underground gasproof shelter is used on this station. It is unventilated. The squad examines it, determining its capacity by pacing off width and length and by estimating ceiling height. The shelter's man capacity for 2 hours is then computed. This information is marked on a sign at the entrance. A gas alarm is then sounded and the squad is ordered to prepare the shelter for occupancy, observing all rules outlined in FM 21-40.

c. STATION TWO. (1) This is a short assault or infiltration course about 150 yards long. Trainees are directed to crawl forward and conceal themselves in fox holes a few yards beyond the starting line. They wait here a few seconds until a charge of explosive (1 pound or less) is detonated about 20 yards to the front, to indicate completion of simulated artillery preparation fire. They then advance by short bounds under simulated artillery and small arms fire. This is achieved by the deto-

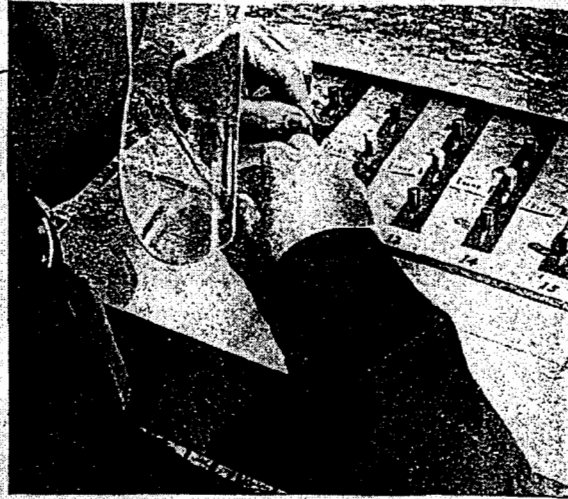


Figure 25. Operator on control tower, station two, detonates charges during infiltration. He is masked for protection against flying debris.



Figure 26. Charges are placed in fenced-off areas, each numbered to guide detonation operator.

Figure 24. GAS! Sentry masks and sounds alarm. Shelter is readied for occupancy.



Figure 27. Design for booby trap, station three.

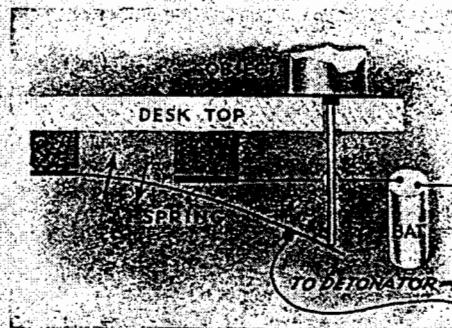




Figure 28.



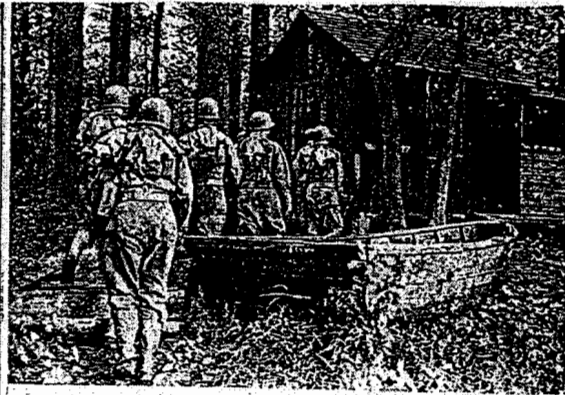


Figure 29. Trainees advance past enemy "Landungsboot" toward station four.



Figure 30. Squad prepares reconnaissance notes at end of station three.



Figure 31. Detecting gas on infiltration course, station two, trainee puts on his mask.



Figure 32. Scaling the wall while masked is a physical obstacle on station seven.

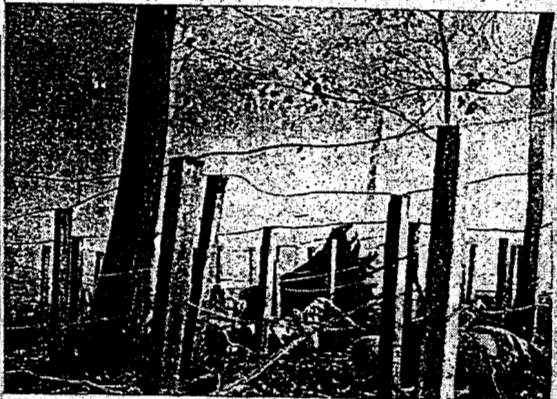


Figure 33. CN-DM grenades are discharged as men crawl under low entanglement on station seven.



Figure 34. Simulated artillery preparation fire precedes assault on station two.



Figure 35. Instructions are given to squads at start of each station.

nation of firecrackers and low order explosives (obtainable from commercial sources). To prevent injury to personnel, explosive charges are placed in small fenced-off holes scattered along the route of advance. These charges are wired electrically to an elevated control platform. (See figs. 25 and 26.) The officer in charge here has full observation of the assault course at all times and can make certain that no personnel is endangered when he detonates any given charge. (Personnel preparing and detonating explosives will understand and observe safety precautions outlined in FM 5-25.) Trainees are directed to make full use of cover, concealment, and dispersion during the assault.

(2) Advancing a few more yards the group encounters a barbed wire entanglement covered with thick clouds of smoke produced by a mechanical smoke generator M1, (fig. 37) fitted with a special discharge nozzle to release the smoke near ground level thus insuring a better coverage. HC smoke pots M1 may be used if a mechanical generator is not available, or to augment the generator cloud laterally. To discourage unmasking, CN grenades M7, or CN tear pots M1, are discharged so that their gas mingles with the smoke. Men are required to find and pass through gaps in the wire entanglement. Once through it, they assault an "enemy" trench. Examination of matériel in the trench completes the assignment at this station. (See TM 3-300, for information on HC smoke pots and CN grenades.)

d. STATION THREE. This is a simulated abandoned enemy command post identified by German military markers. (See fig. 36.) Students are ordered to enter the command post and make a chemical reconnaissance, touching no object not of a chemical nature. Strategically placed booby-trap trip wires attached to the door or strung across the floor may be used to discharge tubes of chlorpicrin taken from the detonation gas identification set M1. (See par. 11.) Other booby traps, attached to

trip wires, field telephones, binoculars, pistols, a file of "secret" documents, etc., are wired to set off detonators placed at remote parts of the room so that particles will not endanger personnel. Figure 27 shows construction of an improvised booby-trap device.

e. STATION FOUR. This is an area recently "shelled" by the enemy. Several "duds" (inert shells) are located in "shell holes." The duds are variously banded and marked, and trainees are directed to check them against a list of "known enemy gas shells," recording any not on their list. Each squad has a different list and each list omits one of the shells. Therefore each squad should find a different "unknown shell." During the inspection an instructor upwind from the group discharges a CN grenade, forcing the men to mask. Masked squad members then enter a shack in which a choking gas has been released. By testing for gas, they should identify this as phosgene. The concentration is obtained by breaking a phosgene tube from the detonation gas identification set M1.

f. STATION FIVE. This consists of several simulated shell holes contaminated with lewisite or mustard gas. Here the men check for contamination with detector paper (TM 3-290) and scoop samples of earth into their bottles. Each bottle is signed by the filler, marked with his identification of the gas, wrapped in waxed paper, and de-

Figure 36. Investigation of abandoned enemy command post during reconnaissance on station three.



posited at a designated point near the station. During these operations the group is harassed by CN-DM grenades M6. (See TM 3-300.)

g. STATION SIX. This is divided into two phases. The first is passage of contaminated terrain, a pathway along which chemical land mines filled with lewisite or mustard gas have been exploded. This area is posted with official German gas warning signs. The second phase is one of determining degree of contamination by comparing the amounts of blister gas on four differently spattered pieces of foliage, using liquid vesicant detector paper M6.

h. STATION SEVEN. This consists chiefly of physical obstacles. Trainees first crawl under a low 25-foot barbed wire entanglement. While crawling, they are forced to mask in the prone position when CN-DM grenades are released. At the end of this entanglement are two 6-foot walls which the men scale while still masked. They then test for gas and are allowed to unmask if no gas is present. Advancing, they descend a steep bank to a trench at the edge of a stream. Here an underwater explosive charge is detonated about 20 feet from them. Returning uphill, the men cross another trench, crawl through a concertina entanglement, and then scale an 8-foot wall. This concludes the course.

15. Precautions

The course must be designed and operated under the direction of a chemical warfare service officer. At permanent camps and stations the post safety officer will be consulted regarding all physical and chemical obstacles included on the course. An ambulance or a field aid station must be available whenever the course is being used. Areas contaminated with persistent gas should be posted and restricted as directed by the safety officer.

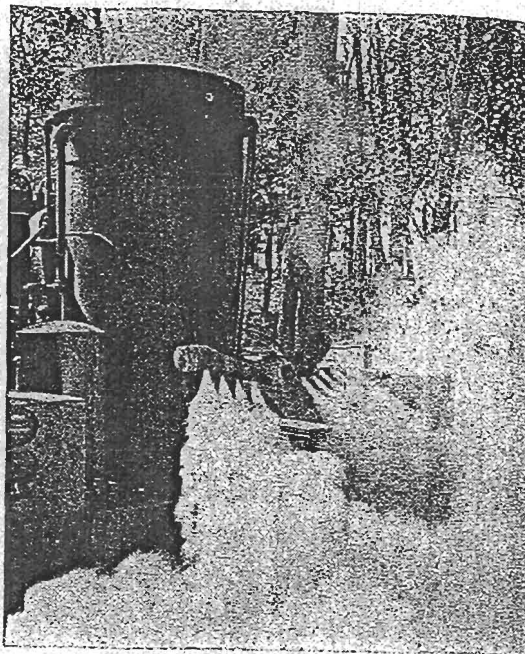
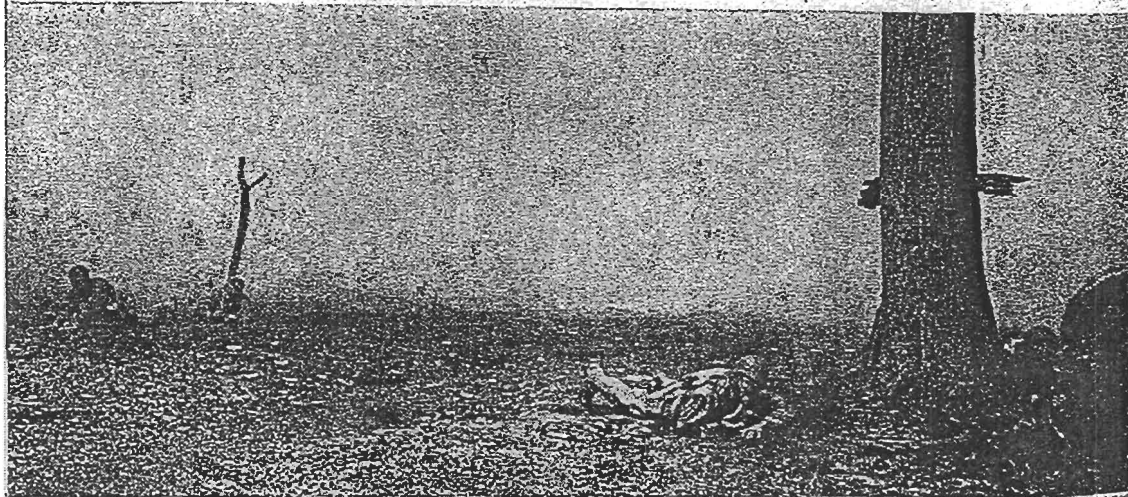


Figure 37. Mechanical smoke generator, M1, has been modified to place heavy cloud of fog over barbed wire entanglement on station two. Jets have been lowered and turned toward ground.

Figure 38. Emerging from cloud of CN and smoke at end of infiltration course on station two.



c. PHASE THREE: CHEMICAL RECONNAISSANCE. Gas noncommissioned officers or trainees acting in this capacity are sent into the area to determine the ground actually contaminated, mark it off, and post gas warning signs. Flags or bleach may be used for marking. The chemical officer verifies correctness of markings.

f. PHASE FOUR: DETECTION. Trainees advance toward the contaminated area from upwind in units the size of an infantry platoon and in squad columns. As each squad approaches close enough to distinguish unmistakably the odor of mustard gas it stops for 1 minute. Trainees then adjust their masks and noncommissioned gas officers check them. The squads then assemble, still masked, and detector devices are demonstrated by the noncommissioned gas officers.

g. PHASE FIVE: PASSAGE THROUGH CONTAMINATED AREA. (1) Squads advance in single file or skirmish line directly across the contaminated area. If desired, shuffle areas may be made at both ends of the passage, and soldiers are instructed to shuffle their feet in the dry mix both before entering and after leaving the area. (It should be pointed out that, because of labor and matériel requirements and also because troops in combat have protective clothing, it is not ordinarily feasible or necessary to decontaminate paths. Removal of high vegetation usually eliminates all danger of bodily contact with blister gas except for the shoes, which may be protected with impregnite. However, one method of decontaminating a path is shown in figure 40.) Trainees are told to button their clothing fully so that a minimum amount of body surface is uncovered. They are instructed to pick their way carefully, avoiding pools of liquid blister gas, empty land mines, shell craters, and other depressions, and to avoid contact with underbrush or high grass. They should make special note of the presence of mustard gas.

(2) After passing through the area, squads continue walking until well out of range of gas vapor. They then test for gas, remove and replace masks. Clothing is loosened to ventilate. Officers and noncommissioned gas officers inspect the men, taking proper first aid measures for any whose clothing has become dangerously contaminated.

h. PHASE SIX: DECONTAMINATION OF TERRAIN. If the exercise area is properly isolated and posted with gas warning signs, it need not be decontaminated, but can be left to weather. However, to illustrate the difficulty of decontaminating terrain, two small portions of the area should be treated. A dry

mix of earth and bleach is used on one patch and the other covered with 3 inches of earth to illustrate an expedient method. Men engaged in decontamination work will have their masks adjusted. This phase completes the exercise. Returning to their barracks area, troops remove leggings and shoes, scrubbing them with G.I. soap and water before entering any building. They then finish undressing and bathe.

19. Decontamination of Buildings

Organizations equipped with a power-driven decontaminating apparatus M3A1 or M4 may use it on buildings, both exterior and interior. Brooms and brushes are also needed to scrub slurry into the floors and walls. As the slurry should remain on the building 12 to 24 hours, no flushing out should be done during this exercise but the value of the apparatus for flushing should be explained. Earth-bleach mixture may be used on heavily contaminated floor areas, the mixture being removed and buried after it has served its purpose.

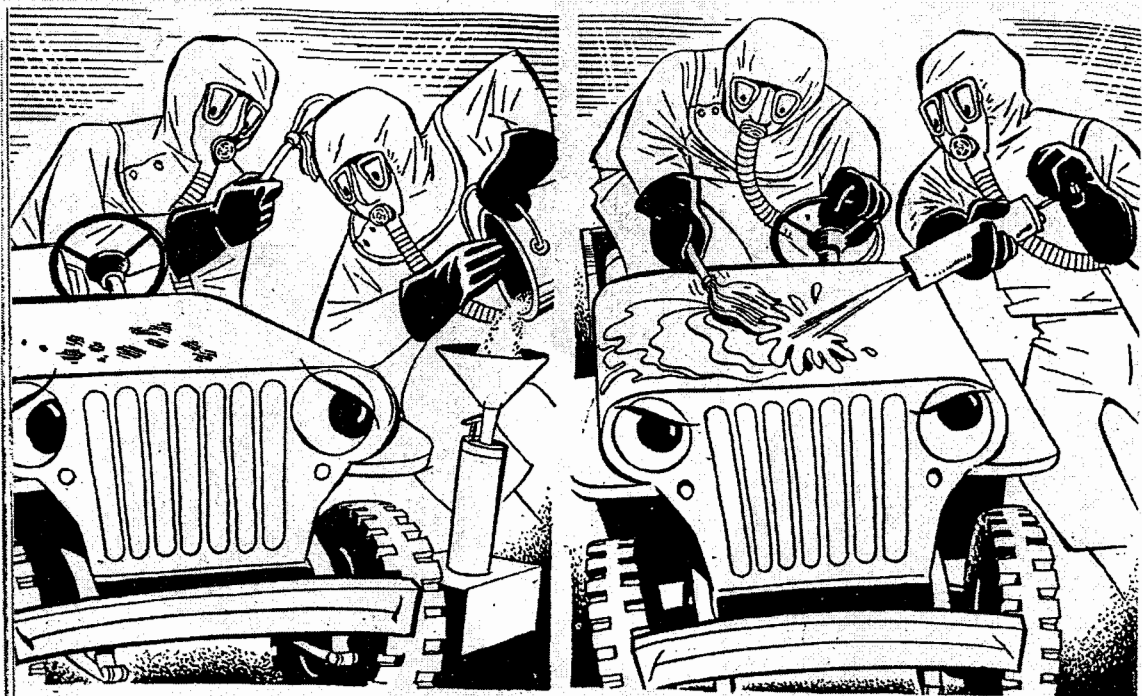
20. Decontamination of Metal Equipment

Obsolete or unserviceable pieces of equipment, such as guns, machinery, or vehicles, can be used for this exercise. Mustard gas may be applied with a spray or poured by hand but personnel conducting this operation must be adequately protected. In each group of three squads, squad one prepares noncorrosive decontaminating agent (DANC), squad two applies it, and squad three prepares a soap-and-water emulsion and washes it off. When the equipment is dry a coating of light oil is spread over the surface to prevent rust.

21. Supplementary Demonstrations

Since protective clothing and equipment are not available for all personnel in training, demonstrations instead of exercises should be conducted on the following subjects, full information on which is given in TM 3-290:

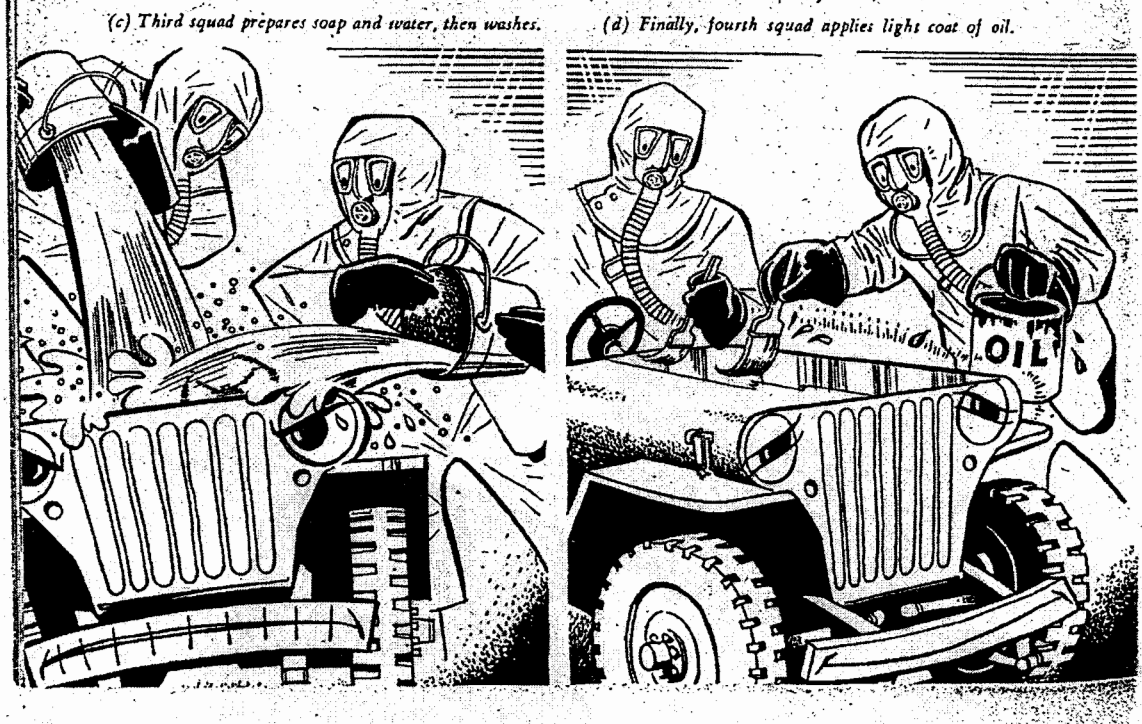
- a. *Impermeable protective clothing*, including construction, method of donning, and removal.
- b. *Permeable (impregnated) protective clothing*, featuring same points as in a above.
- c. *Individual protective cover*, featuring same points as in a above.
- d. *Shoe impregnite*, showing method of applying.
- e. *Personal decontamination*, including use of protective ointment, removal of contaminated clothing, and decontamination of clothing by aeration and steaming.



(a) First squad prepares DANC in 1 1/2-quart apparatus.

(b) Second squad applies DANC to metal surface.

FIGURE 41. EXERCISE IN DECONTAMINATION OF METAL EQUIPMENT



(c) Third squad prepares soap and water, then washes.

(d) Finally, fourth squad applies light coat of oil.

APPENDIX E-14

War Department, Adjutant General's Office, 1946

Memorandum Subject: Surplus – Air Technical Service
Command Training Center Fresno, California,
28 February 1946. RG 160, Entry 27, Box 50, File
Fresno, NARA-College Park, MD

REPRODUCED AT THE NATIONAL ARCHIVES

WAR DEPARTMENT
The Adjutant General's Office
Washington 25, D.C.

AT 303 (21 Feb 46)
OF-I-SP100-7

28 February 1946.

SUBJECT: Surplus - Air Technical Service Command Training Center,
Fresno, California.

TO: Commanding Generals,
Army Air Forces
Ninth Service Command
Chief of Engineers

1. Effective as of 13 February 1946, the Air Technical Service Command Training Center, Fresno, California (also known as the Army Air Forces Ground Training Center) is placed in the category of surplus. It is, therefore, desired that action be initiated without delay to dispose of this facility.

2. Additionally, it is desired that all appropriate agencies be notified of the last date for transmission of mail to this facility which does not concern action to be taken in connection with its closing.

3. Agencies concerned with the furnishing of supplies and equipment to this facility will cancel all back orders for such supplies and equipment, and will furnish only those required by the station to efficiently fulfill any action required in its orderly closing. The provisions of Army Service Forces Manual M-706, 30 April 1945, will apply.

BY ORDER OF THE SECRETARY OF WAR:

Arthur Johnson
Adjutant General

REPRODUCED AT THE NATIONAL ARCHIVES

SPMOC 208

21 FEB 1946

MEMORANDUM FOR THE ADJUTANT GENERAL:

Subject: Surplus - Air Force Ground Training Center, Fresno, California.

The Secretary of War directs:

I. That instructions substantially as follows be addressed to the Chief of Engineers, the Commanding General, Army Air Forces, the Commanding General, Army Ground Forces and the Commanding General, Fifth Service Command:

"Effective 12 February 1946, Army Air Forces Ground Training Center, Fresno, California, was placed in the category of surplus.

"It is, therefore, desired that action be initiated to dispose of this facility.

"Additionally, it is desired that all appropriate agencies be notified of the last date for transmission of mail to this facility which does not concern actions to be taken in the closing of this facility."

II. That all interested War Department agencies be appropriately informed.

III. The author of this communication is Major Calvin Price, Jr., telephone extension 6493, in accordance with the provisions of War Department Memorandum EIO-44, 1944.

FOR THE COMMANDING GENERAL:

cc:
Chief of Engineers

CP/cmc/6493

28 18 Feb
21 Feb

S. L. SUGTE
Major General, OSG
Director, Plans & Operations, ASF

James F. Quinn
COL, G.S.C.
Executive
Mobilization Div., ASF

DISPOSITION SECTION

SPMOC (1)
FRL-----4151
FJT *[Signature]* 71772

APPENDIX F

REAL ESTATE DOCUMENTS

NOT USED

(Citations included in Appendix E and K)

APPENDIX G
NEWSPAPER / JOURNALS
NOT USED

APPENDIX H

INTERVIEWS / POINTS OF CONTACT (POC)

INTERVIEWS/ POINTS OF CONTACT (POC)

The following individuals provided pertinent information through interviews concerning Fresno Army Air Forces Ground Training Center. A summary of these cited conversations is included in Section 4.3. Details of the conversations are recorded as Telephone Conversation Record for the following:

<u>Individual</u> <u>Contacted</u>	<u>Date</u> <u>Interviewed</u>	<u>Position</u>	<u>Page</u>
Tony Lushbough	16 September 2002	Plumber, Fresno County Fair	H-3

The archive search team also contacted the following individuals in preparation of this ASR. Conversation with these people yielded information of three general sorts:

- background data contained in written documents
- negative information (i.e. no pertinent knowledge of the site)
- coordination of efforts for various interested parties

While valuable, conversations with these individuals did not yield information cited in this report and hence Telephone Conversation Records have not been included. (See additional Points of Contact under section 4.2 Records Review):

<u>Individual</u>	<u>Telephone Number</u>	<u>Position</u>
Lt. Pat Farmer Fresno Police	559-498-1414	head of EOD group

U.S. ARMY CORPS OF ENGINEERS POINT OF CONTACTS (POC)

The following individuals prepared the Archive Search Report or are involved in the process:

U.S. Army Corps of Engineers
St. Louis District
 Engineering Division - Ordnance and Technical Services Branch (CEMVS-ED-P)
 1222 Spruce Street
 St. Louis, MO 63103-2833

Individual	Telephone Number	Position
Bryan Colegate	314-331-8744	ED-S, CADD Specialist
Randy Curtis	314-331-8786	ED-P, Civil Engineer/ASR Project Manager
Michael Dace	314-331-8036	ED-P, Chief of Ordnance and Technical Service Branch
Jennifer James	314-331-8897	ED-P, Quality Assurance Specialist

Individual	Telephone Number	Position
		Ammunition Surveillance (QASAS)
Ida Morris	314-331-8040	ED-P, Project Assistant
George Sloan	314-331-8796	ED-P, Historian and Safety Specialist

U.S. Army Engineering and Support Center Huntsville
Center of Expertise and Design Center of Ordnance and Explosives
CEHNC-ED-SY-O
P. O. Box 1600
Huntsville, AL 35807-4301

<u>Individual</u>	<u>Telephone Number</u>	<u>Position</u>
Brad McCowan	256-895-1174	ASR Project Manager
Danny Mardis	256-895-1797	former ASR Project Manager

U. S. Army Corps of Engineers – Sacramento District
Program Management Branch
CESPK-PM-H
1325 J St., 12th Floor
Sacramento, CA 95814-2922

<u>Individual</u>	<u>Telephone Number</u>	<u>Position</u>
Gerald (Jerry) Vincent	916-557-7452	DERP FUDS Program Manager

TELEPHONE OR VERBAL CONVERSATION RECORD

DATE 16 September 2002

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION Fresno Army Air Forces Ground Training Center		
PERSON CALLING Randal Curtis, Project Manager	ADDRESS CEMVS-ED-P	PHONE NUMBER AND EXTENSION 314-331-8786
PERSON CALLED Anthony (Tony) Lushbough	OFFICE Fresno County Fairgrounds	PHONE NUMBER AND EXTENSION 559-650-3241

SUMMARY OF CONVERSATION:

The INPR research team had interviewed Mr. Lushbough, a plumber in the fairground maintenance office, and he recalled hearsay accounts of former fairground maintenance workers discovering Unexploded Ordnance (UXO) in the 1950s but questioned the stories validity. He recounted the two stories for the ASR team. In the first story, two old boys with the maintenance staff were burning brush and debris and found what one of them identified as “claymore mine” having been in the army. After handling it a bit, they decided to toss it into the burning debris pile and head for lunch. They hadn’t gotten far when “KA-BOOM” it exploded, spreading trash and debris around. The second story involved the same two men finding a hand grenade. The one who had been in the army identified it as a practice grenade but recalling the explosion of the earlier decided to be more careful this time while handling it. They attached the grenade to a pole in the horse barn and tied a long string to the pin before pulling. The grenade went off and took out the side of the barn.

Both accounts may have been aggrandized in the retelling over the years. Some of the details are definitely questionable. The “claymore mine” was a Vietnam era anti-personnel munition and wouldn’t have been associated the Fresno AAF Ground Training Center. It’s not clear what type of mine was found or if the item was a fuzed HE version or practice version with a powder charge. The same is true with the hand grenade.

APPENDIX I

PRESENT SITE PHOTOGRAPHS

TABLE OF CONTENTS

<u>Photo No.</u>	<u>Photograph Location</u>	<u>Page No.</u>
1	Looking East from S Chance toward CA National Guard Facility.....	I-2
2	Looking East from S Chance toward the entrance to the Fairgrounds	I-2
3	Looking West on E Dwight toward Residential Development (SE cornered site)	I-3
4	Looking West from E Liberty and S Recreation toward School Yard	I-3
5	Looking Southwest from S Maple and E Monte Way toward the County Fairgrounds	I-4
6	Looking Northwest from S Maple and E Monte Way towards Fresno County Maintenance Yard.....	I-4
7	Looking Northeast from S Maple and E Butler toward some possible former military buildings.....	I-5
8	Looking Southeast from E Butler and S Chance toward Swap Meet (the whole block is used for the Swap Meet)	I-5
9	Looking South from E Monte Way and S Chestnut toward Commercial Development.....	I-6
10	Looking Southeast at residential area from Highway 180 and S Cedar	I-6



Photo #1 – Fresno Army Air Forces Ground Training Center – 28 July 2002
Looking East from S Chance toward CA National Guard Facility

Photo #2 - Fresno Army Air Forces Ground Training Center – 28 July 2002
Looking East from S Chance toward the entrance to the Fairgrounds





Photo #3 Fresno Army Air Forces Ground Training Center – 28 July 2002
Looking West on E Dwight toward Residential Development (SE cornered site)

Photo #4 Fresno Army Air Forces Ground Training Center – 28 July 2002
Looking West from E Liberty and S Recreation toward School Yard





Photo #5 Fresno Army Air Forces Ground Training Center – 28 July 2002
Looking Southwest from S Maple and E Monte Way toward the County Fairgrounds

Photo #6 Fresno Army Air Forces Ground Training Center – 28 July 2002
Looking Northwest from S Maple and E Monte Way towards Fresno County
Maintenance Yard





Photo #7 Fresno Army Air Forces Ground Training Center 28 July 2002
Looking Northeast from S Maple and E Butler toward some possible former military buildings

Photo #8 Fresno Army Air Forces Ground Training Center – 28 July 2002
Looking Southeast from E Butler and S Chance toward Swap Meet (the whole block is used for the Swap Meet)





Photo #9 Fresno Army Air Forces Ground Training Center – 28 July 2002
Looking South from E Monte Way and S Chestnut toward Commercial Development

Photo #10 Fresno Army Air Forces Ground Training Center – 28 July 2002
Looking Southeast at residential area from Highway 180 and S Cedar



**APPENDIX J
HISTORICAL PHOTOGRAPHS**

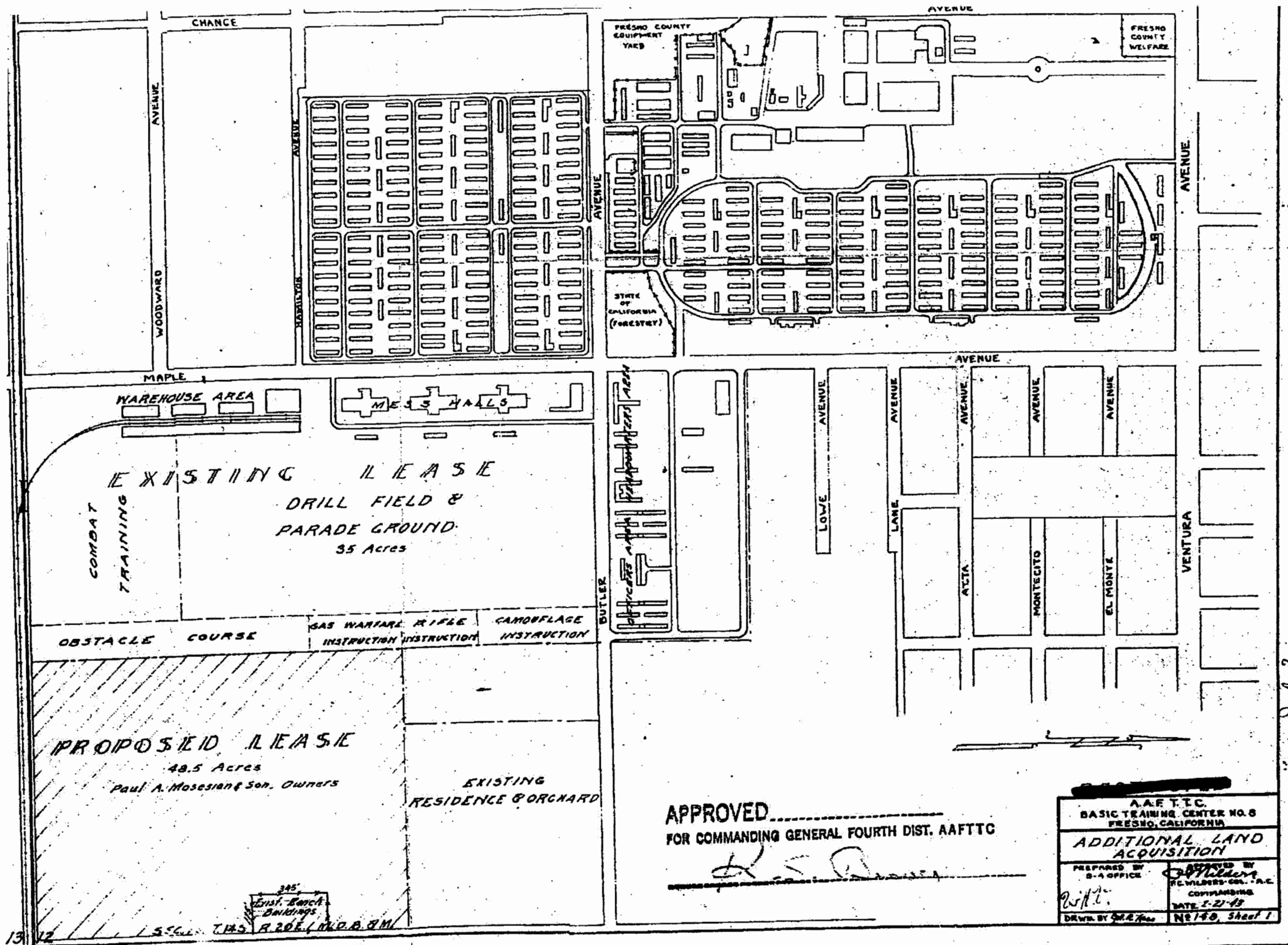
NOT USED

APPENDIX K

HISTORICAL MAPS / DRAWINGS

Map No. Historical Maps / Drawings

- K-1 Army Air Forces Technical Training Command
1943 Basic Training Center No. 8, Fresno, California Additional Land Acquisition, 27 February 1943. RG 342, Acc. 50E-4001, Box 5, National Personnel Records Center Military Personnel Records (NPRC, MPR) St. Louis, MO
- K-2 U. S. Army Corps Engineers, Sacramento District
1945 Army Air Forces Technical Training Command Basic Training Center No. 8, Fresno, California General Layout Plan, August 1943, revised 15 July 1945. RG 77, Entry Real Property Disposal Case Files, Box 34, Folder: Fresno ATSC (4) classification, NARA-San Bruno, CA
- K-3 U. S. Army Corps Engineers, Sacramento District
1947 Real Estate Fresno A.A.F. Ground Forces Training Center Military Reservation, 25 May 1944, revised 13 May 1947. Corps of Engineers, Sacramento District, Real Estate Division-Cadastral Section, Microfiche Files, Folder: Fresno Army Air Forces Ground Training Center, Sacramento, CA



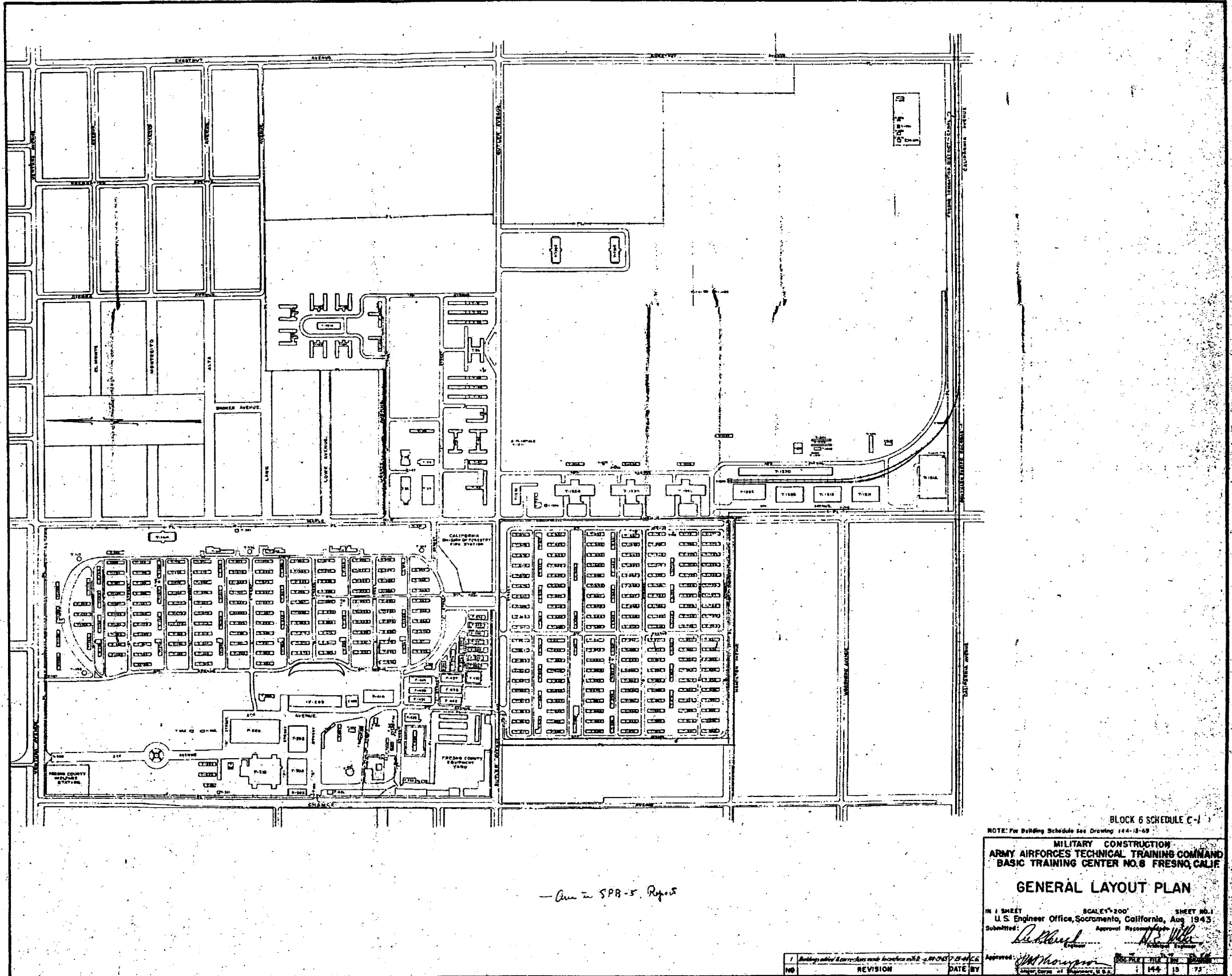
APPROVED
 FOR COMMANDING GENERAL FOURTH DIST. AAF T.C.

[Signature]

A.A.F.T.C. BASIC TRAINING CENTER NO. 6 FRESNO, CALIFORNIA	
ADDITIONAL LAND ACQUISITION	
PREPARED BY S-4 OFFICE <i>[Signature]</i>	APPROVED BY R.C. WILBES, COL., A.C. COMMANDING DATE: 1-21-48
DRWN BY: S.M.R. Jace	NO 148, Sheet 1

WAR DEPARTMENT

CORPS OF ENGINEERS, U.S. ARMY



- Ann in SPB-5. Report

BLOCK 6 SCHEDULE C-1
 NOTE: For Building Schedule see Drawing 144-18-69

MILITARY CONSTRUCTION
 ARMY AIRFORCES TECHNICAL TRAINING COMMAND
 BASIC TRAINING CENTER NO. 8 FRESNO, CALIF.

GENERAL LAYOUT PLAN

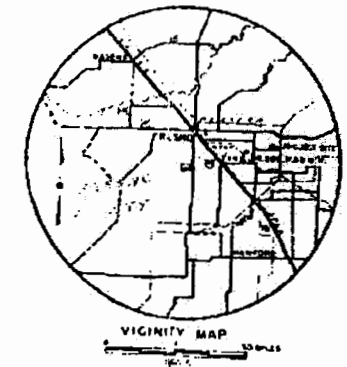
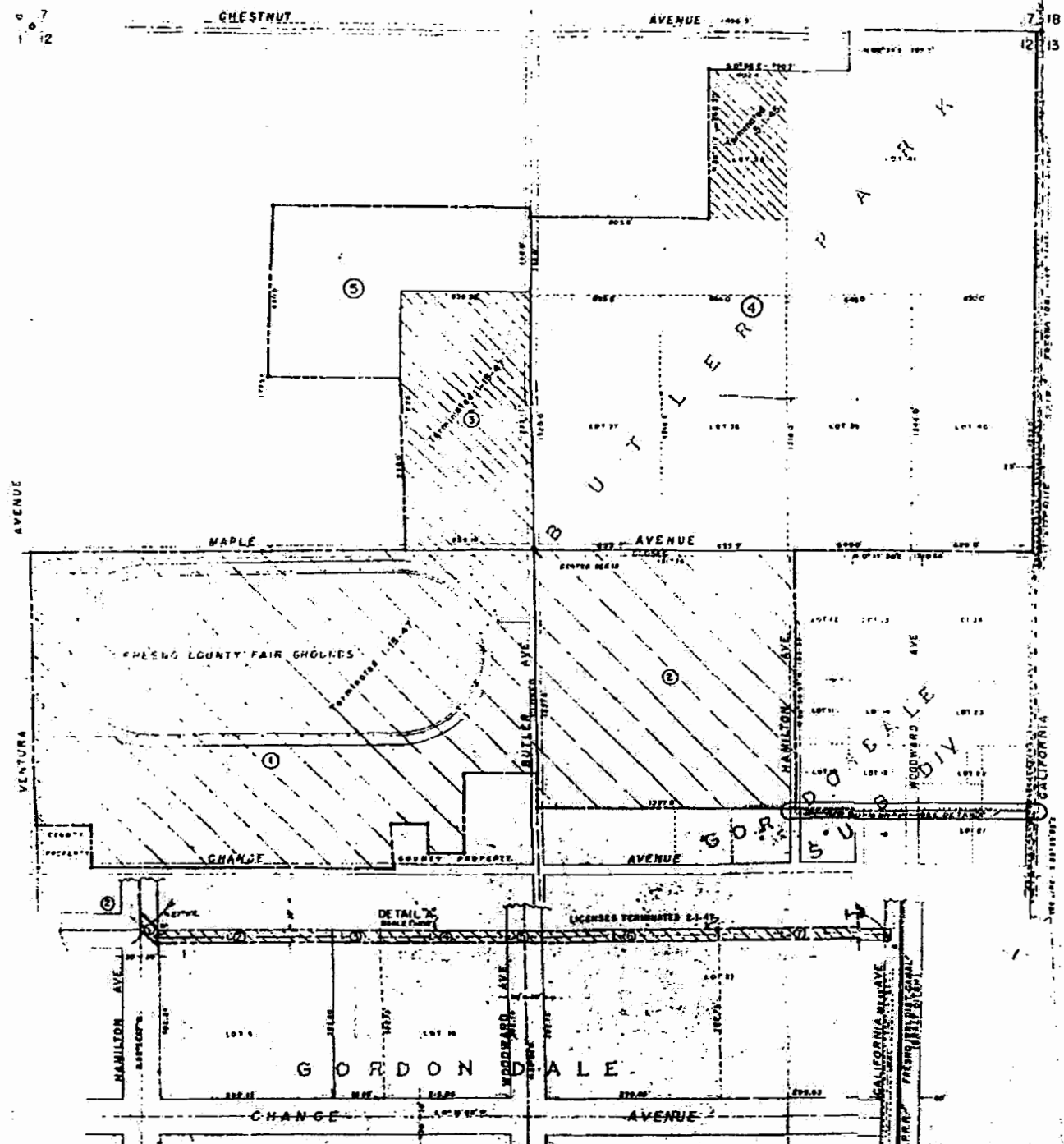
IN 1 SHEET SCALE: 1"=200' SHEET NO. 1
 U.S. Engineer Office, Sacramento, California, Aug 1943

Submitted: *[Signature]* Approval: *[Signature]*

Approved: *[Signature]* Major, Corps of Engineers, U.S. Army

NO.	REVISION	DATE	BY
1	Buildings added & corrections made locations in B-2 & B-3	10-14-43	W.M.C.

T. 14S, R. 20E, M. 0B, B.M.



FINAL PROJECT MAP

STATE CALIFORNIA
 COUNTY FRESNO
 DIVISION SOUTH PACIFIC
 DISTRICT SACRAMENTO
 SIXTH ARMY AREA
 USING AGENCY A.A.F.T.C.
 3 MILES E. OF FRESNO
 MILES OF

TRANSPORTATION FACILITIES
 A.T. & S.F. RAILROAD
 STATE ROAD
 FEDERAL ROAD
 AIRLINE

ACQUISITION
 ACRES OWNED BY W.D. 40
 ACRES LEASED BY W.D. 266.66
 ACRES LEASED FROM W.D.
 ACRES TRANSFERRED TO W.D.
 ACRES DONATED TO W.D.
 ACRES LESSER INTEREST TO W.D. 0.358

DISPOSALS
 ACRES SOLD
 ACRES TRANSFERRED
 ACRES LEASES TERMINATED 117.06
 ACRES TO FPHA 40.00
 ACRES LESSER INTEREST TERMINATED 0.358

LEGEND

- BOUNDARY LINE
- STATE OR PROVINCE LINE
- COUNTY LINE
- CIVIL DISTRICT PRECINCT
- LAND-GRANT LINE
- CITY, VILLAGE, OR BOROUGH
- CEMETERY, SMALL PARK, ETC.
- TOWNSHIP LINE
- SECTION LINE

ACQUISITION TRACT REGISTER

TRACT NO.	LAND OWNER	ACREAGE	FEE LEASED LICHTS	REMARKS
1	COUNTY OF FRESNO, E.T.A.	90.00		NO. 104-170-imp-230
2	GEORGIA BRADY	40.00		Determination of Value
3	EDMUND MYRON	20.00		NO. 104-170-imp-4307
4	PAUL A. ROSEMAN and ERM	04.66		NO. 104-170-imp-1854
5	LEO F. JARVIS	20.00		NO. 104-170-imp-1327
6-1	FRESNO COUNTY	0008		W.D. 104-170-imp-218, dated 8-17-43 for Drainage Right
6-2	S. E. SMITH & S. E. SMITH	0083		W.D. 104-170-imp-218, dated 8-17-43 for Drainage Right
6-3	S. E. SMITH & S. E. SMITH	0083		W.D. 104-170-imp-218, dated 8-17-43 for Drainage Right
6-4	SECRETIE E. HOLLISTER, E.T.A.	0086		W.D. 104-170-imp-218, dated 8-17-43 for Drainage Right
6-5	FRESNO COUNTY	0087		W.D. 104-170-imp-218, dated 8-17-43 for Drainage Right
6-6	PAUL BRUSH & PAUL JEFFERSON	0083		W.D. 104-170-imp-218, dated 8-17-43 for Drainage Right
7-1	PHILIP W. SCHMAN	0083		W.D. 104-170-imp-218, dated 8-17-43 for Drainage Right
8-1	FRESNO BRIDGEWAY DISTRICT	0001		W.D. 104-170-imp-218, dated 8-17-43 for Paving & Pumping Plant

ACCOUNTABILITY ASSUMED ON 40 ACRES FEE BY FEDERAL PUBLIC HOUSING AUTHORITY ON 10-1-46

ACQUISITION AUTHORIZATION
 RE-D 882, 18 May 1942
 RE-D 1010, 27 April 1942
 RE-D 1794, 4 Jun 1944

WAR DEPARTMENT, O.C.E.
 CONSTRUCTION DIVISION
REAL ESTATE
 FRESNO AIR FORCE GROUND TRAINING CENTER
 MILITARY RESERVATION

RECOMMENDED: *[Signature]* DATE: 12-24
 APPROVED: *[Signature]* DATE: 12-24

COMPILED: *[Signature]* TRACED: *[Signature]* CHECKED: *[Signature]*

DATE	BY	REVISIONS	APPROVED

SHEETS 1 OF 1 DRAWING NO. F. 173

1781
AUDITED

APPENDIX L

**SITE SAFETY AND HEALTH PLAN / SITE
INSPECTION REPORT**

SITE SAFETY AND HEALTH PLAN / SITE INSPECTION REPORT

Section No. Plan / Report

L-1 Site Safety and Health Plan – Fresno Army Air Forces Ground Training Center

L-2 Site Inspection Report – Fresno Army Air Forces Ground Training Center

APPENDIX L-1

Site Safety and Health Plan - Fresno Army Air Forces Ground Training Center

SITE SAFETY AND HEALTH PLAN (SSHP)
Fresno Army Air Forces Ground Training Center
Fresno, CA
SITE # J09CA728001

The purpose of this site visit is to reconnoiter, document, and photograph areas on Fresno Army Air Forces Ground Training Center, Fresno, California suspected to be contaminated with unexploded ordnance and/or toxic chemical munitions.

PREPARED BY:	<u>William (Kirk) James</u>
OFFICE	<u>USACE, CEMVS-ED-P</u>
ADDRESS	<u>1222 Spruce St. St. Louis, MO</u>
PHONE	<u>314-331-8312</u>
DATE PREPARED	<u>9 July 2002</u>

REVIEWED/APPROVED BY:


SSHO

NOTE: This SSHP is to be used only for non-intrusive site visits and must be approved by safety prior to the start of the field visit. All team members must read and comply with the SSHP, and attend the safety briefings. The Site Safety and Health Officer (SSHO) shall ensure that the Safety Briefing Checklist and the SSHP acceptance form (Appendix C) are filled out prior to the start of the site visit.

A. SITE DESCRIPTION AND PREVIOUS INVESTIGATIONS

1. Site Description

a. **Size:** 300 acres

b. **Present Usage:** (check all that apply)

- | | | |
|---|---------------------------------------|--|
| <input type="checkbox"/> Military | <input type="checkbox"/> Recreational | <input type="checkbox"/> Other (specify) |
| <input checked="" type="checkbox"/> Residential | <input type="checkbox"/> Commercial | |
| <input type="checkbox"/> Natural Area | <input type="checkbox"/> Industrial | |
| <input type="checkbox"/> Agricultural | <input type="checkbox"/> Landfill | |
| <input type="checkbox"/> Secured | <input type="checkbox"/> Active | <input type="checkbox"/> Unknown |
| <input checked="" type="checkbox"/> Unsecured | <input type="checkbox"/> Inactive | |

2. **Past Uses:** Army Air Forces used the former Fresno Army Air Forces Ground Training Center as a basic training facility from 1942-46.

3. **Surrounding Population** (check all that apply)

- | | | |
|---|--------------------------------------|--|
| <input type="checkbox"/> Rural | <input type="checkbox"/> Residential | <input type="checkbox"/> Other (specify) |
| <input checked="" type="checkbox"/> Urban | <input type="checkbox"/> Industrial | |
| <input type="checkbox"/> Commercial | | |

4. **Ordnance/Explosives (OE) Potential:** chemical agent identification sets.

B. DESCRIPTION OF ON-SITE ACTIVITIES (check all that apply)

- | | | |
|--|---|--|
| <input checked="" type="checkbox"/> Walk-through | <input type="checkbox"/> Drive-through | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> On-Path | <input checked="" type="checkbox"/> On-road | |
| <input type="checkbox"/> Off-Path | <input type="checkbox"/> Off-road | |

C. SITE PERSONNEL AND RESPONSIBILITIES

1. Responsibilities

a. **Project Manager:** The Corps of Engineers Project Manager (PM) is overall responsible for the site visit. He will assign a Team Leader, (in most situations this will be the PM). The PM will ensure that the SSHP is completed along with coordinating and executing the site visit.

b. **Site Safety and Health Officer:** The SSHO is designated to conduct safety, enforce the SSHP, conduct safety briefings and ensure that the team

leader can safely fulfill his objectives. The SSHO will maintain the safety gear and monitor on-site operations. The SSHO is responsible for identifying, marking and reporting any unexploded ordnance and explosives.

2. Team Members

<u>Name</u>	<u>Position</u>	<u>Address</u>	<u>Phone</u>
Randal Curtis	PM	CEMVS-ED-P	314-331-8786
William (Kirk) James	SSHO	CEMVS-ED-P	314-331-8312
Randy Fraser	SSHO	CEMVS-ED-P	314-331-8268

D. OVERALL HAZARD EVALUATION (check one)

High Moderate Low Unknown

This assessment was developed using the Site Investigation Hazard Analysis and Risk Assessment Code Matrix.

E. GENERAL PRECAUTIONS: Prior to the on-site visit, all team members are required to read this SSHP and sign the form acknowledging that they have read and will comply with it. In addition, the SSHO shall hold a brief tailgate meeting in which site specific topics regarding the day's activities will be discussed. If unanticipated hazardous conditions arise, team members are to stop work, leave the immediate area and notify the SSHO. The buddy system will be enforced at all times.

F. STANDARD OPERATION SAFETY PROCEDURES, ENGINEERING CONTROLS AND WORK PRACTICES

- 1. Site Rules/Prohibitions:** At any sign of unanticipated hazardous conditions, stop tasks, leave the immediate area and notify the SSHO. Smoking, eating and drinking allowed in designated areas only.
- 2. Material Handling Procedures:** Do not handle.
- 3. Drum Handling Procedures:** Do not handle.
- 4. Confined Space Entry:** An area identified as a Permit Required Confined space will not be entered. All confined spaces shall be considered permit required confined spaces until the pre-entry procedures demonstrate otherwise. Confined spaces may be entered without a written permit or attendant provided the space is determined not to be a permit required confined space as specified in 29 CFR 1910.146.

- 5. Electrical Protection:** Overhead power lines, downed electrical wires and buried cables pose a danger of shock and electrocution. In addition, buildings may contain exposed wiring that may hold a potential load. Workers should avoid contact with any and all exposed wire and cables

- 6. Spill Containment:** N/A

- 7. Excavation Safety:** Do not enter trenches/excavations.

- 8. Illumination:** Site visits will be conducted during daylight hours only.

- 9. Sanitation:** Use existing sanitary facilities.

- 10. Buddy System:** Individuals will maintain constant contact with other personnel at all times. No one will work alone at any time during the site visit.

- 11. Engineering Controls:** N/A

- 12. Insects:** Wearing light colored clothing and tucking in the pant legs can reduce contact. In severely infested area it may be necessary to tape all openings. Apply repellents to both clothing and bare skin. Diethyltoluamide (DEET) is an active ingredient in many repellents, which are effective against ticks and other insects. Repellents containing DEET can be applied on exposed areas of skin and clothing. However, repellents containing permethrin should be used on only clothing. For more information on insect bites, refer to Appendix B.

- 13. Poisonous Vegetation:** Recognition and avoidance is the best protection. Cover all exposed skin. If it is known or suspected that an individual has been exposed, wash the effected area with soapy water.

- 14. Inclement Weather:** When there are warnings or indications of impending severe weather (heavy rains, strong winds, lightning, tornadoes, etc.), weather conditions shall be monitored and appropriate precautions taken to protect personnel and property from the effects of the severe weather.

- 15. Hot Weather:** In hot environments, cool drinking water shall be made available and workers shall be encouraged to frequently drink small amounts, e.g., one cup every 15 - 20 minutes; the water shall be kept reasonably cool. In those situations where heat stress may impact worker safety and health, work regimens shall be established. Environmental monitoring of the Wet Bulb Globe Temperature Index shall be conducted and workloads and work regimens categorized as specified in the American Conference of Governmental Industrial Hygienist (ACGIH) publication "Threshold Limit Values and Biological Exposure Indices". For more information on Heat Stress refer to Appendix A of this SSHP.

16. Cold Weather: Cold injury (frostbite and hypothermia) and impaired ability to work are dangers at low temperatures and when the wind-chill factor is low. To guard against them; wear appropriate clothing; have warm shelter readily available; carefully schedule work and rest periods, and monitor workers' physical conditions.

17. Off-Road Driving: Ensure all emergency equipment is available with the vehicle i.e. tire changing equipment. Drivers shall familiarize themselves with the procedures for engaging four-wheel drive systems before the need for added traction arises. Vehicles will not be driven into an environment that is unknown, such as deep water, or an unstable surface. Vehicles will not be driven into a suspected ordnance impact area.

18. Ordnance

a. General Information

(1) The cardinal principle to be observed involving explosives, ammunition, severe fire hazards or toxic materials is to limit the exposure to a minimum number of personnel, for the minimum amount of time, to a minimum amount of hazardous material consistent with a safe and efficient operation.

(2) The age or condition of an ordnance item does not decrease the effectiveness. Ordnance that has been exposed to the elements for extended periods of time may become more sensitive to shock, movement, and friction, because the stability agent in the explosives may be degraded.

(3) When chemical agents may be present, further precautions are necessary. If the munition has green markings leave the area immediately, since it may contain a chemical filler.

(4) Consider ordnance that has been exposed to fire as extremely hazardous. Chemical and physical changes may have occurred to the contents, which render it more sensitive than it was in its original state.

b. On-Site Instructions

(1) **DO NOT TOUCH** or **MOVE** any ordnance items regardless of the markings or apparent condition.

(2) DO NOT conduct a site visit during an electrical storm or an approaching electrical storm. If a storm approaches during the site visit leave the site immediately and seek shelter.

(3) DO NOT use a radio or cellular phone in the vicinity of a suspect ordnance item.

(4) DO NOT walk across an area where the ground cannot be seen.

(5) DO NOT drive a vehicle into a suspected OE area; use clearly marked lanes.

(6) DO NOT carry matches, cigarettes, lighters or other flame producing devices into an OE site.

(7) DO NOT rely on color code for positive identification of ordnance items or their contents.

(8) Approach ordnance items from the side; avoid approaching from the front or rear.

(9) Always assume ordnance items contain a live charge until it can be determined otherwise.

(10) Dead vegetation and animals may indicate potential chemical contamination. If a suspect area is encountered, personnel should leave the immediate area and evaluate the situation before continuing the site visit.

c. Specific Action Upon Locating Ordnance

(1) DO NOT touch, move or jar any ordnance item, regardless of its apparent condition.

(2) DO NOT be misled by markings on the ordnance item stating "practice", "dummy" or "inert". Practice munitions may contain an explosive charge used for spotting the point of impact. The item may also be mislabeled.

(3) DO NOT roll the item over or scrape the item to read the markings.

(4) The location of any ordnance items found during site investigations should be clearly marked so it can be easily located and avoided.

(5) Reporting will be conducted in accordance with CELMS-PM-M, Standard Operating procedure for Reporting Ordnance and Unexploded Ordnance (UXO), dated 19 January 1995.

19. **Other** (specify)

G. SITE CONTROL AND COMMUNICATIONS

1. **Site Map:** Any maps will be maintained by the PM or Safety Officer.

2. **Site Work Zones:** N/A

3. **Buddy System:** Individuals will maintain constant contact with other personnel at all times. No one will work alone at any time during the site visit.

4. **Communications**

a. **On-Site:** Verbal communications will be used among team members.

b. **Off-Site:** Communications shall be established on every site. Communications may be established by using a cellular, public or private phone, which may be readily accessible. (specify below)

Cellular phone

Public/private phone

Other

c. **Emergency Signals:** In the case of small groups, a verbal signal for emergencies will suffice. An emergency signal for large groups (i.e. air horn, whistle) should be incorporated at the discretion of the SSHO. (specify below)

Verbal

Nonverbal - whistle

H. EMERGENCY RESPONSE: Team members are to be alert to the dangers associated with the site at all times. If an unanticipated hazardous condition arises, stop work, evacuate the immediate area and notify the SSHO. A First Aid Kit and emergency

eyewash (if applicable) will be located in the field vehicle. If qualified persons (i.e. fire department, medical facility or physician) are not accessible within five minutes of the site, at least two team members shall be qualified to administer first aid and CPR.

1. Emergency/Important Telephone Numbers

52nd Ord. GRP.....404-469-5953
Local Police559-498-1414
Huntsville Safety Office256-895-1598/1596
Huntsville Safety (after hours).....256-895-1180
St Louis Corps of Engineers (Dace)314-331-8036

2. Hospital/Medical Facility Information

Name: University Medical Center (Valley Medical Center)
Address: 445 South Cedar St. Fresno, CA 93707
Phone: 559-459-4000

Distance to hospital: approximately 2 miles

Route to Hospital: refer to the site map included with this SSHP.

I. MONITORING EQUIPMENT AND PROCEDURES

1. Exposure Monitoring: For non-intrusive on-site activities such as site visits, air monitoring is typically not required. However, if the site situation dictates the need for monitoring, complete the following information on a separate page and attach the page to the SSHP.

a. Monitoring Equipment To Be Utilized: N/A

b. Equipment Calibration Results: N/A

c. Action Levels: N/A

2. Heat/ Cold Stress Monitoring

a. Heat Stress monitoring criteria published in Chapter 8 of the NIOSH/OSHA/USCG/EPA "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities" shall be followed.

b. Cold Stress monitoring shall be conducted in accordance with the most current published American Conference of Governmental Industrial Hygienists (ACGIH) cold stress standard.

J. PERSONAL PROTECTIVE EQUIPMENT: Typically, for non-intrusive site visits, Level D is required. If a higher level of protection is to be used initially or as contingency, a brief discussion will be attached. At a minimum personnel shall wear clothing suitable for the weather and work condition. The minimum for fieldwork shall be short sleeve shirt, long trousers, and leather or other protective work shoes or boots. If a higher level of protection is to be used initially or as contingency, a brief discussion will be attached.

- 1. Footwear:** Footwear providing protection against puncture shall meet the applicable requirements as stated in EM 385-1-1, paragraph 05.A.08. All activities which personnel are potentially exposed to foot hazards will be identified and documented in a hazard analysis. As an exception to wearing steel-toed boots, GSA-approved protective-soled boots are authorized.
- 2. Hand Protection:** Persons involved in activities, which subject the hands to injury (e.g., cuts, abrasions, punctures, burns, etc.), shall use leather gloves.
- 3. Head Protection:** Hardhats shall be worn when personnel are subject to potential head injury. The identification and analysis of head hazards will be documented in a hazard analysis.
- 4. Eye Protection:** Personnel will wear eye protection when activities present potential injuries to the eyes. All eye protection equipment shall meet the requirements as stated in EM 385-1-1, paragraph 05.B.

K. DECONTAMINATION PROCEDURES: Decontamination procedures are not anticipated for this site investigation. Team members are cautioned not to walk, kneel or sit on any surface with potential leaks, spills or contamination.

L. TRAINING: All site personnel shall have completed the training required by Engineer Manual (EM) 385-1-1 and Title 29, Code of Federal Regulations (29 CFR, Part 1910.120 (e)). The U.S. Army Corps of Engineer (USACE) Project Manager shall ensure, and the SSHO shall verify, that all on-site personnel have completed appropriate training. Additionally, the SSHO shall inform personnel before entering of any potential site-specific hazards and procedures.

M. MEDICAL SURVEILLANCE PROGRAM: The USACE Project Manager shall ensure, and the SSHO shall verify, that all on-site personnel meet the requirements of 29 CFR 1910.120. This includes enrollment in a Medical Surveillance Program, and complying with the standards of ANSI Z-88.2, as appropriate, depending on the personnel protective equipment (PPE) and site-specific tasks.

<u>NAME</u>	<u>HAZWOPER</u> <u>DATE</u>	<u>MEDICAL</u> <u>PROVIDER</u>	<u>DATE</u>
Randal Curtis	15 Nov. 01	Corps of Engineers	Aug 2001
William (Kirk) James	23 Oct. 01	Corps of Engineers	Aug 2001
Randy Fraser	15 Nov. 01	Corps of Engineers	Aug 2001

N. LOGS, REPORTS AND RECORD KEEPING: Site logs are maintained by the Project Manager and SSHO. This is to include historical data, personnel authorized to visit the site, all records, standard operating procedures, air monitoring logs and the SSHP.

O. GENERAL: The number of personnel visiting the site shall be a limited to a minimum of two, maximum of eight. The more personnel on-site, the greater potential there is for an accident. The SSHO may modify this SSHP if site conditions warrant it and without risking the safety and health of the team members. This modification will be coordinated with the team members. The SSHO shall notify Corps of Engineers Safety Office in Huntsville, AL. of the change as the situation allows.

APPENDIX A

HEAT- RELATED INJURIES

Once the signals of a heat-related illness begin to appear, the victim's condition can quickly get worse. A heat related illness could result in death. If you see any of the signals of sudden illness, and the victim has been exposed to extremes of heat, suspect a heat-related illness.

People at risk for heat-related illness include those who work or exercise outdoors, elderly people, young children, and people with health problems. Also at risk are those who have had a heat-related illness in the past, those with medical conditions that cause poor blood circulation, and those who take medications to get rid of water from the body (diuretics).

People usually try to get out of extreme heat before they begin to feel ill. However, some people do not or can not. Those that work outdoors often keep working even after they begin to feel ill. Many times, they might not even recognize that they are in danger of becoming ill.

Heat cramps, heat exhaustion, and heat stroke are conditions caused by overexposure to heat. You can help prevent heat-stress emergencies by recognizing and properly treating symptoms. Below is a quick reference guide to heat-related emergencies:

HEAT CRAMPS: Heat cramps are the least severe, and often are the first signals that the body is having trouble with the heat. *Symptoms* include: muscle twitching; painful spasms in the legs, arms or abdomen.

WHAT TO DO:

- Have the individual rest in a cool place.
- Give cool water or a commercial sports drink.
- Lightly stretch the muscle and gently massage the area.

HEAT EXHAUSTION: Heat exhaustion is a more severe condition than heat cramps. *Symptoms* include: cool, moist, pale, or flushed skin, headache, nausea, dizziness, weakness, and exhaustion.

HEAT STROKE: Heat stroke is the least common but most severe heat emergency. It most often occurs when people ignore the signals of heat exhaustion. Heat stroke develops when the body systems are overwhelmed by heat and begin to stop functioning. **Heat stroke is a serious medical emergency.** *Symptoms* include: red, hot, dry skin; changes in consciousness; rapid, weak pulse; and rapid, shallow breathing.

WHAT TO DO: When you recognize a heat-related illness in its early stages, you can usually reverse it.

Get the victim out of the heat.

Loosen any tight clothing and apply cool, wet cloths, such as towels or sheets.

If the victim is conscious, give cool water to drink. Do not let the conscious victim drink too quickly. Give about 1 glass (4 ounces) of water every 15 minutes.

Let the victim rest in a comfortable position, and watch carefully for changes in his or her condition. The victim should not resume normal activities the same day.

Refusing water, vomiting, and changes in consciousness mean that the victim's condition is getting worse. Call for an ambulance immediately if you have not already done so.

If the victim vomits, stop giving fluids and position them on their side.

Watch for signals of breathing problems.

Keep the victim lying down and continue to cool the body any way you can. If you have ice packs or cold packs, place them on each of the victim's wrists and ankles, on the groin, in each armpit, and on the neck to cool the large blood vessels.

APPENDIX B

BITES AND STINGS

Scorpions, Bees and Spiders

Bee stings are painful, but rarely fatal. Some people however, have a severe allergic reaction to an insect sting. This allergic reaction may result in a breathing emergency. If an insect stings someone, remove the stinger. Scrape it away with from the skin with your fingernail or plastic card, such as a credit card, or use tweezers. If you use the tweezers, grasp the stinger, not the venom sac. Wash the site with soap and water. Cover it to keep it clean. Apply a cold pack to the area to reduce the pain and swelling. Watch the victim for signals of an allergic reaction.

Scorpions live in dry regions of the southwestern United States and Mexico. They live under rocks, logs, and the bark of certain trees and are most active at night. Only a few species of scorpions have a sting that can cause death.

There are only two spiders in the United States whose bite can make you seriously sick or be fatal. These are the black widow spider and the brown recluse. The black widow is black with a reddish hourglass shape on the underside of its body. The brown recluse is light brown with a darker brown, violin-shaped marking on the top of its body. Both spiders prefer dark, out of the way places. Often, the victim will not know that he or she has been bitten until he or she starts to feel ill or notices a bite mark or swelling.

Symptoms: include nausea and vomiting, difficulty breathing or swallowing, sweating and salivating much more than normal, severe pain in the sting or bite area, a mark indicating a possible bite or sting, and swelling of the area.

First Aid: if someone has been stung by a scorpion or bitten by a spider he or she thinks is a black widow or brown recluse, wash the wound, apply a cold pack to the site, and get medical help immediately.

Reptiles

Venomous snakes exist in all parts of the continental United States. The pit viper family represents the greatest hazard in the field. This group includes the rattlesnakes and moccasins (copperhead and cottonmouth). Consider wearing snake chaps in areas of known infestation. Walking in grasses and shrubs that prevent seeing exactly where you are stepping, should be avoided. Extreme caution should be exercised in areas where alligators are present, particularly during the nesting season. Consulting a local resident or authority, such as a fish and wildlife or park ranger, is prudent before entering such areas.

First Aid: Often, a venomous snake will strike without injecting any venom into the wound. This is known as a dry bite. In any event, whenever bitten by a snake, especially if positive identification cannot be made, medical help should be sought immediately. Reassure and keep the victim calm. Keep limbs below the level of the heart. Clean the bite area, and get the person to a medical facility. Do not make incisions or suck the poison with the mouth. If medical help is many hours away, place a constricting band between the wound and the heart (it should be at least two inches wide and be able to slip a finger underneath).

Ticks - Lyme Disease

Transmission:

Lyme Disease (LD) is most commonly transmitted by a tick bite (usually painless). The tick vectors include *Ixodes scapularis* (Deer Tick), *Ixodes dammini* (Deer tick), *Amblyomma americanum* (Lone Star Tick) and *Ixodes pacificus*. *Ixodes dammini* was thought to be the only species responsible for transmission until it was shown to be the same as *Ixodes scapularis* in 1993. The ticks prefer to live in wooded areas, low growing grassland, seashores and yards. Depending on the location, anywhere from less than 1% to more than 90% of the ticks are infected with spirochetes.

The Deer tick has a 2-year life cycle and must feed 3 times. In the larvae stage, it is tan, the size of a pinhead and feeds on small animals like the mouse where it can pick up the spirochete. During the nymph stage the tick is the size of a poppy seed, beige or partially transparent and feeds on larger animals such as cats, dogs and humans. The adult ticks are black and/or reddish and feed on cattle, deer, dogs and humans. The Lone Star tick is gray with a white dot. April through October is considered the "tick season" even though Lyme disease is a year round problem. Ticks are very active in the spring and early summer.

Location:

Cases of Lyme disease have been reported in virtually every state, although the Northeastern, Great Lakes, and Pacific Northwest areas are particularly endemic.

Symptoms:

Lyme disease is called the "Great Imitator" because it can mimic many other diseases, which makes diagnosis difficult. A rash can appear several days after infection, or not at all. It can last a few hours or up to several weeks. The rash can be very small or very large (up to twelve inches across). A "bulls-eye" rash is the hallmark of LD. It is a round ring with central clearing. Unfortunately, this is not the only rash associated with Lyme. Various other rashes associated with LD have been reported. One bite can cause multiple rashes. The rash can mimic such skin problems as hives, eczema, sunburn, poison ivy,

flea bites, etc. The rash can itch or feel hot or may not be felt at all. The rash can disappear and return several weeks later. For those with dark skin the rash will look like a bruise. If you notice a rash, take a picture of it. Some physicians require evidence of a rash before prescribing treatment.

Early Symptoms: Several days or weeks after a bite from an infected tick, a patient usually experiences "flu-like" symptoms such as aches and pains in their muscles and joints, low-grade fever, and/or fatigue.

Other Possible Symptoms -- No organ is spared:

- Jaw -- pain, difficulty chewing
- Bladder -- frequent or painful urination, repeated "urinary tract infection"
- Lung -- respiratory infection, cough, asthma, pneumonia
- Ear -- pain, hearing loss, ringing, sensitivity to noise
- Eyes -- pain due to inflammation, sensitivity to light, scleritis drooping of eyelid, conjunctivitis, blurring or double vision
- Throat -- sore throat, swollen glands, cough, hoarseness, difficulty swallowing
- Neurological -- headaches, facial paralysis, seizures, meningitis, stiff neck, burning, tingling, or prickling sensations, loss of reflexes, loss of coordination, MS like syndrome
- Stomach -- pain, diarrhea, nausea, vomiting, abdominal cramps, and anorexia
- Heart -- weakness, dizziness, irregular heartbeat, myocarditis, pericarditis, palpitations, heart block, enlarged heart, fainting inflammation of muscle or membrane, shortness of breath, chest pain
- Joint -- arthralgias or arthritis, muscle inflammation and pain
- Other Organs -- liver infection, elevated liver enzymes, enlarged spleen, swollen testicles, irregular or ceased menses
- Neuropsychiatric -- mood swings, irritability, poor concentration, cognitive loss, memory loss, loss of appetite, mental deterioration, depression, disorientation, sleep disturbance
- Pregnancy -- miscarriage, premature birth, birth defects, stillbirth
- Skin -- single or multiple rash, hives

The above is a list of possible symptoms. They can occur in any combination. You may have one or several symptoms but not everyone will experience every symptom. Lyme affects each host in a different way. Having one or many of these symptoms does not indicate that you have Lyme disease. Diagnosis for Lyme is a clinical one and must be made by a physician experienced in recognizing LD. Serological testing is not reliable.

Lyme Disease Prevention:

- Dress properly, wear long-sleeved shirts that button at the wrist, long pants tucked into socks, and closed shoes. Choose light-colored fabric so you can spot and brush off ticks.

- Apply approved tick repellent and use only as directed. Products that contain DEET are tick repellents. They do not kill the tick and are not 100% effective in discouraging a tick from feeding on you. Products like Permanone contain permethrin and are known to kill ticks. However, they are not to be sprayed on the skin. Permanone can be sprayed on clothing. Once it is dry it is assumed to be safe. Ticks are anti-gravitational. They are generally seeking the highest point. If they get on your body below the clothes line, one hopes they will travel up and die once they come in contact with treated clothing.

- Always do regular tick checks when outdoors.

- Shower after all outdoor activities are over for the day. If the tick is still wandering it may wash off. Check all body parts that bend. Run fingers gently over skin. If there is a tick and it is attached, it will feel like the last piece of scab left before a cut completely heals. Remove ticks promptly and properly from yourself.

Proper Tick Removal:

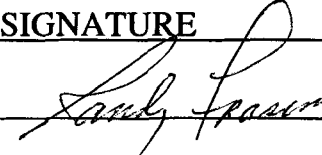
Using fine-tipped tweezers, grasp tick close to the skin. Apply gentle, steady straight upward pressure to remove. Disinfect the bite site. Do not squeeze the body, apply Vaseline, use a burnt match, or clean with alcohol while the tick is attached. Any of these actions could cause transmission of the bacteria. Save the tick for testing. Put it in a vial or zip lock bag with a blade of grass. Contact your doctor for further instructions.

The best defense against LD is education. Know your facts.

APPENDIX C

**SSHP ACCEPTANCE FORM
ABBREVIATED SITE SAFETY AND HEALTH PLAN
FOR
Fresno Army Air Forces Ground Training Center
Fresno, California**

I have read and agree to abide by the contents of the Site Safety and Health Plan.

<u>NAME</u>	<u>OFFICE</u>	<u>SIGNATURE</u>	<u>DATE</u>
<u>Randy Fraser</u>	<u>CEMVS-ED-P</u>		<u>7/9/02</u>

SITE SURVEY SAFETY BRIEFING

(Check subjects discussed)

Date 28 Jul 02

GENERAL INFORMATION

- Purpose of Visit
- Identify Key Site Personnel

SITE SPECIFIC INFORMATION

- Site Description/Past Use
- Results of Previous studies
- Potential Site Hazards
- OE Safety Procedures
- Site SOP
- Site Control and Communications
- Emergency Response
 - Location of First aid Kit
 - Emergency Phone Numbers
 - Map to Facility
- PPE
 - Cold/Heat
 - Severe Weather

Safety Briefing Attendance

All team members and any accompanying personnel will be briefed and sign this form.

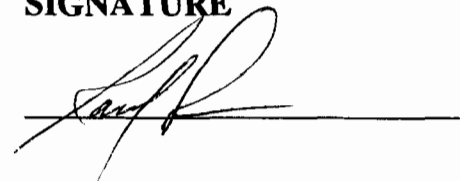
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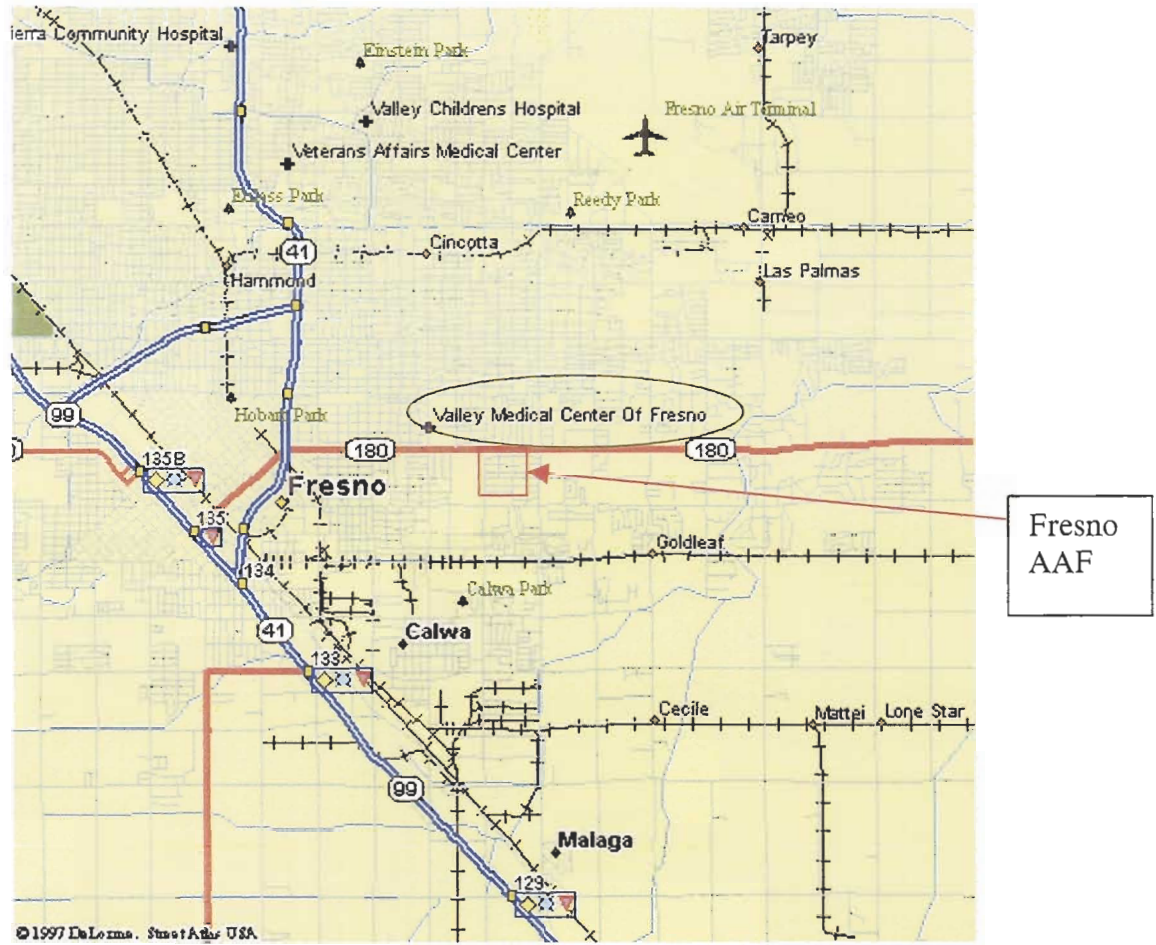
ORGANIZATION

SIGNATURE

Randy Fraser

USACE-CEMVS-ED-P





APPENDIX L-2

Site Inspection Report - Fresno Army Air Forces Ground Training Center

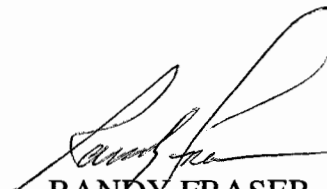
CEMVS-ED-P

31 July 2002

MEMORANDUM FOR RECORD

SUBJECT: ASR Site Inspection: Fresno Army Air Forces Ground Training Center - California

1. Personnel from the St. Louis District Corps of Engineers traveled to California to perform a site survey of the former Fresno Army Air Forces Ground Training Center . The Ordnance and Explosive (OE) and Chemical Warfare Materials (CWM) Archive Search Report (ASR) program requires a site inspection. The ASR program supports the Defense Environmental Restoration Program (DERP) at Formerly Used Defense Sites (FUDS).
2. The ASR site inspection characterized OE and CWM potential based on a visual examination at the former Fresno Army Air Forces Ground Training Center. Landowners granted verbal permission for right-of-entry prior to the site inspection. The site inspection included only visual and non-intrusive methods of inspection. The team followed a site safety and health plan (SSHP) prohibiting digging or handling of potential OE/CWM. The inspection team consisted of the Randy Fraser.
3. The site inspection occurred on the afternoon of 28 July 2002. Based on the evidence described in section 4 of the ASR, the southeast portion of the former Fresno Army Air Forces Ground Training Center was the only area identified of interest to this investigation based on its use in open field training OE and possibly CWM storage. As had been determined from the aerial photo analysis and current maps, those portions of the former post were replaced by homes by 1962. The field inspection team made a general reconnaissance of the site, but the residential development of the area has obscured all clear evidence of the past military use of the site in the areas of interest, though some potential former military structures remain elsewhere on the former site. There were no OE or CWM potential hazards observed.



RANDY FRASER
Safety and Occupational Health
Specialist

APPENDIX M

REPORT DISTRIBUTION LIST

Addressee

No. Copies

Commander, U.S. Army Engineering and Support Center
Huntsville, ATTN: CEHNC-ED-SY-O (D. MARDIS)
P.O. Box 1600
Huntsville, Alabama 35807-4301

2

PLATES

REPORT PLATES

- 1 **Fresno Army Air Forces Ground Training Center - Vicinity Map**
- 2 **Fresno Army Air Forces Ground Training Center – 1946 Aerial Photography**

Thematic Computer-Aided Design and Drafting (CADD) map files completed in association with this Archives Search Report are based on historic cartographic, aerial and site visit data collected during this investigation. The thematic maps were created using Intergraph's Microstation.

The thematic maps were created by scanning and warping selected historic data to reference points collected from non-stable selected base maps such as U.S. Geological Survey (USGS) 7.5 minute, quadrangle sheets or National Imaging and Mapping Agency (NIMA) maps. The horizontal scale and horizontal datum of the base maps is generally known. In this case the datum used was 1927 North Atlantic Datum/World Geodetic System (WGS) 1984. Attempts have been made to rectify the data to the referenced base maps. However, distortions in scale and contortions of the features are present. These distortions are a result of inaccuracies in the source data, as well as the processes of scanning and rectifying the data. Much of the data on the maps lack sufficient information to support a determination of accuracy.

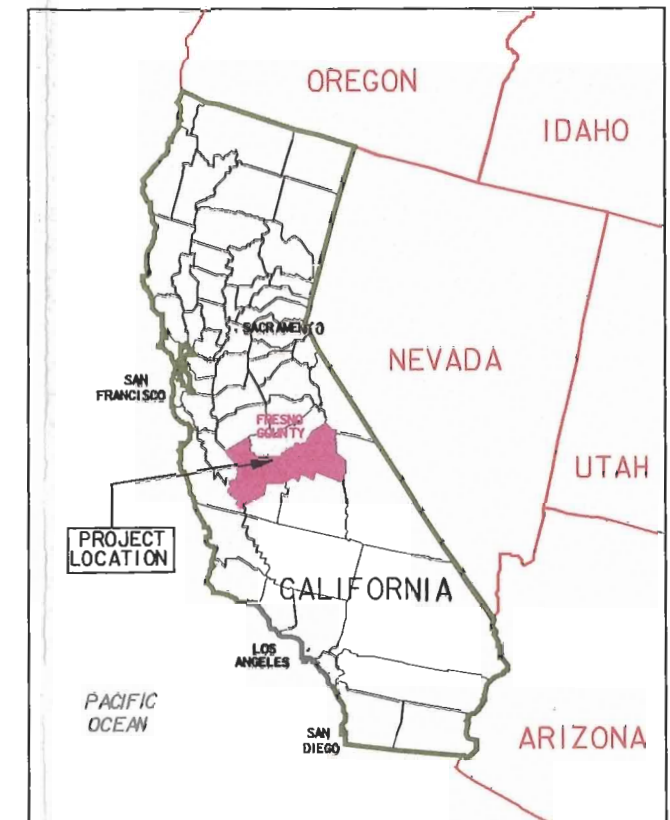
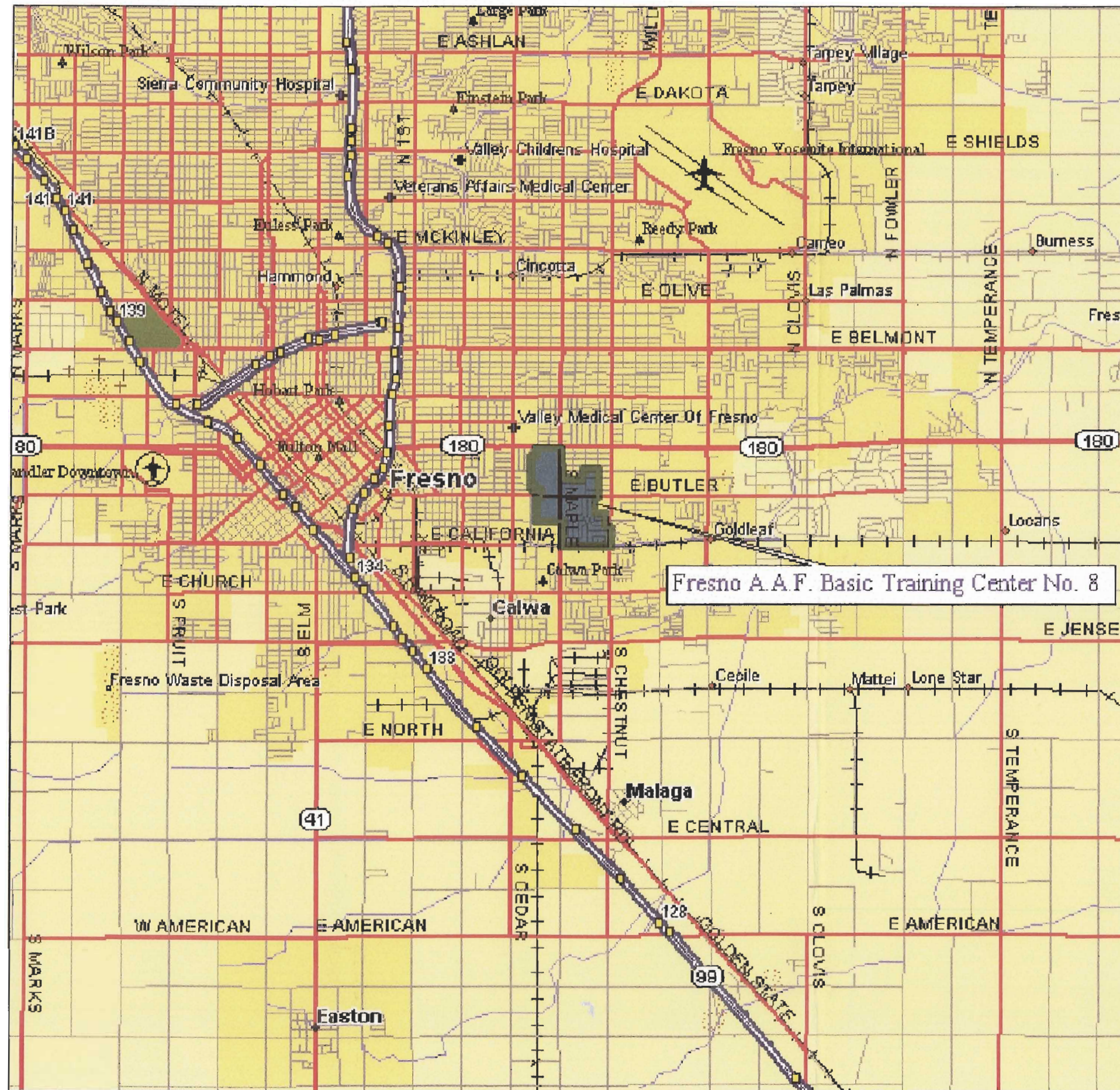
Many of the historic maps used were hand-drawn or built on locations that were inaccurate by modern standards. In general, historic map inaccuracies are unknown and not quantifiable. The unknown inaccuracies may then be magnified by the georeferencing process. Therefore, thematic maps generated from historic maps and drawings will have accuracy no greater than the least accurate source.

The historical aerial photography has been semi-rectified (georeferenced) to the base map; however, the photos have not been corrected for photogrammetric displacements such as those due to topography or the altitude of the aircraft at the time of imaging. They are not orthorectified images. Locations of features noted on aerial photography are not exact due to the rectifying of both the image and the base map.

The horizontal and vertical locations of selected features noted in the ASR and located on the thematic maps have been established utilizing Global Positioning System (GPS) technology. These coordinates were acquired using the Federal Version PLGR96+ GPS receiver. Features located utilizing GPS techniques are so noted in the ASR. The PLGR+96 uses the Precise Positioning Service (16 m SEP) and Wide Area GPS Enhancement (WAGE) 4 m CEP.

The lineage and source of the historic data used to generate the thematic maps is unknown. The majority of Federal Geographic Data Committee (FGDC) Metadata fields are therefore unknown. A metadata file that gives all available pertinent information has been provided with this product. The statements above are inclusive of all available


information regarding the historic data sources and the thematic maps generated. The thematic maps are not original digital mapping data; are scanned and warped data with selected unique feature annotation. The intended purpose of the mapping data is for photo-interpretation and not design. The vector data and associated symbology is unique to the intended purpose. The majority of the digitized features are not part of the current Tri-Service CADD Standards list of features and associated line types and symbology (ie. range fans, pits, disturbed land). The mapping data produced does comply with applicable Tri-Service Standards.



LEGEND

 SITE LOCATION



	U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT	
	FRESNO ARMY AIR FORCES GROUND TRAINING CENTER FUDS PROPERTY NO. J09CA728001 FRESNO, CA FRESNO COUNTY VICINITY MAP	



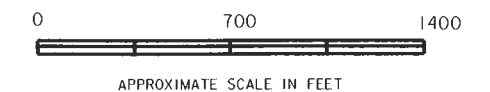
KEY TO FEATURES:

FEATURE NUMBER	FEATURE DESCRIPTION
A	FENCED STORAGE AREA WITH STRUCTURES PRESENT
AI	T-1375, SMALL ARMS AMMUNITION STORAGE
A2	GROUND SCARRING ABOUT 15-20 FEET ACROSS; DOES NOT CORRESPOND TO BUILDING LOCATION NOTED ON THE SITE PLANS
B	VEGETATION FAIRLY UNIFORM AND NON-STRESSED WITH NO CLEAR IMPROVEMENTS
BI	PRIVATE RESIDENCE, NOT PART OF FAAFOTC
C	DRILL FIELD AND PARADE GROUND, VEGETATION HEAVILY STRESSED AND MIXED WITH LARGE PATCHES OF BARREN EARTH, GENERALLY FREE OF STRUCTURES
D	WAREHOUSES
E	NORTH SOUTH TRENDING LINEAR AREA ABOUT 100 FEET WIDE AND 1000 FEET LONG WITH SOME VERY SMALL STRUCTURES PRESENT; PROBABLE OBSTACLE COURSE
F	TWO GAS CHAMBER BUILDINGS, STRUCTURES T-1351 AND T-1352, JUST EAST OF THE GAS WARFARE INSTRUCTION AREA
G	RIFLE INSTRUCTION AREA, BARREN PATCHES OF GROUND
H	CAMOUFLAGE INSTRUCTION AREA, NUMBER OF SMALL OR MATERIAL PILES PRESENT
I	TRAINING AUDITORIUMS, STRUCTURES T-1305 AND T-1310
J	OPEN AREA WITH SOME BARREN GROUND PATCHES AND POSSIBLE STRUCTURES ALONG TRAILS; POSSIBLE GAS TRAINING OBSTACLE COURSE
K	7.06 ACRE PORTION OF REAL ESTATE PARCEL 4 RELEASED IN MAY 1945 RETURNED TO AGRICULTURAL PRODUCTION
L	QUARTER MILE OVAL TRACK
M	PATTERNED GROUND SCARRING OR BARREN EARTH PROBABLY RELATED TO PHYSICAL TRAINING

LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- FEATURE LOCATION

Imagery: 23 April 1946, frames 16-8, scale 1:20,000 from U.S. Geological Survey - EROS Data Center, Sioux Falls, SD



U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

FRESNO ARMY AIR FORCES GROUND
TRAINING CENTER
DERP-FUDS NO. J09CA728001
1946 AERIAL PHOTO