



**US Army Corps  
of Engineers**  
HUNTSVILLE ENGINEERING  
AND SUPPORT CENTER

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Defense Environmental Restoration Program  
for  
Formerly Used Defense Sites  
Ordnance and Explosives  
Chemical Warfare Materials

## **ARCHIVES SEARCH REPORT**

### **FINDINGS**

#### **WINONA BOMBING TARGET #2**

**SALTON CITY, CALIFORNIA**

**PROJECT NUMBER J09CA016801**

**APRIL 1996**

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Prepared by  
**US ARMY CORPS OF ENGINEERS**  
**ST. LOUIS DISTRICT**

Ordnance and Explosives  
Chemical Warfare Material  
Archives Search Report

FINDINGS

Winona Bombing Target #2  
Salton City, California  
Imperial County  
Project Number - J09CA016801

TABLE OF CONTENTS

	<u>Page</u>
<b>1.0 INTRODUCTION</b> .....	1-1
1.1 <u>Authority</u> .....	1-1
1.2 <u>Subject</u> .....	1-1
1.3 <u>Purpose</u> .....	1-1
1.4 <u>Scope</u> .....	1-1
<b>2.0 PREVIOUS SITE INVESTIGATIONS</b> .....	2-1
2.1 <u>Corps of Engineers Documents</u> .....	2-1
2.2 <u>Other Reports</u> .....	2-1
<b>3.0 SITE DESCRIPTION</b> .....	3-1
3.1 <u>Land Use</u> .....	3-1
3.2 <u>Climatic Data</u> .....	3-1
3.3 <u>Geology and Soils</u> .....	3-2
3.4 <u>Hydrology</u> .....	3-3
3.5 <u>Ecology</u> .....	3-4
3.6 <u>Demographics</u> .....	3-5
<b>4.0 SITE HISTORY</b> .....	4-1
4.1 <u>Historical Site Summary</u> .....	4-1
4.2 <u>Review of Historical Records</u> .....	4-2
4.3 <u>Summary of Interviews</u> .....	4-7
4.4 <u>Air Photo Interpretation and Map Analysis</u> .....	4-8
<b>5.0 REAL ESTATE</b> .....	5-1
5.1 <u>Confirmed DOD Ownership</u> .....	5-1
5.2 <u>Potential DOD Ownership</u> .....	5-1
5.3 <u>Significant Past Ownership Other than DOD</u> .....	5-1
5.4 <u>Present Ownership</u> .....	5-1

Ordnance and Explosives  
Chemical Warfare Material  
Archives Search Report

**FINDINGS**

**Winona Bombing Target #2**  
Salton City, California  
Imperial County  
Project Number - J09CA016801

<b>6.0</b>	<b><u>SITE INSPECTION</u></b>	6-1
6.1	<u>General Procedures and Scope</u>	6-1
6.2	<u>Site Inspection Synopsis.</u>	6-1
<b>7.0</b>	<b><u>EVALUATION OF ORDNANCE POTENTIAL</u></b>	7-1
7.1	<u>Conventional Ordnance Contamination.</u>	7-1
7.2	<u>Chemical Warfare Material Contamination</u>	7-1
<b>8.0</b>	<b><u>TECHNICAL DATA OF ORDNANCE AND EXPLOSIVES</u></b>	8-1
8.1	<u>Ordnance and Chemical Related Missions</u>	8-1
8.2	<u>Description of Conventional Ordnance</u>	8-1
<b>9.0</b>	<b><u>EVALUATION OF OTHER SITE INFORMATION</u></b>	9-1

APPENDICES

A	REFERENCES	
B	GLOSSARY AND ACRONYMS	
C	TEXT / MANUALS	
D	REPORTS / STUDIES	
E	LETTERS / MEMORANDA / MISCELLANEOUS ITEMS	
F	REAL ESTATE DOCUMENTS	
G	NEWSPAPER / JOURNALS.....	Not Used
H	INTERVIEWS	

Ordnance and Explosives  
Chemical Warfare Material  
Archives Search Report

**FINDINGS**

**Winona Bombing Target #2**  
Salton City, California  
Imperial County  
Project Number - J09CA016801

- I     PRESENT SITE PHOTOGRAPHS
- J     HISTORICAL PHOTOGRAPHS.....Not Used
- K     HISTORICAL MAPS / DRAWINGS
- L     SITE SPECIFIC SAFETY AND HEALTH PLAN / SITE INSPECTION REPORT
- M     REPORT DISTRIBUTION LIST

REPORT PLATES

- 1     Winona Bombing Target #2 - Vicinity Map
- 2     Winona Bombing Target #2 - Aerial Photograph-1953

## 1.0 INTRODUCTION

### 1.1 Authority

In 1986, Congress established the Defense Environmental Restoration Program at 10 U.S.C. 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 EPA issued a revised National Contingency Plan. Under 40 C.F.R. 300.120, EPA designated 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 has been the agency responsible for environmental restoration at Formerly-Used Defense Sites (FUDS). Since 1990, the U.S. Army Engineering and Support Center, Huntsville, has been the Mandatory Center of Expertise and Design Center for Ordnance and Explosives.

### 1.2 Subject

The site, originally known as **Winona Bombing Target #2** was situated on 640 acres near Salton City, California. The facility was located in Imperial County, which is in the south eastern portion of the state. The Secretary of Interior granted to the Navy Department temporary use of the land in August 1944 (Naval Air Command 1944). The Navy used Winona Bombing Target #2 as a range facility to provide low level rocket target practice. The exact disposal date is unknown, although the Bureau of Docks was notified to take necessary action to terminate the leases in April of 1946 (Eleventh Naval District 1946). Plate 1 in the Report Plates Section shows general location of the site.

### 1.3 Purpose

This Archives Search Report (ASR) compiles information obtained through historical research at various archives and records holding facilities, interviews with persons associated with Winona Bombing Target #2 or its operations, and personal visits to the site. Researchers directed all efforts towards determining possible use or disposal of ordnance on the site. They placed emphasis on establishing the types, quantities and area of disposal. Information obtained during this process was used in developing recommendations for further actions at the former Winona Bombing Target #2.

### 1.4 Scope

This investigation focused on the potential that Ordnance and Explosives and/or Chemical Warfare Material contamination could remain on the area of the former **Winona Bombing Target #2**. The DERP-FUDS project number is J09CA016801. This report presents the following:

- History of Winona Bombing Target #2
- Description and characterization of the immediate surrounding area
- Real estate ownership information
- Findings of visual site inspections
- Confirmed ordnance presence

Available records and a site inspections of Winona Bombing Target #2 were used to evaluate the potential ordnance or chemical warfare material contamination.

## **2.0 PREVIOUS SITE INVESTIGATIONS**

### **2.1 Corps of Engineers Documents:**

The Los Angeles District of the Corps of Engineers prepared the following investigations of Winona Bombing Target #2 in support of the Defense Environmental Restoration Program (DERP) for Formerly Used Defense Sites (FUDS) (see Appendix D-1 and D-2 respectively):

Inventory Project Report for project no. J09CA016801, Winona Bombing Target #2, Salton City, California, dated 16 September 1993.

Inventory Project Report for Site No. J09CA103800, Miscellaneous Bombing Targets, Imperial County, California, dated 25 June 1992.

Besides the OE potential, no additional hazards were identified at Winona Bombing Target #2 associated with military use of the site.

### **2.2 Other Reports**

No additional environmental investigations or reports concerning Winona Bombing Target #2 were located during the archive search.

### **3.0 SITE DESCRIPTION**

#### **3.1 Land Use**

##### **3.1.1 Location.**

Winona Bombing Target #2 was situated on 640 acres in Imperial County, California (see Plate #1). The site is approximately six miles southwest of Salton City, California.

##### **3.1.2 Prior Site Use.**

Prior to DOD ownership, the land comprising Winona Bombing Target #2 was undeveloped desert land belonging to the U. S. Government under the jurisdiction of the Department of Interior.

##### **3.1.3 Present Site Use.**

Currently the former Winona Bombing Target #2 is still undeveloped desert land owned by the U. S. Government. It is under the administration of the Bureau of Land Management.

#### **3.2 Climatic Data**

The area has a desert climate. Skies are generally clear throughout the year with abundant sunshine. The area records a higher percentage of sunshine than any other place in the United States, even during the winter which is usually considered a rainy period in the Southwest. Summers are long and very hot. Afternoon temperatures exceed 100°F nearly every day from June through most of September. Temperatures in excess of 110°F are not unusual and the record high for the area is 122°F, occurring in June 1990. Temperatures below freezing occasionally occur in the November through February period, with the record low for the area being 24°F in January 1971. While summers are hot, winter daytime temperatures are quite pleasant with highs in the 60's and 70's most every day.

Precipitation is scarce throughout the year, occurring usually as an isolated thundershower. Annual precipitation is about three inches with roughly 70% occurring during the period from November through March, based on rainfall records of the Indio, California National Weather Service data collection site, about 30-35 miles north of Winona Bombing Target No. 2. Measurable snowfall at the site has not been observed.

Winds vary from about 6-8 miles per hour from the north-northwest for the October through February period, then shift to the west and then to the south-southeast for the rest of the year. Wind gusts up to 52 miles per hour have been recorded at the Yuma, Arizona NOAA data collection station, about 95 miles southeast of the site. Although data at the Yuma site is representative of conditions at Winona Bombing Target No. 2, wind velocities and temperatures would probably be slightly different at the Winona site, due to a small difference in ground elevations. Climatological data for the area are summarized in



TABLE 3.2.1.

**TABLE 3.2.1**  
**CLIMATOLOGICAL DATA FOR WINONA BOMBING TARGET NO. 2, CA**

Month	Temperature (°F)			Precipitation	Wind Velocity	Wind Direction
	Average Daily		Average Monthly			
	Min	Max	Mean	Average (Inches)	(mph)	
January	44.2	68.7	56.5	0.58	7.3	N
February	46.9	74.4	60.7	0.50	7.4	N
March	50.8	78.9	64.9	0.33	7.9	WNW
April	56.5	86.3	71.4	0.09	8.3	W
May	63.8	94.2	79.0	0.05	8.3	WNW
June	72.0	103.3	87.6	0.01	8.5	SSE
July	80.7	106.6	93.7	0.13	9.5	SSE
August	80.1	105.3	92.7	0.28	8.9	SSE
September	73.2	100.5	86.8	0.36	7.3	SSE
October	62.2	90.3	76.2	0.19	6.6	N
November	50.9	77.4	64.2	0.30	6.9	N
December	44.3	68.5	56.4	0.50	7.2	N
<b>Annual</b>	<b>60.5</b>	<b>87.9</b>	<b>74.2</b>	<b>3.20</b>	<b>7.8</b>	<b>N</b>

Source: NOAA 1993, Local Climatological Data (temperature and wind) of Yuma, Arizona, and NWS 1994, Precipitation Data for Indio Fire Station, Riverside, CA.

### 3.3 Geology and Soils

#### 3.3.1 **Geology and Physiology**

The Winona Bombing Target #2 site is located in the Salton Trough section of the Basin and Range physiographic province. This section is characterized by desert alluvial slopes and deltaic plains. The site is located just over one hundred miles to the north-northwest of the northern tip of the Gulf of California. The Salton Trough is a rift valley that owes its

existence to the same tectonic forces that created the gulf.

Structurally, the Salton Trough section is a complexly faulted graben. There are three major northwest-trending fault systems in the southwestern portion of Imperial County. The faults are, from northeast to southwest, the San Andreas, San Jacinto, and Elsinore faults. These faults exhibit right-lateral and vertical movement. The site is located on the Palm Spring Formation of Cenozoic age. The geology of the formation is interbedded nonmarine, light gray, arkosic sandstone and reddish clay. Folds are displayed along the margins of the Salton trough, in the vicinity of the Winona Bombing Target sites. These folds were produced where the young, Cenozoic sedimentary filling has been uplifted.

### 3.3.2 Soils

Soils of the Winona Bombing Target site are nearly level on flood plains and alluvial basin floors. The soils are deep and well drained. The soils formed in alluvial and eolian sediments. The surface layer of the soil is typically 12 inches thick and is composed of pinkish gray, sandy silty clay. This layer is underlain by stratified very pale brown and pink, light silty sandy clay to a depth over 60 inches.

Permeability of the soil is generally rapid to moderate. The available water capacity is moderate to very high. The hazard of erosion is slight and the hazard of soil blowing is high. The risk of corrosion by the soils to uncoated steel is high and to concrete is low. Table 3.3.2 shows a typical profile of the soils found on the Winona Bombing Target sites.

DEPTH (in)	SOIL DESCRIPTION	PERCENTAGE PASSING SIEVE NUMBER			LIQUID LIMIT	PLAS- TICITY INDEX
		#4	#40	#200		
0-12	Sandy silty clay	95-100	85-100	75-90	20-30	NP-5
12-60	Stratified, very fine sandy silty clay	95-100	85-100	75-90	20-30	NP-5

Table modified from Soil Survey of Imperial County, CA.

## 3.4 Hydrology

### 3.4.1 Surface Water

The Winona Bombing Target No. 2 site is a few miles west of the Salton Sea in southern California and southwest of Salton City. The site has typical desert characteristics with little rainfall and very sandy soil conditions. Ground elevations within the site boundaries vary between 50-80 feet Net Geodetic Vertical Datum (NGVD). The site is drained both east by

Tule Wash and northeast by an unnamed tributary of Arroyo Salada. Both streams are dry throughout the year, except during very brief periods of runoff which might occur during the winter season. Periods of several years without any runoff are not unusual. Any surface runoff flows to the Salton Sea about 5-10 miles east of and about 250 feet lower than the site. Flooding of any portion of the site would be unlikely, due to the low annual rainfall and sandy nature of the area. No gage data exists on any stream within or near the site boundaries.

### 3.4.2 Ground Water

The Winona Bombing Target site area is underlain by a regionally extensive system of desert basins. These desert or drainage basins receive the majority of their recharge from precipitation runoff from the surrounding mountains and the nearby Salton Sea. The water is absorbed and held by the coarse-grained Quaternary alluvial sediments. The water is therefore unconfined. The depth to groundwater fluctuates greatly due to the surplus or lack of precipitation in the area.

The land is dry and must be irrigated to be used for pasture or farm land. There are extensive irrigation systems throughout the surrounding areas for both domestic and farm use.

### 3.5 Ecology

The information provided for this site was compiled from the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game Natural Diversity Data Base (NDDDB).

The following federally-listed species may occur in the vicinity of the Winona Bombing Target No. 2 site: desert pupfish (Cyprinodon macularius), endangered; flat-tailed horned lizard (Phrynosoma mcalli), proposed endangered; Aleutian Canada goose (Branta canadensis leucopareia), threatened; peregrine falcon (Falco peregrinus), endangered; bald eagle (Haliaeetus leucocephalus), endangered; brown pelican (Pelecanus occidentalis), endangered; Yuma clapper rail (Rallus longirostris yumanensis), endangered; and Pierson's milk-vetch (Astragalus magdalenae var. piersonii), proposed endangered.

The NDDDB reported that the following state-listed species occurs in the vicinity of the Winona Bombing Target No. 2 site: California least tern (Sterna antillarum browni), endangered; and salt marsh bird's-beak (Cordylanthus maritimus ssp maritimus), endangered.

No additional information on the occurrence of rare or endangered species or natural communities is known at this time. This does not mean that other state or federally-listed species may not be present within the areas of interest. An on site inspection by appropriate state and federal personnel may be necessary to verify the presence, absence or location of

listed species, or natural communities if remedial action is recommended as part of the final ASR.

### 3.6 Demographics

#### 3.6.1 Centers of activity

Winona Bombing Target #2 is located near to Salton City. Due to the fact that there was no census data on Salton City, the city of Brawley was chosen for the city data. Brawley is approximately 96 miles south of Salton City, both of which are in Imperial County, California.

#### 3.6.2 Population Density

Location	Population	Area (Square Miles)	Population Density (Square Miles)
City of Brawley	18,923	N/A	N/A
Imperial County	107,000	4,173	25.6

#### 3.6.3 Types of Business and Industry

Based on a total of 2,198 establishments in Imperial County, the breakdown of industry is as follows: manufacturing 2.9%; agriculture 3.9%; services 28.2%; trade 41.9%; financial 6.3%; and other 16.8%. Of the people in the county employed by businesses about 20.5% are employed by services businesses. Also prominent are retail trade businesses at about 34.5% as well as manufacturing businesses at about 7.6% and finance, insurance, and whole sale trade businesses at about 15.4%. Other businesses are at approximately 22% of the population. Foregoing percentages are at mid March 1991.

#### 3.6.4 Types of Housing

Housing in Brawley city is composed of both single family and multi-family dwellings. The median value of 2,858 specified owner-occupied housing units in Brawley is \$73,200.

#### 3.6.5 New Development in the Area

No new development in the area, except for residential dwellings.

#### 3.6.6 Typical Cross Sections of the Population

-White	72.5%
-Black	2.5

-American Indian, Eskimo or Aleut	0.6%
-Asian or Pacific Islander	1.1%
-Other Races	23.2%

The percent of the total population (of any race) that is of Hispanic origin is 69.1%. The part of the population under the age of 18 is 35.8%, and the part over the age of 65 is 8.9%. The median age is 27 years.

## 4.0 SITE HISTORY

### 4.1 Historical Site Summary

In August 1944, the Eleventh Naval District acquired a 640-acre site known as **Winona Bombing Target #2**. Department of the Interior granted temporary use of the site to the Navy as a low level rocket target. Historical documentation describes the target as "concentric circles" (Eleventh Naval District 1944).

The Naval Air Control Center San Diego assigned the units that could use Winona Bombing Target #2. It should be noted though that "the unit to whom the target is assigned may permit another unit to use such target" (Eleventh Naval District 1944). Therefore any Naval Aviation Station (NAS), Naval Auxiliary Air Station (NAAS), or Marine Corps Air Station (MCAS) unit in the Eleventh Naval District may have used the site. Units comprising the Eleventh Naval District included:

San Diego NAS (North Island)	San Nicolas Island NAAS
Terminal Island NAAS	Salton Sea NAAS
Los Alamitos NAAS	Ventura County Airport NAAS
Camp Kearney NAAS	Twenty-Nine Palms NAAS
Brown Field NAAS	El Toro MCAS
Holtville NAAS	Mojave MCAS
El Centro MCAS	Ream Field NAAS
Santa Barbara MCAS	San Clemente Island NAAS

In 1942, Marine Fleet Air West Coast established a rocket ground school and a rocket range at El Centro MCAS. This activity held the responsibility for maintaining the access roads to the Winona Bombing Target #2 (Bureau of Aeronautics 1945).

The Eleventh Naval District redesignated all targets on 23 April 1945, with Winona Bombing Target #2 becoming **Target #91**. By March 1946, they declared Target #91 excess and the land comprising the site to be restored to its former status (Eleventh Naval District 1945).

#### 4.1.1 Summary of OE Activities

Naval and Marine Air Units of the Eleventh Naval District utilized the Winona Bombing Target #2 in connection with fighter-bomber training. Investigation of ordnance historical records did not specifically indicate the types of ordnance used on site. The types associated with San Diego NAS, Brown NAAS, Camp Kearney NAAS, El Centro MCAS, and Los Alamitos NAAS were listed in a "Service and Training Munition Requirements" document and included the following ammunition items (United States Pacific Fleet 1946):

##### Service and Training Munitions Authorized

100 lb. General Purpose (GP) bomb  
500 lb. GP bomb

- 1,000 lb. GP bomb
- 350 lb. Depth Bomb (DB)
- Torpedoes
- 100 lb. water filled bombs
- 3 lb. practice bombs (miniatures)
- 2.25 inch SCAR (Sub-Caliber Aerial Rocket)
- 3.5 inch AR
- 5.0 inch aircraft high velocity aerial rocket (HVAR)
- 11.75 inch aircraft rocket (Tiny Tim)
- 20 mm
- .50 caliber (cal)
- .30 cal

The site inspection only found evidence of the 2.25" and 3.5" practice rockets, .30 cal, .50 cal and 20mm (see section 6.0 and 8.0).

#### 4.1.2 Summary of CWM Activities

Based on the investigation of historical records reviewed, the results of the site survey and interviews, there is no evidence of chemical warfare training ever being conducted or chemical warfare materials ever being stored, used or disposed of at Winona Bombing Target #1.

#### 4.1.3 Certificates of Clearance

Researchers found no formal documentation relating to the decontamination of the range during the archives search. However, they located a document dated 1947 requesting information from the Navy on the status of range decontamination. (Navy Department 1947).

#### 4.2 Review of Historical Records

The research methodology employed for the archives search report concentrated in three areas:

- . locating documentation concerning DOD use of the site
- . compiling the types, quantities and probable locations of ordnance items and chemical warfare materials utilized by the military
- . collecting real estate information

The locations listed below were searched for records relating to OE/CWM activities at Winona Bombing Target #1. Notes on records reviewed follow each entry. At the National Archives, Regional National Archives, and Federal Records Centers the following record groups (RG) were examined as they were available. At other repositories, finding aids and records managers were used to locate documents relative to the research of the site. All in-text citations of author and date are fully referenced alphabetically in Appendix A along with

text citations of author and date are fully referenced alphabetically in Appendix A along with the appendix location of the document itself.

- RG 49 - Records of the Bureau of Land Management
- RG 71 - Records of the Bureau of Yards and Docks
- RG 72 - Records of the Bureau of Aeronautics
- RG 74 - Records of the Bureau of Ordnance (Navy)
- RG 77 - Records of the Office of the Chief of Engineers
- RG 107 - Records of the Office of the Secretary of War
- RG 143 - Records of the Bureau of Supplies and Accounts
- RG 175 - Records of the Chemical Warfare Service
- RG 181 - Records of Naval Districts and Shore Establishments
- RG 269 - Records of the General Service Administration
- RG 270 - Records of the War Assets Administration
- RG 291 - Records of the Property Management and Disposal Service
- RG 336 - Records of the Chief of Transportation
- RG 338 - Records of the United States Army Commands, 1942-
- RG 342 - Records of the United States Air Force Commands and Activities
- RG 394 - Records of the United States Army Continental Commands, 1920-42
- RG 407 - Records of the Adjutant General's Office

**National Archives  
8th and Pennsylvania  
Washington, D.C. 20408  
POC: Mr. Richard Peuser  
202-501-5671**

Record Group 72

- Entry 15A - General Correspondence, 1943-1945
  - Box 274
  - Box 980
  - Box 2323

**National Archives II  
8601 Adelphi Road  
College Park, MD 20740  
POC: Mr. Ken Schlessinger  
301-713-7250**

Record Group 71

- Entry CP
  - Box 43



Record Group 72

Entry 15A - General Correspondence, 1943-45  
Box 3370-NA 29-NA 30  
Box 3375-NA 28-NA 29

Entry 17A - Confidential Correspondence, 1943-45  
Box 1179  
Box 1165

Entry 74 - Secret Correspondence, 1939-1977  
Box 346

Record Group 107

Entry 102 - Project Decimal File, 1943-46

Record Group 269

Entry NN3-269-85-25 - Real Property Disposal Case Files  
Box 8

Record Group 270

Entry UD/12  
Box 12

**National Archives - Suitland Branch  
4205 Suitland Road  
Suitland, MD 20409  
POC: Mr. Richard Boylan  
301-457-7182**

Record Group 72

Entry 69A2454  
Boxes 5-7

Record Group 74

Entry 5595 ND 10-ND-10  
Boxes 204-209

Record Group 175

Entry 2 - Index Briefs, 1918-1942  
Box 53  
Box 353

**Washington National Records Center  
4205 Suitland Road  
Suitland, MD 20409  
POC: Mrs. Velecia Chance  
301-457-7010**

Record Group 77

Entry A53-325  
Box 68

Entry A52-259  
Boxes 86-88

**Naval Historical Center  
Washington Navy Yard  
901 M Street SE  
Washington, D.C. 20374  
POC: Mr. John Hodges  
202-433-3170**

Box 210 Aviation History File, 1-11th District, Naval Air Bases  
Box 212 Aviation History Files, Air Ground Establishments  
Box 221 Aviation History Files, Air Ground Establishments  
Box 290 Aviation History Files, Air Ground Establishments  
Box 292 Aviation History Files, Air Ground Establishments  
Box 391 Aviation History Files, Marine Air Ground Establishments

The following reference books/documents were also located:

*United States Naval Administration in WW II*, Commandant, 11th Naval District, Vol 118, Part 3.

*History of Marine Corps Aviation in WW II*, Robert Sherrod, Combat Forces, Washington, D.C., 1952.

*Compact History of the U.S. Marine Corps*, Lt. Col. Philip Pierce, Hawthorn Books, New York, 1960.

**United States Marine Corps Historical Center  
Washington Naval Yard**

**901 M Street S. E.  
Washington, D. C. 20374  
POC: Reference Historian  
202-433-3914**

Histories on El Centro were reviewed.

**U.S. Naval Facility  
Naval Construction Battalion Center  
Civil Engineering Support Center  
Port Hueneme, CA 93043-4301  
POC: Mr. Robert Brickley  
805-982-5593**

The Civil Engineering Support Office maintains microfilm copies of maps, drawings, and specifications for Navy installations. At this location, maps of El Centro and a bombing target map were copied.

**U.S. Naval Facility  
Naval Construction Battalion Center  
History Office  
1000 23rd Avenue  
Port Hueneme, CA 93043-4301  
POC: Ms. Carol Marsh  
805-983-5913**

Historical Files on El Centro NAS and El Toro NAS were reviewed and copied.

**National Archives - Pacific Southwest Region  
24000 Avila Road  
PO Box 6719  
Laguna Niguel, CA 92677-6719  
POC: Mr. Bill Doty  
714-643-4241**

Record Group 181

Entry - 11th Naval District  
Box 38  
Box 425  
Box 426  
Box 435

**U. S. Army Engineer District, Los Angeles  
300 North Los Angeles Street**

**Los Angeles, CA 90012-3375  
POC: Debbie Castens  
(213) 894-5300**

The FUDS and INPR files were reviewed and pertinent real estate documents and a map were copied.

**Naval Facilities Engineering Command  
Southwest Division  
1220 Pacific Highway, Code 2421  
San Diego, CA 92132-5190  
POC: Mr. Tom Phelps  
(619) 532-1169**

The archivists researched the facility and copied a Land Acquisition Map of range 2512 (East Mesa) and a Real Estate Summary Map of Imperial County, CA (dated July 1, 1965).

**U. S. Department of the Navy  
Public Works Department, Code 341  
El Centro Naval Air Station  
El Centro, CA 92243-5001  
POC: Mr. Fred Rivera  
(619) 339-2226**

The archivists found no applicable documents for the site at this facility.

**Bureau of Land Management, El Centro Resource Office  
1161 South Fourth Street  
El Centro, CA 92243  
POC: Ms. Rhonda Karges  
(619) 337-4433**

The archivists copied: A Desert Access Guide to Imperial Valley, CA and Bureau of Land Management Jurisdiction and Site Access maps.

**Soil Conservation Service, Imperial County, CA Office  
2151 Adams Avenue  
El Centro, CA 92243  
POC: Mr. Steve Cameron  
(301) 713-7250**

The archivists reviewed 1953 aerial photographs for Imperial County, CA.

#### 4.3 Summary of Interviews

Telephone and personal interviews were used to assist in collection of information for this report. A listing of all interviewees and individual conversation records are presented in Appendix H. An attempt was made to locate veterans of Winona Bombing Target #2 or individuals with first hand knowledge, though none were located during the archive search. The telephone interviews concentrated on any OE/CWM problems discovered by local officials concerning the property. There have been no reports of any OE or CWM being discovered in this area and reported to authorities.

#### 4.4 Air Photo Interpretation and Map Analysis

##### 4.4.1 **General Area Map Analysis.**

The following USGS 7.5' topographic quadrangle was used in analysis of the site: Shell Reef, California (1976). The site is located approximately in southern portion of California, in Imperial County. The site covers Section mile 10 of Township 11S and Range 9E. This site is relatively flat, with sparse vegetation and very little difference in elevation. Most of the area is either sea-level or below. The drainage in the area are mostly washes or intermittent streams. A branch of the Arroyo Salada is in the northwest corner of the site and the Tule Wash is south of the site about a quarter of a mile. There are no railroads or interstates in the area. Highway 78 is approximately 7 miles south of the site. The roads are mostly unimproved. The general coordinates of the center of the site are:

33° 13' 30" N Latitude      116° 01' 15" W Longitude

##### 4.4.2 **Site Specific Map and Drawing Analysis.**

No historical site specific maps were discovered during the archive search that located any ordnance and explosive hazard related features.

##### 4.4.3 **Air Photo Interpretation.**

An aerial photography database search was conducted by government and contractor personnel to find available imagery covering the site during the era immediately prior to and including that of military use. Imagery listed in the databases was acquired in photographic print format. Photo analysis and land-use interpretation was performed using the following photographic source materials:

<b>Photo Approx.</b>		<b>Frame</b>	
<u>Date</u>	<u>Scale</u>	<u>Source</u>	<u>ID #s</u>
26 Apr 53	1:20,000	ASCS	12M 49-50
26 Apr 73	1:20,000	BLM-COLOR	6-7
31 May 94	1:40,000	ASCS	9-10

Photo analysis was performed using pocket stereoscopes to view each stereo-pair covering the site. Areas of importance to this study were delineated on hard copy plots of the imagery

and digitized using Computer-Aided Drafting and Design (CADD) software. Digitized features were overlain on scanned aerial photography to annotate the final plots. Descriptions of the features are provided in paragraphs below. While stereo viewing of photography allows more accurate identifications over monoscopic interpretations, resolution and scale of the imagery limit the identification of features discussed in this study. The wording "probable" was used when discussing features for which identification was believed to be reasonably accurate. The term "possible" was used when identification was not positive but the object or area matched known features/locations on other sources. Aerial photography for this site was referenced using the site maps discussed in sections 4.4.1 and 4.4.2 above. The **bolded** numbers in parentheses referenced in the sub-paragraphs below refer to the feature descriptions on the annotated aerial photography plates.

In 1953 (see Plate 2), the area has very little, if any vegetation growing and appears to be unimproved desert. There appears to be an unimproved road trending east-west along the northern 1/3 of the site. Historical documents indicate that the target consisted of concentric circles but none are apparent. There is a  $\approx 250'$  square trace (1) that is barely discernable about 1,000 feet NE of the center of the section mile. There is no depth to the feature but it is the only non-natural feature that is apparent, other than the unimproved road.

Aerial imagery for the two following photo coverage dates, 1973 and 1994, appear essentially the same. The 250' square and unimproved trails are still distinguishable but no other improvements have been made to the site.

## 5.0 REAL ESTATE

### 5.1 Confirmed DOD Ownership

The former Winona Bombing Target #2 consisted of 640 acres of real estate. The site is composed of Township 11 South, Range 9 East, Section 10. The Eleventh Naval District acquired temporary use of this section from the Department of Interior by Letter Permit in August 1944. On March 28, 1946, the target site was discontinued from naval use. The permit with the Department of Interior was recommended for termination and the property restored to its former state. The actual disposal date is unknown.

Based on a review of available real estate documents, Winona Bombing Target #2 was released from the military with no restrictive covenants or land use restrictions.

### 5.2 Potential DOD Ownership

No additional areas of potential DOD ownership associated with this site were identified through the Archive Search.

### 5.3 Significant Past Ownership Other than DOD

No significant past ownership relating to ordnance or chemical warfare materials was located during this investigation for Winona Bombing Target #2.

### 5.4 Present Ownership

Currently this unimproved desert property is owned by the Federal Government and is under the jurisdiction of the Department of Interior, Bureau of Land Management.

## 6.0 SITE INSPECTION

### 6.1 General Procedures and Scope

The purpose of the ASR site inspection was to characterize OE potential based on ascertaining ordnance presence or disposal at Winona Bombing Target #2. Verbal permission was obtained by the present land owners prior to visiting the area. The inspection was limited to visual, non-intrusive methods (i.e. no digging for or handling of potential OE). A site safety plan was developed and followed by the team to prevent injury during the inspection (see Appendix L-1). The inspection team consisted of the following St. Louis District Corps of Engineers personnel: Randy L. Fraser, Larry V. Baker and Randal S. Curtis. They performed a site survey of the former Winona Bombing Target #2, on 8 February 1996. A detailed account of the visit is contained in Appendix L-2. Subparagraph 6.2 contains a synopsis of the site visit. Appendix I contains current site photographs.

### 6.2 Site Inspection Synopsis.

The ASR inspection team arrived at the former Winona Bombing Target #2 on 8 February 1996 in the early afternoon. The team had made arrangements to inspect section mile 10 of Township 11S and Range 9E. The Bureau of Land Management, the property owners, declined to accompany the inspection team. Historical documents indicate that the target consisted of concentric circles but aerial photography analysis was also unable to locate them. However, aerial photography analysis was able to locate a  $\approx 250'$  square "target" about 1,000 feet NE of the center of the section mile. It was decided to concentrate the inspection of the site at this location. The team was able to drive within several hundred feet of the target and quickly beginning locating rusted metal OE debris. The following OE related debris was positively identified:

#### Small Arms and Medium Caliber Ammunition

- \* .30 cal projectiles
  - \* .50 cal projectiles and belt links
  - \* 20 mm projectiles and belt links
- (Note: no cartridge cases were found)

#### 2.25 inch practice rockets

- \* 2.25" rocket motors
- \* tailfins
- \* inert head - practice round (steel type)
- \* nozzle closure with electric cable

#### 3.5 inch practice rockets

- \* 3.25" rocket motors for the 3.5" rocket
- \* tailfins
- \* inert head - practice round (steel type)



3 pound miniature practice bomb

- \* full body for MK 23 or 45 (cast iron or steel)
- \* fins with shroud for MK 5 (zinc)
- \* shrapnel

100 pound practice bomb

- \* suspension band with lugs for MK 15
- (Note: no tailfins, nose cones or other related scrap for this type of ordnance was found)

There was a large amount of material found. It did not appear that the site was completely cleaned up prior to its release from the War Department. Most of the debris appeared to have been from rockets and was found in situ. None of the debris found had a characteristic fragmentation look of shrapnel from a high explosive round and no complete rounds of any type of ordnance was found.

The four corners of the target were readily identified as mounded lines of stones and white building blocks. The center of the square target was at coordinates: N 33° 13' 38.2", W 116° 01' 08.2"<sup>1</sup>. The team traversed around the target but the amount of OE debris declined sharply. No other evidence of the military's use of the land was discovered during the site inspection. No specific ordnance and explosive hazards were discovered in the area during the site inspection.

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<sup>1</sup> All coordinates were taken with a Trimble Scout GPS (Global Positioning Satellite) receiver using mapping datum WGS-84.

## **7.0 EVALUATION OF ORDNANCE POTENTIAL**

### **7.1 Conventional Ordnance Contamination.**

Based on the results of the archive search, conventional ordnance was utilized at Winona Bombing Target #2. The site was designated as a rocket practice target but it appears to have been used as a gunnery and practice bombing range as well. Historical records did not specifically indicate the types of ordnance used on site. The ordnance debris found during the site visit consisted of the remains of: 3 lb. miniature practice bombs, 2.25" and 3.5" practice rockets, and small arms and medium caliber ammunition (.30 cal., .50 cal. & 20 mm). A lifting strap with lugs, apparently from a 100 lb. water filled practice bomb, was also found.

All the OE debris found appeared to be expended. No complete rounds of any type of ordnance was found. No fragmentation or cratering that would indicate use was observed during the site inspection, though negative evidence (i.e. based on not finding something) is not irrefutable proof. Based on the amount of OE debris observed, the site was not completely cleaned up prior to its release from the War Department. Interviews with people familiar with the site did not expose any incidents of OE hazards being found in the past.

### **7.2 Chemical Warfare Material Contamination.**

Based on the investigation of historical records reviewed, the results of the site survey and interviews, there is no evidence of chemical warfare materials ever being stored, used or disposed of at Winona Bombing Target #2.

## **8.0 TECHNICAL DATA OF ORDNANCE AND EXPLOSIVES**

### **8.1 Ordnance and Chemical Related Missions**

The main mission of the Winona Bombing Target #2 was to provide a range for low level rocket target practice. Due to evidence observed during the site visit, it can also be surmised that the range had a secondary mission of use as a gunnery and bombing range. The site visit revealed remains of practice bomb debris, .30 caliber , .50 caliber, and 20 mm projectiles and links, and expended rocket motors and components.

The exact method of scoring and targeting used is unknown. Documentation, photographic interpretation, and present day remains do not provide sufficient evidence for proof of any certain method used.

The potential hazards at this site involve only conventional ordnance. No evidence was found of the military having used, stored, disposed of, or trained with any chemical warfare materials at Winona Bombing Target #2.

### **8.2 Description of Conventional Ordnance**

Observation of rubble and scrap metal remaining at the Winona Bombing Target #2 provides evidence of the following munitions being fired at the bombing field:

- 3 pound miniature practice bomb
- 100 pound water/sand filled practice bomb
- 2.25 inch practice rockets
- 3.5 inch practice rockets
- .30 caliber machine gun rounds
- .50 caliber machine gun rounds
- 20 mm gun rounds

Appendix C contains drawings and a more detailed account of these items. All Explosive hazards stated refer to the item in an unfired configuration.

The 3 lb. miniature practice bombs were used to train bombing crews. The bodies were usually a zinc base alloy or cast iron with a hollow tube along their longitudinal axes. In this tube was loaded a signal cartridge which on impact expelled a puff of smoke indicating impact location. The explosive hazard for this round is the black powder and pyrotechnics in the signal cartridge (Appendix C-1 and C-2).

The 100 lb. practice bomb used by the Navy was for practice bombing. The bodies were constructed of sheet steel and filled with either water or wet sand. A dye could be added for improved detection of impact area. This item is inert and has no explosive hazard (Appendix C-3).

The 2.25 inch practice rocket, referred to as the sub-caliber aerial rocket or SCAR, was used to simulate trajectory of the larger 5.0 inch high velocity aerial rocket (HVAR). These rockets were used for practice firing against surface targets. The head that was assembled to the motor was a solid steel, zinc die cast, or a cast iron inert item with no fuze. The explosive hazard for this item is the propellant grains in the rocket motor and the igniter (Appendix C-4).

The 3.5 inch practice rocket, referred to as the 3.5 inch aerial rocket (AR), was also used for practice firing against surface targets. The rocket motor assembled on this item, as evident by the expended motors still on site, was the 3.25 inch. The head that was assembled to the motor was a solid fill inert item with no fuze. The explosive hazard for this item in an unfired configuration is the propellant grains in the rocket motor and the igniter (Appendix C-5).

Navy aircraft often carried a 20 mm gun. The use of 20 mm ammunition against aircraft was very significant in World War II. The practice round developed for practice firing purposes was an actual ball round. The explosive hazard for this item is the propellant and primer in the cartridge case. Since the projectile was cheap, easy to manufacture, and ballistically effective, the round was later adopted for combat fire (Appendix C-6).

Also common on aircraft were the .30 and .50 caliber machine guns. These weapons, especially the .50 caliber, also proved their effectiveness during air-to-air and air-to-ground conflict. This machine gun ammunition came in belts of metal links. These standard issued small arms were of the same basic design but differed in size and range. The explosive hazard for these small arms is the propellant and primer in the cartridge case (Appendix C-7 and C-8).

## **9.0 EVALUATION OF OTHER SITE INFORMATION**

No additional areas of potential environmental concern associated with DOD use of Winona Bombing Target #2 were identified during the archive search.

Ordnance and Explosives  
Chemical Warfare Material  
**Archives Search Report**

**FINDINGS**

**Winona Bombing Target #2**  
Salton City, California  
Imperial County  
Project Number - J09CA016801

**REFERENCES FOR DEMOGRAPHICS**

**U. S. Census Bureau**

- 1990 *Census of Population and Housing, Brawley, CA*
- 1988 *County and City Data Book, Land Area and Population, Imperial County, CA*
- 1988 *County and City Data Book, Land Area and Population, Brawley, CA*
- 1991 *County Business Patterns, Imperial County CA*

**REFERENCES FOR GEOLOGY AND SOILS**

Zimmerman, Robert P.

- 1981 *Soil Survey of Imperial County, California, Imperial Valley Area*. US Department of Agriculture, Soil Conservation Service in cooperation with the University of California Agricultural Experiment Station and the Imperial Irrigation District.

**REFERENCES FOR OE/CWM ACTIVITIES**

**Bureau of Aeronautics**

- 1945 Letter from G. L. Huff, Commander U. S. Navy to Chief, Bureau of Docks, dated 31 March 1945. Record Group 72, Box 2323, General Correspondence File. National Archives - Archives I, Washington, D. C.  
Appendix E-1

**Department of the Navy**

- 1947 NAVSEA OP 1664 Volume 1, *U. S. Explosive Ordnance*, dated 28 May 1947.  
Appendix C-2 and C-5
- 1955 NAVSEA OP 1415, *Rocket Assemblies*, dated 11 May 1955.  
Appendix C-4

Ordnance and Explosives  
Chemical Warfare Material  
Archives Search Report

**FINDINGS**

**Winona Bombing Target #2**  
Salton City, California  
Imperial County  
Project Number - J09CA016801

**Eleventh Naval District**

- 1944 Circular Letter Number 20-44 from Commander, Aircraft, Southern California Sector, Western Sea Frontier to Aircraft, Southern California Sector, Western Sea Frontier, dated 24 August 1944. Record Group 181, Box 87, General Correspondence Files. National Archives Pacific Southwest Region, Laguna Niguel, California.  
Appendix E-2
- 1945 Letter from A. D. Bernard, Commander, Naval Air Bases to all units of the Naval Air Bases, Eleventh Naval District, dated 23 April 1945. Record Group 181, Box 38, General Correspondence Files. National Archives Pacific Southwest Region, Laguna Niguel, California.  
Appendix E-3
- 1946 Letter from A. K. Fogg, Public Works Officer to Bureau of Docks, dated 24 April 1946. Record Group 181, Box 425, Entry Eleventh Naval District. National Archives Pacific Southwest Region, Laguna Niguel, California.  
Appendix E-4
- 1950 Map entitled "Status of Targets" for the Naval Air Bases 11th Naval District. Showing conditions on June 30, 1950. Record Group 181, Box 38, General Correspondence File 1925-1952. National Archives Pacific Southwest Region, Laguna Niguel, California.  
Appendix K-1 and K-2

**Naval Air Command**

- 1944 Letter from G.M. Ravenscrone, Assistant Commandant Logistics to Commander, Naval Air Command South Pacific Division, dated 29 August 1944. Record Group 181, Box 38, General Correspondence File. National Archives Pacific Southwest Region, Laguna Niguel, California.  
Appendix E-5

Ordnance and Explosives  
Chemical Warfare Material  
Archives Search Report

**FINDINGS**

**Winona Bombing Target #2**  
Salton City, California  
Imperial County  
Project Number - J09CA016801

**Navy Department**

- 1947 Letter from Jack E. Cochran by Direction of Chief Bureau of Ordnance to Commandant, Eleventh Naval District, dated 19 February 1947. Record Group 74, Box 209, General Correspondence File. National Archives - Suitland Branch, Suitland, Maryland.  
Appendix E-6

**United States Pacific Fleet Air Force**

- 1946 Listing for munition requirements for Fleet Air, West Coast, dated 26 January 1946. Record Group 74, Box 287, General Correspondence File. National Archive - Suitland Branch, Suitland, Maryland.  
Appendix E-7

**War Department**

- 1942 TM9-1984, *Disposal of American and Allied Bombs and Fuzes*, pages 64 through 6, dated November 12, 1942.  
Appendix C-1 and C-3
- 1944 TM9-1904, *Ammunition Inspection Guide*, dated 2 March 1944.  
Appendix C-6, C-7, and C-8



**APPENDIX B**

**GLOSSARY AND ACRONYMS**

Ordnance and Explosives  
Chemical Warfare Material  
Archives Search Report

FINDINGS

Winona Bombing Target #2  
Salton City, California  
Imperial County  
Project Number - J09CA016801

GLOSSARY AND ACRONYMS

AAF	Army Air Field
AA	Anti-Aircraft
AEC	Army Environmental Center
AGO	Adjutant General's Office
AP	Armor Piercing
APDS	Armor Piercing Discarding Sabot
APERS	Antipersonnel
APT	Armor Piercing with Tracer
ASR	Archive Search Report
Aux	auxiliary
BAR	Browning Automatic Rifle
BD	Base Detonating
BD/DR	Building Demolition/Debris Removal
BE	Base Ejection
BGR	Bombing and Gunnery Range
BLM	Bureau of Land Management
BRAC	Base Closure and Realignment
CADD	Computer-Aided Drafting and Design
Cal	Caliber
CBDA	Chemical and Biological Defense Agency
CBDCOM	Chemical and Biological Defense Command
CE	Corps of Engineers
CEHND	Corps of Engineers, Huntsville Division
CELS	Corps of Engineers, St. Louis District
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act - 1980
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
COE	Chief of Engineers
COMP	Composition
CTG	Cartridge

CSM	Chemical Surety Material
CSM	Command Sergeant Major
CWM	Chemical Warfare Material
CWS	Chemical Warfare Service
DA	Department of the Army
DARCOM	Development and Readiness Command
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DERP-FUDS	Defense Environmental Restoration Program-Formerly Used Defense Sites
DOD	Department of Defense
DOE	Department of Energy
DOI	Department of Interior
EE/CA	Engineering Evaluation/Cost Analysis
EIS	Environmental Impact Statement
EOD	Explosives Ordnance Disposal
EPA	Environmental Protection Agency
ERDA	Environmental Restoration Defense Account
FDE	Findings and Determination of Eligibility
FFMC	Federal Farm Mortgage Corporation
Flech	Flechette
FS	Feasibility Study
FWS	U. S. Fish and Wildlife Service
FUDS	Formerly Used Defense Sites
GIS	Graphic Information System
GSA	General Services Administration
HE	High Explosive
HEAT	High Explosive Anti-Tank
HEI	High Explosive Incendiary
HEP	Plastic
HE-S	Illuminating
HTRW	Hazardous Toxic and Radioactive Waste
HTW	Hazardous and Toxic Waste
IAS	Initial Assessment Study
INPR	Inventory Project Report
IRP	Installation Restoration Program
MCX	Mandatory Center of Expertise
MG	Machine Gun
MG	Major General
mm	Millimeter
MT	Mechanical Time
MTSQ	Mechanical Time Super Quick
NARA	National Archives and Records Administration
NAS	Naval Air Station
NCDC	National Climatic Data Center
NCP	National Contingency Plan

NEW	Net Explosive Weight
NFS	National Forest Service
NG	National Guard
NGVD	Net Geodetic Vertical Datum
NOAA	National Oceanic and Atmospheric Administration
NOFA	No Further Action
NPRC	National Personnel Records Center
NRC	National Records Center
OE	Ordnance and Explosives
OSHA	Occupational Safety and Health Act
PA	Preliminary Assessment
PD	Point Detonating
PIBD	Point Initiating, Base Detonating
PL	Public Law
QASAS	Quality Assurance Specialist Ammunition Surveillance
RA	Removal Action
RAC	Risk Assessment Code
RD	Remedial Design
RG	Record Group
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
SARA	Superfund Amendments and Reauthorization Act
SCS	Soil Conservation Service
SLD	St. Louis District, Corps of Engineers
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
SWMU	Solid Waste Management Units
TECOM	Test Evaluation Command
TEU	Technical Escort Unit
TNT	Trinitrotoluene
TP	Target Practice
USA	United States of America
USACE	U.S. Army Corps of Engineers
USADACS	U.S. Army Defense Ammunition Center and School
USAED	U.S. Army Engineer District
USAESCH	U.S. Army Engineering Support Center, Huntsville, AL
USATHMA	U.S. Army, Corps of Engineers, Toxic and Hazardous Materials Agency
USC	United States Code
USDA	U.S. Department of Army
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UXO	Unexploded Ordnance
WAA	War Assets Administration
WD	War Department
WNRC	Washington National Records Center

**APPENDIX C**  
**TEXT / MANUALS**

Ordnance and Explosives  
Chemical Warfare Material  
Archives Search Report

FINDINGS

Winona Bombing Target #2  
Salton City, California  
Imperial County  
Project Number - J09CA016801

APPENDIX C

TEXT / MANUALS

- C-1 War Department  
TM9-1984, *Disposal of American and Allied Bombs and Fuzes*, pages 64 and 65, dated November 12, 1942.
- C-2 Department of the Navy  
NAVSEA OP 1664 Volume 1, *U. S. Explosive Ordnance*, page 438 and 440, dated 28 May 1947.
- C-3 War Department  
TM9-1984, *Disposal of American and Allied Bombs and Fuzes*, pages 66 and 67, dated November 12, 1942.
- C-4 Department of the Navy  
NAVSEA OP 1415, *Rocket Assemblies*, pages 5 through 8, dated 11 May 1955.
- C-5 Department of the Navy  
NAVSEA OP 1664 Volume 1, *U. S. Explosive Ordnance*, pages 166 and 167, dated 28 May 1947.
- C-6 War Department  
TM9-1904, *Ammunition Inspection Guide*, pages 329 and 330, dated 2 March 1944.
- C-7 War Department  
TM9-1904, *Ammunition Inspection Guide*, pages 193, 196, and 197, dated 2 March 1944.

Ordnance and Explosives  
Chemical Warfare Material  
Archives Search Report

**FINDINGS**

**Winona Bombing Target #2**  
Salton City, California  
Imperial County  
Project Number - J09CA016801

C-8

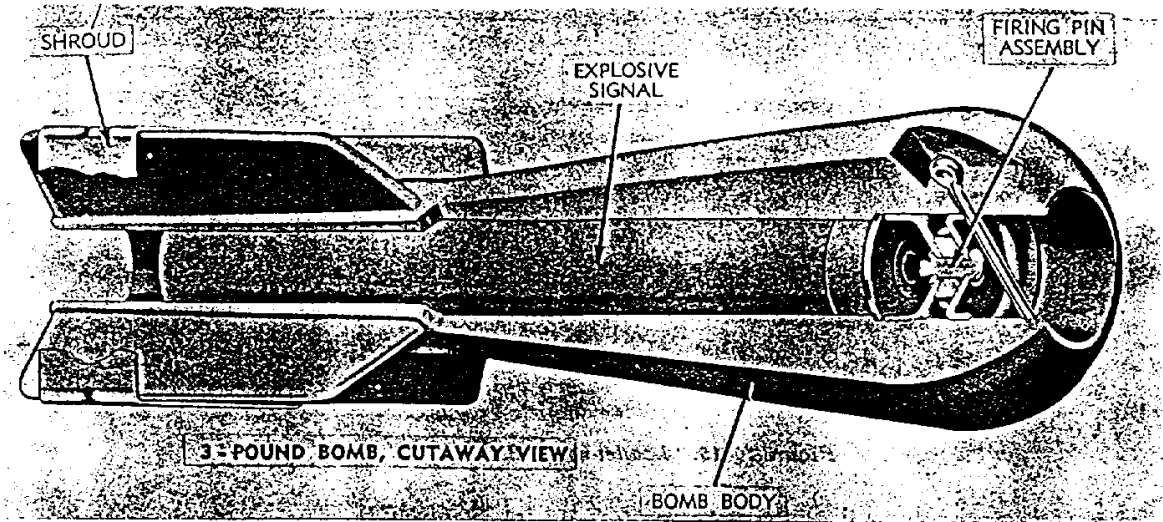
War Department  
TM9-1904, *Ammunition Inspection Guide*, pages 209, 211 and 212, dated 2  
March 1944.

## **APPENDIX C-1**

**War Department  
TM9-1984, *Disposal of American and Allied  
Bombs and Fuzes*, pages 64 and 65, dated  
November 12, 1942.**



# BOMB, 3 POUND MINIATURE PRACTICE

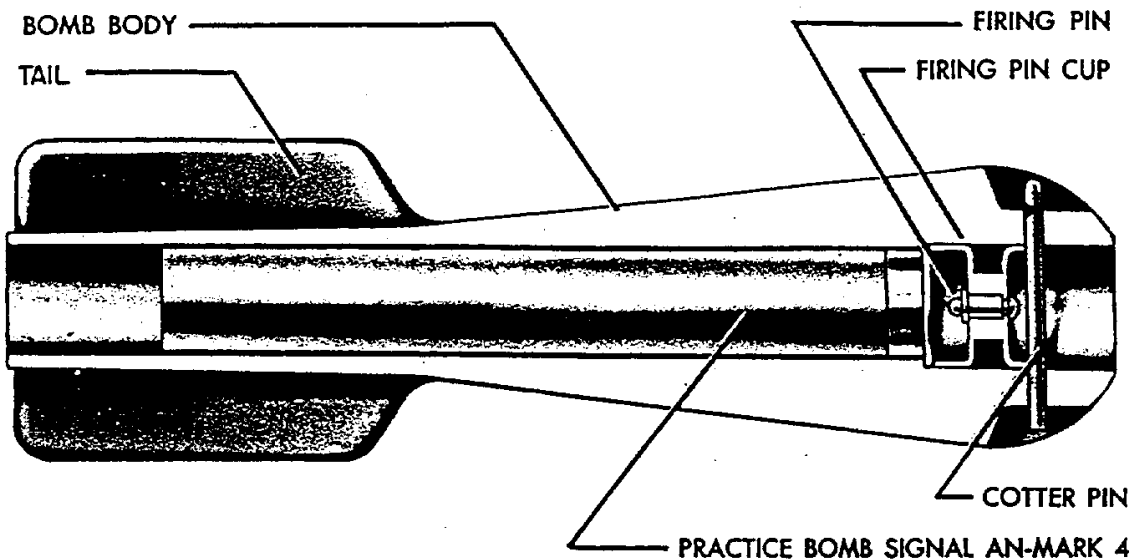


- Use:** These small bombs were used for training bombing crews.
- Description:** The miniature bombs came in three different Marks (Mk) or models; Mk III, Mk IV, Mk V and Mk XXIII. The differences in the models are mainly in the body and fin material. The materials used for bodies were a zinc base alloy or cast iron, and fin construction was usually of sheet steel integrated into the body cast. All models had a hollow tube along their longitudinal axis which housed a signal cartridge. The bombs were not painted.
- Purpose:** A practice signal cartridge Mk IV was loaded into the nose of the bomb. This cartridge was an extra long 10 gauge shot gun shell. On impact the cartridge fired, expelling a large puff of black smoke from the tail to indicate impact location.
- Weight** . . . . . 2.6 to 3 pounds  
**Diameter** . . . . . 2.18 inches  
**Height** . . . . . 8.25 inches  
**Reference** . . . . . TM9-1984, November 1942

## **APPENDIX C-2**

**Department of the Navy  
NAVSEA OP 1664 Volume 1, *U. S. Explosive  
Ordnance*, page 438 and 440, dated 28 May  
1947.**

# CARTRIDGE, SIGNAL AN MK IV



**Use:** This signal was used in the miniature 3 pound practice bomb series of Mark (Mk) III, Mk IV, Mk V, and Mk XXIII.

**Description:** The signal consisted of a long 10 gage blank shotgun shell with a primer containing a cotter pin, firing pin assembly, a black powder ejection charge, and a pyrotechnic charge. Upon impact the firing pin strikes the primer. The flame ignites the black powder which in turn expels the burning pyrotechnic charge.

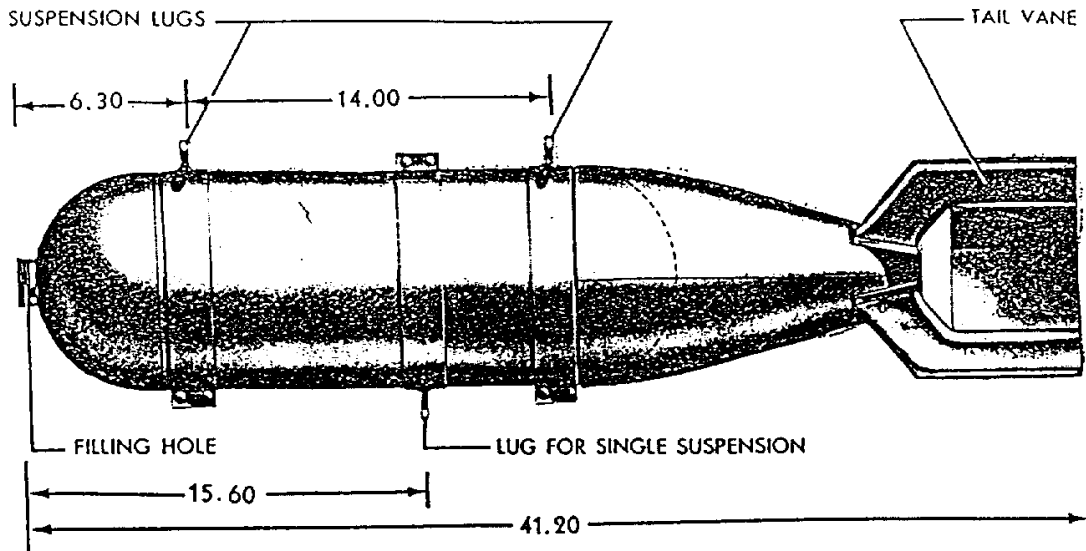
**Purpose:** During practice bombing, the signal produces a white puff of smoke to indicate the point of impact. The pyrotechnic charge would also function in water for over water bombing runs.

<b>Weight</b>	. . . . .	0.12 pounds
<b>Length</b>	. . . . .	5.75 inches
<b>Reference</b>	. . . . .	NAVSEA OP 1664, May 1947

## **APPENDIX C-3**

**War Deaprtment  
TM9-1984, *Disposal of American and Allied  
Bombs and Fuzes*, pages 66 and 67, dated  
November 12, 1942.**

# BOMB, 100 POUND PRACTICE, NAVY



**Use:** These bombs were used for practice bombing only.

**Description:** The 100 pound Navy practice bomb came in two different Marks (Mk) or models; Mk VII and Mk XV. The only difference between the models was whether the tail assemblies were attached by welding or spot welding. The bodies consisted of a sheet steel nose, a sheet steel cylinder body, and sheet steel vains for a tail. These components were welded together. They were usually coated with black paint or varnish. The filler was either water or wet sand and stenciled on the side. No spotting charge was used.

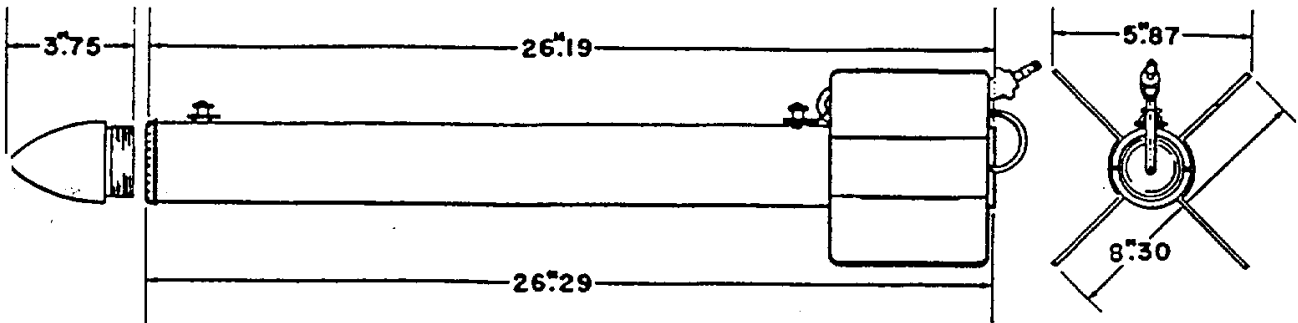
**Purpose:** The bomb ruptured on impact marking the impact area with water or wet sand. Dyes could also be added to the fill for more accurate target spotting.

Weight Water Fill . . . . .	48.5 to 57 pounds
Weight Sand Fill . . . . .	83 pounds
Diameter . . . . .	8 inches
Height . . . . .	41.2 inches
Reference . . . . .	TM9-1984, November 1942

## **APPENDIX C-4**

**Department of the Navy  
NAVSEA OP 1415, *Rocket Assemblies*, pages 5  
through 8, dated 11 May 1955.**

# ROCKET, 2.25 INCH PRACTICE



**Use:** These rockets were used for practice firing against surface targets.

**Description:** The 2.25 inch practice rockets originally came in two different Marks (Mk) or models, the Mk II and Mk III. The acronym associated with them was SCAR, or sub-caliber aerial rocket. Other models followed. They consisted of a head, rocket motor, fins, igniter, and an electrical cable. The heads contained no fuze and were solid steel, zinc die cast, or cast iron. The item's explosive hazard was the propellant in the rocket motor and the igniter.

**Purpose:** This item was forward fired from aircraft and simulated the trajectories of the 5 inch rockets.

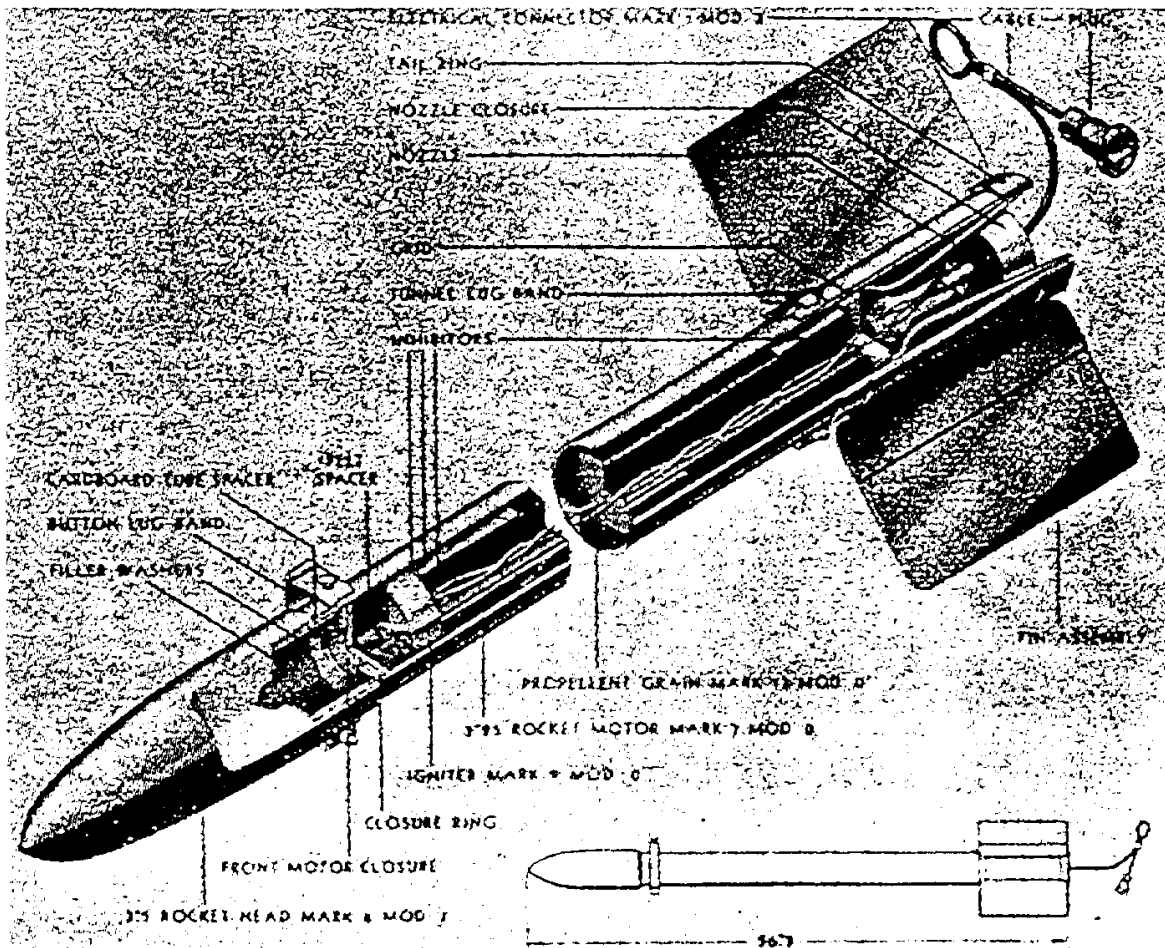
- Weight . . . . . 12.47 pounds
- Diameter of Body . . . . . 2.25 inches
- Length . . . . . 29.07 inches
- Reference . . . . . NAVSEA OP 1415, May 1955

## **APPENDIX C-5**

**Department of the Navy  
NAVSEA OP 1664 Volume 1, *U. S. Explosive  
Ordnance*, pages 166 and 167, dated 28 May  
1947.**



# ROCKET, 3.5 INCH AERIAL



**Use:** In training exercises, these rockets were used for practice firing against surface targets.

**Description:** The 3.5 inch aerial rockets (AR) originally came in two different Marks (Mk) or models, the Mk I and Mk II. Other models soon followed. They consisted of a head, 3.25 inch rocket motor, a fin assembly, igniter, and an electrical cable. The heads contained no fuze and were solid fill. The item's explosive hazard was the propellant in the rocket motor and the igniter.

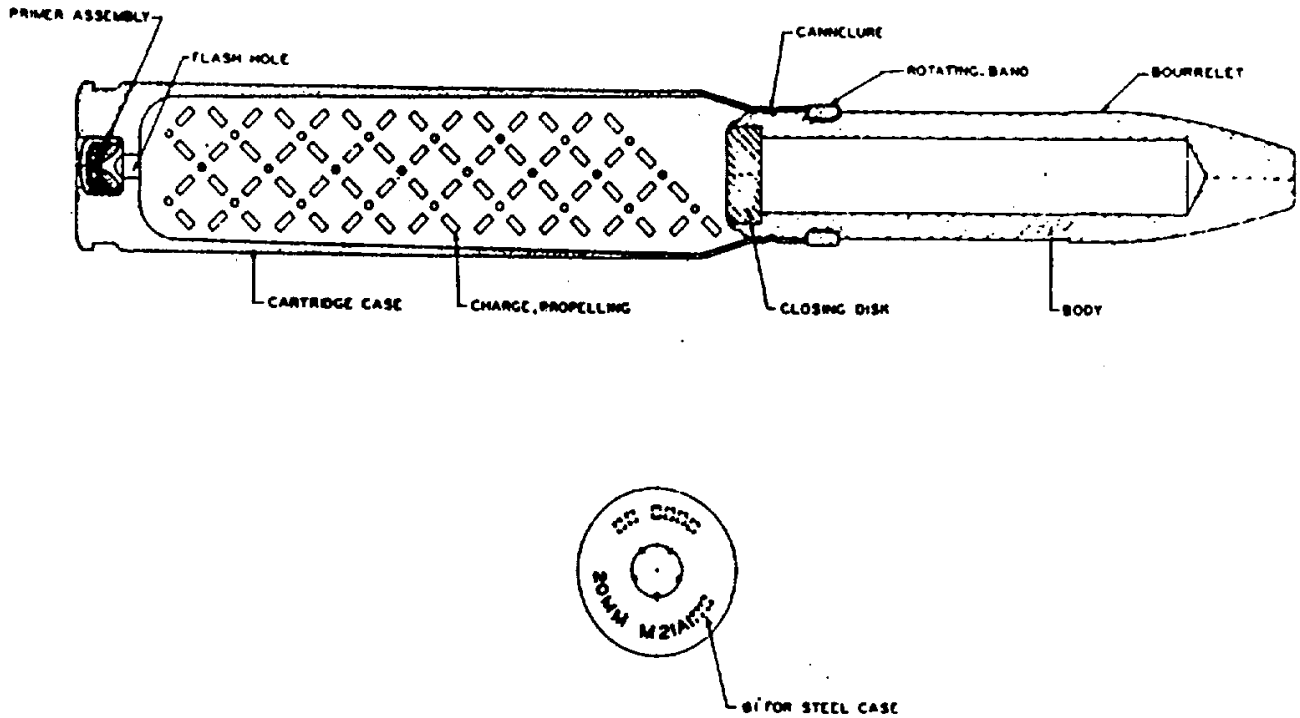
**Purpose:** This item was forward fired from aircraft. In combat situations these rockets could be used as a semi armor piercing projectile against tanks or enter water as a submarine deterrent.

Weight . . . . .	53.8 pounds
Diameter . . . . .	3.5 inches (greatest)
Length . . . . .	54.7 inches
Reference . . . . .	NAVSEA OP 1664, May 1947

## **APPENDIX C-6**

**War Department  
TM9-1904, *Ammunition Inspection Guide*, pages  
329 and 330, dated 2 March 1944.**

# 20 MM BALL MK I



**Use:** This cartridge was originally designed as a training round to simulate the high explosive incendiary (HE-I) round. Later it was superseded by the practice M99 series.

**Description:** The 20 mm was a fixed round consisting of a projectile, cartridge case, propellant, and a primer. The aircraft weapons were fed either through a drum type magazine or disintegrating linked belts. The projectile was machined from bar steel. The nose appeared to have been cut off squarely, and was painted black.

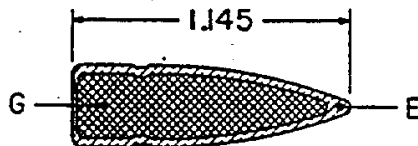
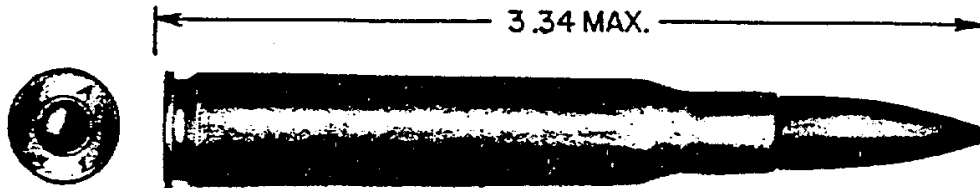
**Purpose:** Although originally designed for practice firing, this cartridge was so effective that it was later adopted for actual combat fire as a ball round.

Weight . . . . . 0.56 pounds  
 Diameter . . . . . 0.784 inch (greatest)  
 Length . . . . . 7.23 inches  
 Reference . . . . . TM9-1904, March 1944

## **APPENDIX C-7**

**War Department  
TM9-1904, *Ammunition Inspection Guide*, pages  
193, 196, and 197, dated 2 March 1944.**

# CARTRIDGE, CALIBER .30, BALL, M2



BULLET, BALL, CAL. .30, M2

**Use:** This cartridge was a standard item of issue and used in machine guns and rifles. It was also commonly used in training for target practice.

**Description:** This cartridge consisted of four major parts; a cartridge case, primer, propelling charge, and projectile. The projectile had two parts, a lead alloy core and a gilding metal jacket.

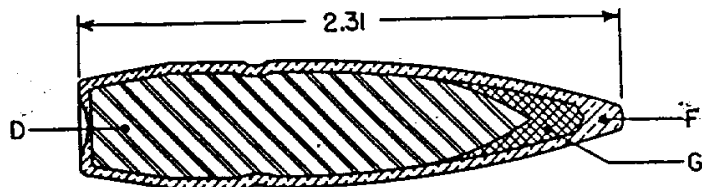
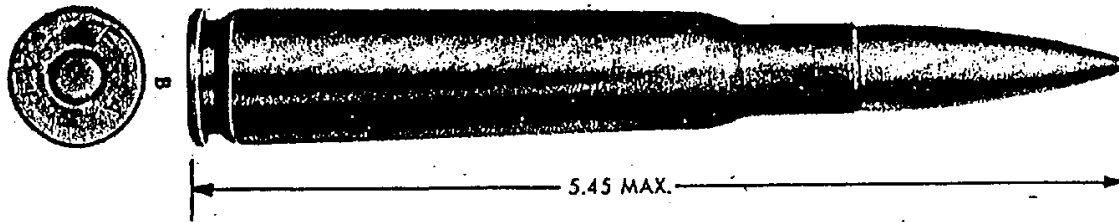
**Purpose:** This model of the .30 caliber cartridge was also used in combat against personnel and light material targets.

Weight . . . . . 396 grains  
Length . . . . . 1.125 inches  
Maximum Range . . . . . 3,500 yards  
Reference . . . . . TM9-1904, March 1944

## **APPENDIX C-8**

**War Department  
TM9-1904, *Ammunition Inspection Guide*, pages  
209, 211 and 212, dated 2 March 1944.**

# CARTRIDGE, .50 CALIBER, BALL, M2



BULLET, BALL, CAL..50, M2

**Use:** This cartridge was designed for use in all .50 caliber machine guns. It was commonly used in training for target practice.

**Description:** The .50 caliber ball did not have any identification color coding as the tip of the bullet was not painted. It consisted of four major parts; a cartridge case, primer, propelling charge, and a projectile. The projectile contained a soft steel core (D), a point filler of antimony lead alloy (G), and a gilding metal jacket (F).

**Use:** This model of the .50 caliber cartridge was also used as combat ammunition against semi-hard targets.

Weight . . . . .	1,800 grains
Length . . . . .	5.45 inches
Maximum Range . . . . .	7,200 yards
Reference . . . . .	TM9-1904, March 1944

**APPENDIX D**  
**REPORTS / STUDIES**



Ordnance and Explosives  
Chemical Warfare Material  
**Archives Search Report**

**FINDINGS**

**Winona Bombing Target #2**  
Salton City, California  
Imperial County  
Project Number - J09CA016801

**APPENDIX D**

**REPORTS / STUDIES**

- D-1 Inventory Project Report for Project No. J09CA016801, Winona Bombing Target #2, Salton City, California, dated 16 September 1993.
- D-2 Inventory Project Report for Site No. J09CA103800, Miscellaneous Bombing Targets, Imperial County, California, dated 25 June 1992.

## **APPENDIX D-1**

**Inventory Project Report for Project No.  
J09CA016801, Winona Bombing Target #2,  
Salton City, California, dated 16 September  
1993.**

CESPD-ED-G (200-1c)

6 JAN '95

MEMORANDUM FOR

Commander, U.S. Army Corps of Engineers, 20 Massachusetts  
Avenue, N.W., Washington, DC 20314-1000

Commander, U.S. Army Engineer Division, Huntsville,  
P.O. Box 1600, Huntsville, AL 35807-4301

SUBJECT: Defense Environmental Restoration Program For Formerly  
Used Defense Sites (DERP-FUDS), Inventory Project Report (INPR)  
for Winona BT 2 (#91), Imperial County, CA, Site No. ~~439CA016800~~

1. I am forwarding the INPR for Winona BT 2 (#91) for appropriate action. The site is eligible for DERP-FUDS.
2. I recommend that CEHND determine the need for further investigation and action at this site regarding a potential OEW project. Los Angeles District has computed a RAC 4 on this project, but recommends a RAC 3.

**ORIGINAL SIGNED**

Encl

BRUCE K. SCOTT  
Brigadier General, U.S. Army  
Commanding

~~CF:~~  
CESPL-ED-MI (HTRW)



DEPARTMENT OF THE ARMY  
LOS ANGELES DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 2711  
LOS ANGELES, CALIFORNIA 90053-2711

REPLY TO  
ATTENTION OF:

CESPL-ED-MI

22 September 1993

MEMORANDUM FOR Commander, South Pacific Division, CESP-D-ED-G  
ATTN: Vince Del Greco

SUBJECT: DERP-FUDS Inventory Project Reports (INPR's) for Site Nos: J09CA017200, J09CA015300, J09CA016800, J09CA014500, J09CA014700, J09CA015600, J09CA017000, J09CA017300, and J09CA016700

1. Enclosed are the INPR's for:

- J09CA017200 HOLTVILLE ROCKET TARGET 1R
- J09CA015300 EL CENTRO BOMBING TARGET SITE
- J09CA016800 WINONA BT #2
- J09CA014500 BOMBING TARGET YUMA RECLAMATION PROJECT
- J09CA014700 EL CENTRO ROCKET TARGET #2
- J09CA015600 EAST BOREGO BT
- J09CA017000 HOLTVILLE TARGET #2
- J09CA017300 KANE SPRINGS SBT
- J09CA016700 WINONA BT #1

We determined that ordnance contamination eligible under DERP-FUDS may exist.

2. I recommend the following:

- a) Findings and Determination of Eligibility be approved and signed.
- b) Forward a copy of this report to Commander, Huntsville Division to determine if further action is appropriate.

9 Encl

  
R. L. VANANTWERP  
COL, EN  
Commanding

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM  
FORMERLY USED DEFENSE SITES  
FINDINGS AND DETERMINATION OF ELIGIBILITY

WINONA BT 2 (#91)  
IMPERIAL COUNTY, CALIFORNIA  
SITE NO. J09CA016800

FINDINGS OF FACT

1. The Secretary of the Interior granted the Eleventh Naval District temporary use of this 640-acre site (Section 10, Township 11 South, Range 9 East) by Letter Permit dated 15 August 1944.
2. The Navy used this site as a low-level rocket target. Historical information describes the target as a "concentric circles" target.
3. On 28 March 1946, the target site was discontinued from Naval use. The permit with the Department of Interior was recommended for termination and the property was to be restored to its former state. The target was reportedly to be removed by station labor; no other site restoration was considered necessary. The actual disposal date is unknown. Currently, this 640-acre section is unimproved, vacant desert land, and is owned by the Federal Government and administered by the Department of Interior, Bureau of Land Management.

DETERMINATION

Based on the foregoing Findings of Fact, this site has been determined to be formerly used by the Department of Defense. It is therefore eligible for the Defense Environmental Restoration Program - Formerly Used Defense Sites, established under 10 USC 2701, et seq.

5 Jan 75  
Date

for DEP/HAC  
BRUCE K. SCOTT  
Brigadier General, U.S. Army  
Commanding

SITE SURVEY SUMMARY SHEET  
FOR  
DERP-FUDS SITE NO. J09CA016800  
WINONA BT 2 (#91)  
16 September 1993

**SITE NAME:** WINONA BT 2 (#91); also known as Winona #2, Target #91, and as a Salton Sea Rocket Target.

**LOCATION:** WINONA BT 2 (#91) is located in Imperial County, California, approximately 4.85 miles south of the center of Salton City at Highway 86.

**SITE HISTORY:** In August 1944, the Eleventh Naval District acquired temporary use of Section 10, Township 11 South, Range 9 East by Letter Permit from the Secretary of the Interior. The property was to be used as a low-level rocket target. The target site was located in vacant desert land and was discontinued in 1946. Currently, this unimproved desert property is under the jurisdiction of the Bureau of Land Management. During the on-site survey, the following evidence of former bombing and strafing activity was observed: multiple practice bombs, multiple blasting caps and fuses, possibly multiple mortar rounds, multiple 50-caliber shells, and one 2-inch shell.

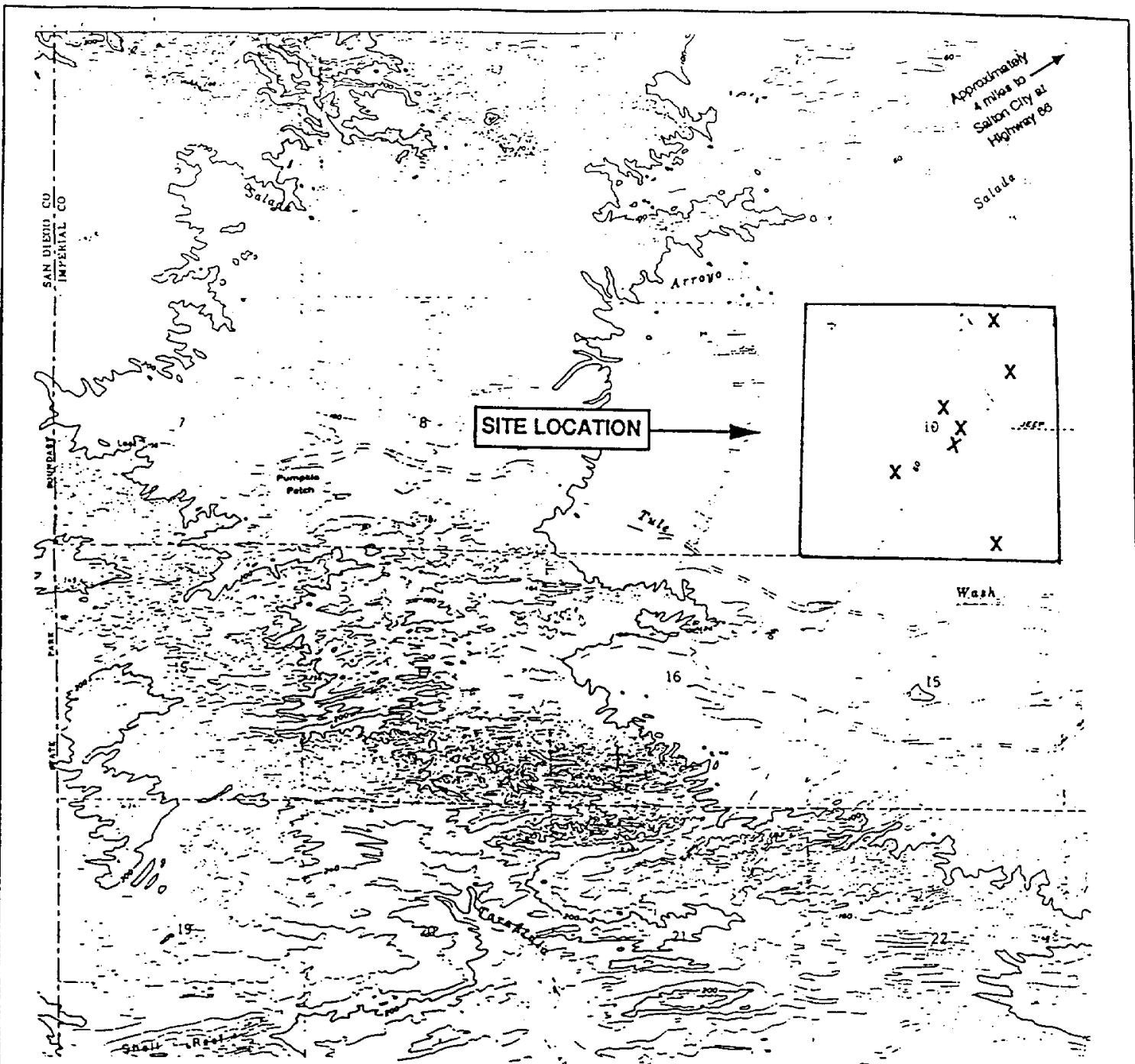
**SITE VISIT:** The site was visited on May 5, 1993, by Hunter Butler and Sandra Rehfeldt of Science Applications International Corporation, San Diego, California.

**CATEGORY OF HAZARDS:** OEW

**PROJECT DESCRIPTION:** OEW. Recommend MCX for OEW at Huntsville Division make a determination concerning further investigation.

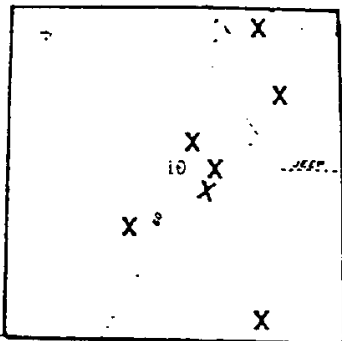
**AVAILABLE STUDIES AND REPORTS:** Historical information on 11th Naval District bomb targets was obtained from the National Archives office in Laguna Niguel, California. Land acquisition and ownership records were obtained from the Bureau of Land Management, El Centro, California, and the Imperial County Assessor's Office, El Centro, California.

**DISTRICT POC:** Jatin Desai, Los Angeles District, (213) 894-6266



Approximately  
4 miles to  
Salton City at  
Highway 86

SITE LOCATION



QUADRANGLE LOCATION

X Ordnance sitings

Reference:

USGS 7.5 Minute Quadrangle, Shell Reef, Calif. (1:24 000), 1959, Photoinspected 1976.



Approximate Scale

0

1.0 Mile



Science Applications  
International Corporation  
An Employee-Owned Company

SITE LOCATION  
WINONA BT 2 (#91)  
J09CA016800  
33° 13' 39"N  
116° 01' 30"W  
Imperial County, CA

PROJECT NO. 01-0255-04-1869

DATE

PROJECT SUMMARY SHEET  
FOR  
DERP-FUDS OEW PROJECT NO. J09CA016801  
WINONA BT 2 (#91)  
SITE NO. J09CA016800

**PROJECT DESCRIPTION:** From 1944 to 1946, this site was used by the Eleventh Naval District as a low-level rocket target. Ordnance observed on site during the survey include: multiple practice bombs, multiple blasting caps and fuses, multiple 50-caliber shells, one 2-inch shell, and possibly multiple mortar rounds. However, neither the extent of such materials nor the potential health threat have been determined. The presence and condition of any ordnance below the surface of the desert sand on site is not known. The site is subject to weather conditions that may have concealed ordnance.

**PROJECT ELIGIBILITY:** This site was formerly used by the Eleventh Naval District.

**POLICY CONSIDERATION:** No policy considerations prevent the proposal of this project.

**PROPOSED PROJECT:** Recommend the Corps' Mandatory Center of Expertise (MCX) for OEW at Huntsville Division make a determination concerning further action.

**RAC FORM:** Attached.

**DISTRICT POC:** Request CEHND inform Mr. Jatin Desai at (213) 894-6266 when a determination is made regarding project status.



10 Jul 1992

Previous editions obsolete

RISK ASSESSMENT PROCEDURES FOR  
ORDNANCE AND EXPLOSIVE WASTE (OEW) SITES

Site Name WINDONA BT 2 (79)  
Site Location INDIAN COUNTY  
DERP Project # IOBCA 016801

Rater's Name H. BURK  
Organization LA DISTRICT  
RAC 7

OEW RISK ASSESSMENT:

This risk assessment procedure was developed in accordance with MIL-STD 882B and AR 385-10.

The OEW risk assessment is based upon documented evidence consisting of records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. These data are used to assess the risk involved based upon the hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability.

Any field activities should be made with the assistance of qualified EOD personnel.

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

TYPE OF ORDNANCE

A. Conventional Ordnance and Ammunition

	YES VALUE	NO VALUE	VALUE
Small Arms (.22 cal - .50 cal)	1	0	1
Medium/Large Caliber (20 mm and larger)	10	0	10
Bombs, Explosive	10	0	10
Bombs, Practice (w/spotting charges)	6	0	6
Grenades, Hand and Rifle, Explosive	10	0	0
Grenades, Practice (w/spotting charges)	4	0	0
Landmines, Explosive	10	0	0
Landmines, Practice (w/spotting charges)	4	0	0
Rockets, Guided Missiles, Explosive	10	0	0
Detonators, Blasting Caps	6	0	6

B. Pyrotechnics (For munitions not described above.)

	YES VALUE	NO VALUE	VALUE
Munition (Container) Containing White Phosphorus or other Pyrophoric Material (i.e., Spontaneously Flammable)	10	0	0
Munition Containing A Flame or Incendiary Material (i.e., Napalm, Triethylaluminum Metal Incendiaries)	6	0	0
Flares, Signals, Simulators	4	0	0
Pyrotechnics Value (Maximum of 10).			0

C. Bulk High Explosives (Bulk explosives not an integral part of conventional ordnance; uncontainerized.)

	YES VALUE	NO VALUE	VALUE
Primary or Initiating Explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10	0	0
Demolition Charges	10	0	0
Booster, Bursting or Fuze Explosives (PETN, Compositions A, B, C, Teteryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8	0	0
Military Dynamite	6	0	0
Less Sensitive Explosives (Ammonium Nitrate, Explosive D, etc.)	3	0	0
High Explosives Value (Maximum Value of 10)			0

D. Propellants

	YES VALUE	NO VALUE	VALUE
Solid or Liquid Propellants	6	0	0

E. Radiological/Chemical Agent/Weapons

	YES VALUE	NO VALUE	VALUE
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25	0	0
Radiological	15	0	0

Radiological/Chemical Agent/Weapons Value (Maximum 25).

Total Ordnance and Explosive Waste Characteristics Value (Total =  
A + B + C + D + E with a Maximum value of 61).

Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1

HAZARD SEVERITY

Description	Category	Value
CATASTROPHIC	I	$\geq 21$
CRITICAL	II	$\geq 13 < 21$
MARGINAL	III	$\geq 5 < 13$
NEGLIGIBLE	IV	$\geq 1 < 5$
NONE		0

\* Apply Hazard Severity Category to Table 3.

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 or explosive materials on a formerly used DOD site.

AREA, EXTENT, ACCESSIBILITY OF CONTAMINATION

A. Locations of Contamination

	YES VALUE	NO VALUE	VALUE
On the surface	5	0	5
Within Tanks, Pipes, Vessels or Other confined locations.	4	0	0
Inside walls, ceilings, or other parts of Buildings or Structures.	3	0	0
Subsurface	2	0	2
Value for location of UXO. (Maximum Value of 5).			6

B. Distance to nearest inhabited locations or structures likely to be at risk from OEW site (roads, parks, playgrounds, and buildings).

<u>Distance to Nearest Target</u>	VALUE
Less than 1250 feet	5
1250 feet to 0.5 miles	4
0.5 miles to 1.0 mile	3
1.0 mile to 2.0 miles	2
Over 2 miles	1
Distance to Persons Value (Maximum Value of 5).	
	1

C. Numbers and types of Buildings within a 2 mile radius measured from the hazardous area, not the installation boundary.

Number of Buildings	VALUE
0	0
1 to 5	1
6 to 10	2
11 to 15	3
16 to 25	4
26 and over	5

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

	VALUE
Educational, Child Care, etc.	5
Residential, Hospitals, Hotels, etc.	5
Commercial, Shopping Centers, etc.	5
Industrial Warehouse, etc.	4
Agricultural, Forestry, etc.	3
Detention, Correctional	2
Military	1
No Buildings	0
Types of Buildings Value (Maximum Value of 5).	0

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

Barrier	Assigned Value
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility;	0

or

Barrier	Assigned Value
An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the facility).	0

Isolated site	1
---------------	---

Security guard, but no barrier	2
--------------------------------	---

A barrier, (any kind of fence) but no separate means to control entry	3
---	---

Barriers do not completely surround the facility	3
--	---

No barrier or security system	0
-------------------------------	---

Accessibility Value (Maximum Value of 5).

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 by beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

VALUE

None Anticipated  
Expected

0  
5

(Maximum Value of 5)

0

Total value for hazard probability.  
Sum of Values A through F.  
(Not to exceed 30).

11

-----  
Apply this value to Hazard Probability Table 2 to determine  
Hazard Probability Level.

TABLE 2

HAZARD PROBABILITY

Description	Level	Value
FREQUENT	A	≥27
PROBABLE	B	≥21 <27
OCCASIONAL	C	≥15 <21
REMOTE	D	≥ 8 <15
IMPROBABLE	E	<8

\* Apply Hazard Probability Level to Table 3.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table 3. Enter with 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	1	2	3	4
CRITICAL	II	1	2	3	4	5
MARGINAL	III	2	3	4	4	5
NEGLIGIBLE	IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1 Imminent Hazard - Emergency action required to mitigate the hazard or protect personnel (i.e., fencing, physical barrier, guards, etc.).
- RAC 2 Action required to mitigate hazard or protect personnel. Initial project phase--phased EICA.
- RAC 3 Action required to evaluate potential threat to personnel. Initial project phase--Archives search and site investigation.
- RAC 4 Action required to evaluate potential threat to personnel. Initial project phase--Archives search.
- RAC 5 No action required.

NOTE: Other phases may be considered depending on individual site conditions.

Justification. In narrative form, summarize the documented evidence that supports this risk assessment.

VISUAL EVIDENCE OF ORDNANCE USE AT THIS LOCATION INDICATED DURING SITE INSPECTION. REMAINS OF PRACTICE BOUNDS, SMALL LARGE CAL. MUNITIONS AND FUSING EQUIPMENT EXPOSED. IN ADDITION, FRAGILE BUILDING MATERIALS WERE OBSERVED THAT MAY CONTAIN ASBESTOS. RECOMMEND FURTHER DETAILED SITE INSPECTION AND UPGRADE TO RAC 3.

(SEE NEXT PAGE)

RISK ASSESSMENT PROCEDURES FOR  
ORDNANCE AND EXPLOSIVE WASTE (OEW) SITES  
FOR  
DERP-FUDS SITE NO. J09CA016800  
WINONA BT 2 (#91)

JUSTIFICATION

This site consists of 640-acres within Imperial County, California. It is presently undeveloped desert land, and is located approximately 4.9 miles south of Salton City. A small county landfill occupies a portion of Section 12, approximately 1.6 miles east of the target site (see J09CA016700).

The Eleventh Naval District used this site as a low-level rocket target during the mid-1940s. Evidence of former strafing and bombing activity were noted during the site survey. The remains of multiple ordnance were reported throughout the property. In addition, this site is subject to weather conditions (localized rainfall, high winds, etc.) that could have concealed ordnance.

An OEW risk assessment code (RAC) of 4 has been calculated, based on a severity category III (marginal) and a probability level D (remote). Due to the extent of ordnance viewed on this site, we recommend upgrading to RAC 3 and conducting a more detailed site investigation.



RISK ASSESSMENT PROCEDURES FOR  
ORDNANCE AND EXPLOSIVE WASTE (OEW) SITES

Site Name <u>Winona BT 2 (#91)</u>	Rater's Name <u>R.G. HARRIS</u>
Site Location <u>Imperial Co, CA</u>	Phone No. <u>(205) 895-1590</u>
DERP Project # <u>209CA016801</u>	Organization <u>CEHND-PM-SO</u>
Date Completed <u>1 Feb 95</u>	RAC Score <u>4 (II, D)</u>

OEW RISK ASSESSMENT:

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The RAC score will be used by CEHND to prioritize the remedial action at Formerly Used Defense Sites. The OEW risk assessment should be based upon best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. This information is used to assess the risk involved based upon the potential OEW hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability. Personnel involved in visits to potential OEW sites should view the CEHND videotape entitled "A Life Threatening Encounter: OEW."

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

TYPE OF ORDNANCE  
(Circle all values that apply)

A. Conventional Ordnance and Ammunition	VALUE
Medium/Large Caliber (20 mm and larger)	(10)
Bombs, Explosive	(10)
Grenades, Hand and Rifle, Explosive	10
Landmines, Explosive	10
Rockets, Guided Missiles, Explosive	10
Detonators, Blasting Caps, Fuzes, Boosters, Bursters	(6)
Bombs, Practice (w/spotting charges)	(6)
Grenades, Practice (w/spotting charges)	4
Landmines, Practice (w/spotting charges)	4
Small Arms (.22 cal - .50 cal)	(1)
Conventional Ordnance and Ammunition (Select the largest single value)	10

What evidence do you have regarding conventional OEW? As reported in INPR RAC.

B. Pyrotechnics (For munitions not described above.)

VALUE

Munition (Container) Containing  
White Phosphorus (WP) or other  
Pyrophoric Material (i.e.,  
Spontaneously Flammable)

10

Munition Containing A Flame  
or Incendiary Material (i.e., Napalm,  
Triethylaluminum Metal Incendiaries)

6

Flares, Signals, Simulators, Screening  
Smokes (other than WP)

4

Pyrotechnics (Select the largest single value)

0

What evidence do you have regarding pyrotechnics?

RAC.

As reported in INPR

C. Bulk High Explosives (Not an integral part of conventional ordnance;  
uncontainerized.)

VALUE

Primary or Initiating Explosives  
(Lead Styphnate, Lead Azide,  
Nitroglycerin, Mercury Azide,  
Mercury Fulminate, Tetracene, etc.)

10

Demolition Charges

10

Secondary Explosives  
(PETN, Compositions A, B, C,  
Tetryl, TNT, RDX, HMX, HBX,  
Black Powder, etc.)

8

Military Dynamite

6

Less Sensitive Explosives  
(Ammonium Nitrate, Explosive D, etc.)

3

High Explosives (Select the largest single value)

0

What evidence do you have regarding bulk explosives?

INPR RAC

As Reported in

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

VALUE

Solid or Liquid Propellants

6

Propellants

0

What evidence do you have regarding bulk propellants?

INPR RAC.

As reported in

E. Chemical Warfare Materiel and Radiological Weapons

	VALUE
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25
War Gas Identification Sets	20
Radiological	15
Riot Control Agents (Vomiting, Tear)	5
Chemical and Radiological. <u>(Select the largest single value)</u>	0

What evidence do you have of chemical/radiological OEW? As reported in INPR

=====

TOTAL HAZARD SEVERITY VALUE 10  
 (Sum of Largest Values for A through E--Maximum of 61)  
 Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1

HAZARD SEVERITY\*

Description	Category	Hazard Severity Value
CATASTROPHIC	I	21 and greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE		0

\* Apply Hazard Severity Category to Table 3.

\*\*If Hazard Severity Value is 0, you do not need to complete Part II. Proceed to Part III and use a RAC Score of 5 to determine your appropriate action.



C. Numbers of buildings within a 2 mile radius measured from the OEW hazard area, not the installation boundary.

	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	1
0	0

Number of Buildings (Select the single largest value)

0

Narrative As reported in INPR.

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

	VALUE
Educational, Child Care, Residential, Hospitals, Hotels, Commercial, Shopping Centers	5
Industrial, Warehouse, etc.	4
Agricultural, Forestry, etc.	3
Detention, Correctional	2
No Buildings	0

Types of Buildings (Select the largest single value)

0

Describe types of buildings in the area. As reported in INPR.

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

BARRIER	VALUE
No barrier or security system	5
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
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
Security guard, but no barrier	2
Isolated site	1
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility; or An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the facility).	0

Accessibility (Select the single largest value) 5

Describe the site accessibility. As reported in INPR

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 by beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

	VALUE
Expected	5
None Anticipated	0
Site Dynamics <u>(Select largest value)</u>	0

Describe the site dynamics. As reported in INPR

TOTAL HAZARD PROBABILITY VALUE

(Sum of Largest Values for A through F--Maximum of 30)

Apply this value to Hazard Probability Table 2 to determine Hazard Probability Level.

11

TABLE 2

HAZARD PROBABILITY

Description	Level	Hazard Probability Value
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

\* Apply Hazard Probability Level to Table 3.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table 3. Enter with 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	1	2	3	4
CRITICAL	II	1	2	3	4	5
MARGINAL	III	2	3	4	4	5
NEGLIGIBLE	IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by CEHND - Immediately call CEHND-ED-SY--commercial 205-955-4968 or DSN 645-4968.
- RAC 2 High priority on completion of INPR - Recommend further action by CEHND.
- RAC 3 Complete INPR - Recommend further action by CEHND.
- RAC 4 Complete INPR - Recommend further action by CEHND.
- RAC 5 Usually indicates that no further action (NOFA) is necessary. Submit NOFA and RAC to CEHND.

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.

*DEW Scrap was observed during site visit. Remoteness of the site is the major contributing factor for the low RAC score.*



## **APPENDIX D-2**

**Inventory Project Report for Site No.  
J09CA103800, Miscellaneous Bombing Targets,  
Imperial County, California, dated 25 June 1992.**

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM  
FORMERLY USED DEFENSE SITES  
FINDINGS AND DETERMINATION OF ELIGIBILITY

MISCELLANEOUS BOMBING TARGETS  
IMPERIAL COUNTY, CALIFORNIA  
SITE NO. J09CA103800

FINDINGS OF FACT

1. In the early 1940s, the Navy acquired authorization to use 25 locations in Imperial County, California for practice bombing targets or access rights-of-way. Acquisition was typically by permit from the Department of Interior, State of California, or private parties. Each target location ranges in size from 1/4 Section (160 acres) to 1-1/2 Section (960) acres, for a total area of approximately 12,488 acres.
2. The 11th Naval District designated these locations for use as high altitude, low level, dive bombing and/or strafing practice targets. Targets consisted of unimproved desert land, concentric circles, radar rigged fence or simulated target structures.
3. Permits for these target locations expired by 1946, and 18 locations totalling 9,120 acres reverted to the Department of Interior, 3 locations totalling 1,283 acres are privately owned, and 4 locations totalling 2,085 acres were retained by the Navy. The 2,085 acres, currently under the jurisdiction of the Navy, are not eligible under DERP-FUDS. Properties formerly used by the Department of Defense therefore comprise a total of approximately 10,403 acres. No physical evidence of remaining ordnance or structures was identified during visual inspections of target locations.

DETERMINATION

Based on the foregoing Findings of Fact, the 21 land based miscellaneous bomb target locations comprising a total of approximately 10,403 acres have been determined to be formerly used by the Department of Defense. These properties are therefore eligible for the Defense Environmental Restoration Program - Formerly Used Defense Sites, established under 10 USC 2701, et seq.

\_\_\_\_\_  
DATE

\_\_\_\_\_  
ROGER F. YANKOUPE  
Brigadier General, U.S. Army  
Commanding

**SITE SURVEY SUMMARY SHEET**  
**FOR**  
**DERP-FUDS SITE NO. J09CA103800**  
**MISCELLANEOUS BOMBING TARGETS**  
25 June 1992

**SITE NAME:** MISCELLANEOUS BOMBING TARGETS

**LOCATION:** The miscellaneous bombing targets used by the 11th Naval District in Imperial County consist of 25 discontinuous properties located in undeveloped desert areas. Target areas range in size from 1/4 Section (160 acres) to 1-1/2 Section (960) acres. Specific locations are identified in the table attached to this summary.

**SITE HISTORY:** In the early 1940s, the Navy acquired authorization to use 25 locations in Imperial County, California for practice bombing targets or access rights-of-way. These target areas were all located in vacant desert land, and were used for high altitude, low level, dive bombing and/or strafing practice. Targets consisted of open desert, concentric circles, radar rigged fence or simulated target structures.

Properties Formerly used by the Department of Defense therefore comprise a total of approximately 10,403 acres. The remaining 2,085 acres are currently under the jurisdiction of the Navy.

Available information indicates the target locations are presently undeveloped, relatively remote desert areas. Visual inspections of representative properties were conducted by traversing accessible areas on foot. No physical evidence of explosive ordinance or remaining target structures was identified during the inspections.

**SITE VISIT:** Two representative target locations (Kane Springs Target #62 and Holtville 1R #94) were visited on 3 and 4 December 1991 by Ken Goulding of Science Applications International Corporation, San Diego, California.

**CATEGORY OF HAZARDS:** OEW

**PROJECT DESCRIPTION:** Recommend the MCX at Huntsville make a determination about further action.

**AVAILABLE STUDIES AND REPORTS:** Historical information on 11th Naval district bomb targets was obtained from the National Archives office in Laguna Niguel, California. Land acquisition and ownership records were obtained from the Bureau of Land Management, Riverside, California and Chicago Title Company, El Centro, California.

**DISTRICT POC:** Debra Castens at (213) 894-2865 or FTS 798-2865 is the District's point of contact for this matter.

**PROJECT SUMMARY SHEET**  
**FOR**  
**DERP-FUDS OEW PROJECT NO. JO9CA103801**  
**MISCELLANEOUS BOMB TARGETS, CALIFORNIA**  
**DERP-FUDS SITE NO. JO9CA103800**  
**25 June 1992**

**PROJECT DESCRIPTION:** There are 25 locations the Navy acquired in the early 1940's for practice bombing targets or access rights-of-way. Records that indicate specific ordnance use on these locations are neither complete nor specific. However, records do indicate that live ordnance may have been used on some or all of these locations.

**PROJECT ELIGIBILITY:** The property was formerly used by the Navy. Any ordnance would clearly be the result of DOD activities.

**POLICY CONSIDERATIONS:** There are no policy considerations that would affect the proposal of this project.

**PROPOSED PROJECT:** Recommend that the Corps' Mandatory Center of Expertise (MCX) for OEW at the Huntsville Division make a determination if an ordnance debris removal project is an appropriate undertaking.

**RAC FORM:** Attached.

**DISTRICT POC:** Request the MCX at Huntsville inform Ms. Debra Castens of CESPL-ED-MI at 213-894-2865 or FTS 798-2865, when a determination is made in regard to project status.

**SUPPLEMENTAL INFORMATION  
RISK ASSESSMENT PROCEDURES FOR  
EXPLOSIVE ORDNANCE (EXO)  
FOR  
DERP-FUDS SITE NO. JO9CA103800  
MISCELLANEOUS BOMBING TARGETS, CALIFORNIA**

This site consists of 25 locations which comprise a total of approximately 10,403 acres in Imperial County, California. The available information indicates that these locations are presently undeveloped, relatively remote desert areas. Visual inspection of two representative locations corroborated this determination.

In the early 1940s, the Navy acquired authorization to use the subject locations for practice bombing targets or access rights-of-way. Specifically, these target areas were used for high altitude, low level, dive bombing and/or strafing practice. No evidence of former bombing or strafing activity was noted during the two above-mentioned site inspections. The potential presence of unidentified, unexploded ordnance at these locations is considered remote, but cannot be excluded. Similarly, the potential presence of unexploded ordnance at the remaining 23 locations cannot be excluded.

An EXO risk assessment score of four has been calculated, based on a severity category III (marginal) and a probability level D (remote). The findings for the site do not appear to present a significant risk; nevertheless, the findings do not rule out the potential presence of unexploded ordnance. Therefore, the RAC score of four, indicating that a site inspection should be conducted, is appropriate.

APPENDIX A  
RISK ASSESSMENT PROCEDURES FOR  
EXPLOSIVE ORDNANCE (EXO)

\* Site Name Misc. Bomb Targets Rater's Name Ken Goulding  
 Site Location Imperial County, CA Organization SAIC  
 DERP Project # J09CA103801 RAC 4

EXO RISK ASSESSMENT:

This risk assessment procedure was developed in accordance with MIL-STD 882B and AR 385-10.

The EXO risk assessment is based upon documented evidence consisting of records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. These data are used to assess the risk involved based upon the hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability.

Any field activities should be made with the assistance of qualified EOD personnel.

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

TYPE OF ORDNANCE

A. Conventional Ordnance and Ammunition

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Small Arms (.22 cal - .50 cal)	2	0	<u>2</u>
Medium/Large Caliber (20 mm and larger)	10	0	—
Bombs, Explosive	10	0	—
Bombs, Practice (w/spotting charges)	6	0	<u>6</u>
Grenades, Hand and Rifle, Explosive	10	0	—
Grenades, Practice (w/spotting charges)	6	0	—

These values are based on probable former activity at the site. One site (Kane Sprir SBT) was used as a bombing + strafing target. The other site (Holtville IR) was used as a bomb target. No ordnance was observed during the site surveys.

\* This assessment is based on the available information for two, representative target sites. Unless otherwise noted, individual rating values

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Landmines, Explosive	10	0	—
Landmines, Practice (w/spotting charges)	6	0	—
Rockets, Guided Missiles, Explosive	10	0	—
Detonators, Blasting Caps	10	0	—
Demolition Charges	10	0	—
Conventional Ordnance and Ammunition Value (Maximum of 10).			<u>8</u>

B. Pyrotechnics

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Any Munition Containing White Phosphorus or other Pyrophoric Material (i.e., Spontaneously Flammable)	10	0	—
Any Munition Containing a Flame or Incendiary Material (i.e., Napalm, Triethylaluminum Metal Incendiaries)	6	0	—
Military Flares	4	0	—
Pyrotechnics Value (Maximum of 10).			<u>0</u>

C. Bulk High Explosives (Bulk explosives not an integral part of conventional ordnance).

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Primary or Initiating Explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, etc.)	10	0	—
Booster, Bursting or Fuse Explosives (PETN, Compositions A, B, C, Teteryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	10	0	—

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Military Dynamite	10	0	—
Less Sensitive Explosives (Ammonium Nitrate, Favier Explosives, etc.)	3	0	—
High Explosives Value (Maximum value of 10).			<u>0</u>

D. Propellants

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Solid or Liquid Propellants	6	0	— <u>0</u>

E. Chemical Agents/Radiological Materials/Munitions

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Radiological	25	0	—
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25	0	—
Incapacitating Agent (BZ)	10	0	—
Riot Control and Miscellaneous (Vomiting, Tear, Chlorine, Mustard Simulant)	5	0	—
Any Munition Containing Smoke, Illumination, Signal Charge	4	0	—

Chemical Agents/Radiological Materials/Munitions Value (Maximum 25). 0

Total Ordnance and Explosive Waste Characteristics Value (Total =  
A + B + C + D + E with a Maximum value of 61). 8



TABLE 1

## HAZARD SEVERITY

Description	Category	Value
CATASTROPHIC	I	$\geq 21$
CRITICAL	II	$\geq 13 < 21$
MARGINAL	III	$\geq 5 < 13$
NEGLIGIBLE	IV	$< 5$

\* Apply Hazard Severity to Table 3.

Part II. Hazard Probability. The probability that a hazard has been or will be created due to the presence and other rated factors of explosive ordnance (EXO) on a formerly used DOD site.

AREA, EXTENT, ACCESSIBILITY OF CONTAMINATION

A. Locations of Contamination

	<u>YES</u> VALUE	<u>NO</u> VALUE	VALUE
Within Tanks, Pipes, Vessels or Other confined locations.	5	0	—
On the surface or within 3 feet.	5	0	<u>5</u>
Inside walls, ceilings, or other parts of Buildings or Structures.	4	0	—
Subsurface, greater than 3 feet in depth.	3	0	—

This value is based on probable former activity, as well as experience with similar sites. No ordnance was observed during the site survey.

Value for location of EXO (Maximum Value of 5).

5

B. Distance to nearest inhabited locations or structures likely to be at risk from EXO site (roads, parks, playgrounds, and buildings).

<u>Distance to Nearest Target</u>	VALUE
Less than 1250 feet	5
1250 feet to 0.5 miles	4
0.5 miles to 1.0 mile	3
1.0 mile to 2.0 miles	1
2.0 miles to 5.0 miles	0
Over 5.0 miles	0

(2) The Kane Springs target is located 1 to 2 miles from a road, while the Holtville target is located 2 to 5 miles from a road.

Distance to Persons Value (Maximum Value of 5).

2

C. Numbers and types of Buildings within a 2 mile radius measured from the hazardous area, not the installation boundary.

Number of Buildings	VALUE
0	0
1 to 10	1
11 to 50	2
51 to 100	3
101 to 250	4
251 or Over	5

Number of Buildings Value (Maximum Value of 5).

0

D. Types of Buildings

	VALUE
Educational, Child Care, etc.	5
Residential, Hospitals, Hotels, etc.	5
Commercial, Shopping Centers, etc.	5
Industrial Warehouse, etc.	4
Agricultural, Forestry, etc.	3
Detention, Correctional	2
Military	1
No Buildings	0

Types of Buildings Value (Maximum Value of 5).

0

E. Accessibility to site refers to the measures taken to limit access by humans or animals to ordnance and explosive wastes. Use the following guidance:

Barrier	Assigned Value
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility;	0

or  
Barrier

Assigned Value

An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the facility).

0

Security guard, but no barrier

1

A barrier, (any kind of fence) but no separate means to control entry

2

Barriers do not completely surround the facility

3

No barrier or security system

5

Accessibility Value (Maximum Value of 5).

5

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 by beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

VALUE

None Anticipated  
Expected

0  
5

(Maximum Value of 5)

0

Total value for hazard probability.  
Sum of Values A through F.  
(Not to exceed 30). Apply this value to Hazard Probability Table 2 to determine Hazard Level.

12

TABLE 2

HAZARD PROBABILITY

Description	Level	Value
FREQUENT	A	≥27
PROBABLE	B	≥21 <27
OCCASIONAL	C	≥15 <21
REMOTE	D	≥ 8 <15
IMPROBABLE	E	<8

\* Apply Hazard Probability to Table 3.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table 3. Enter with the results of the hazard probability and hazard severity values.

TABLES 1 AND 2

HAZARD SEVERITY - III  
(from Table 1)

HAZARD PROBABILITY - D  
(from Table 2)

TABLE 3

Probability Level		FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
Severity Category:						
CATASTROPHIC	I	1	1	2	3	4
CRITICAL	II	1	2	3	4	5
MARGINAL	III	2	3	4	4	5
NEGLIGIBLE	IV	3	4	4	5	5

Note: The risk assessment code for EXO is not equivalent to the risk assessment code prescribed in AR 385-10:

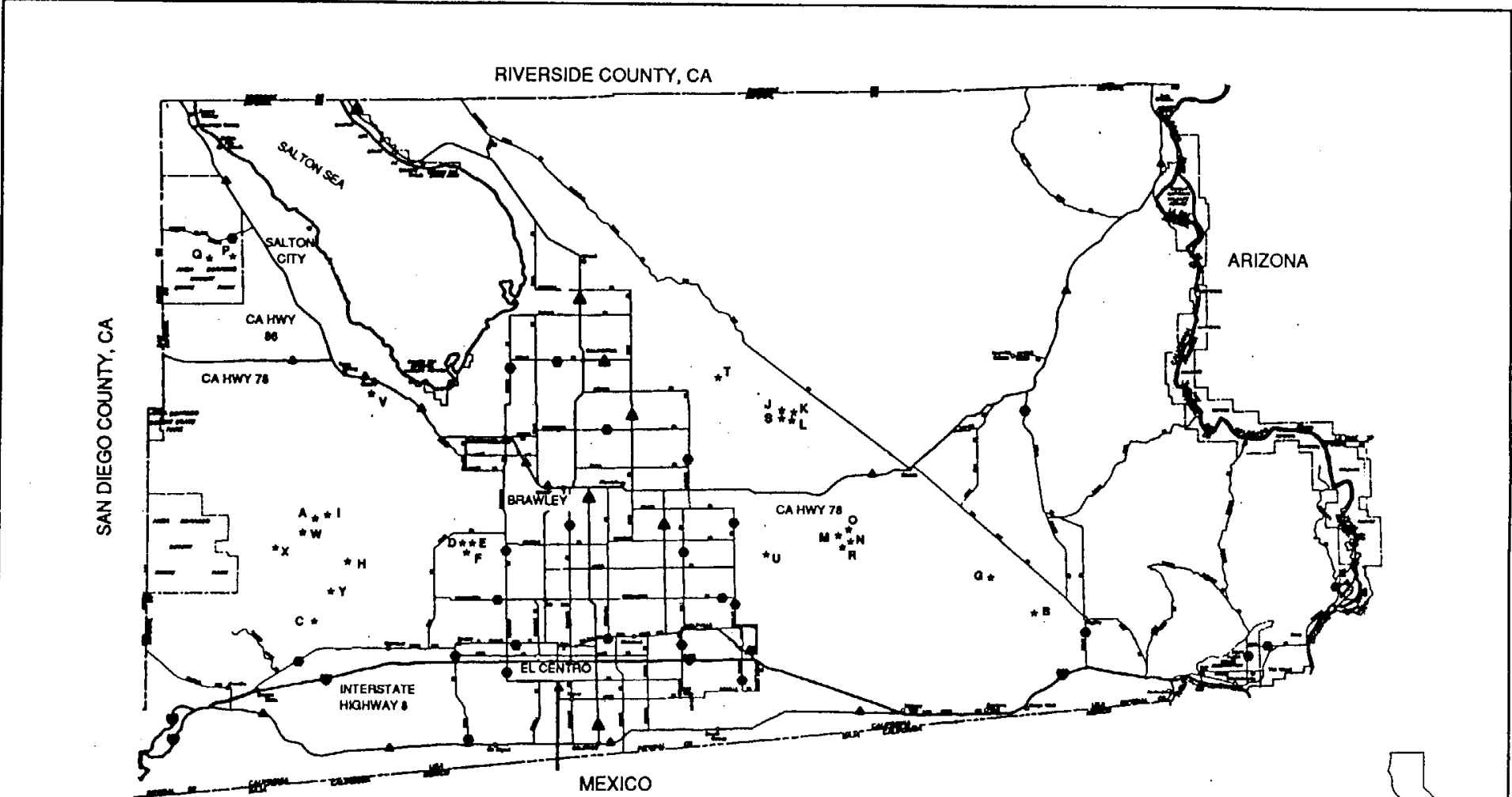
RISK ASSESSMENT CODE (RAC)

- RAC 1 Imminent Hazard - Emergency action required to mitigate the hazard or protect personnel (i.e., Fencing, physical barrier, guards, etc.).
- RAC 2 Action required to mitigate hazard or protect personnel. Feasibility study is appropriate.
- RAC 3 Action required to evaluate potential threat to personnel. High priority Site Inspection is appropriate.
- RAC 4 Action required to evaluate potential threat to personnel. Site Inspection is appropriate.
- RAC 5 No action required.

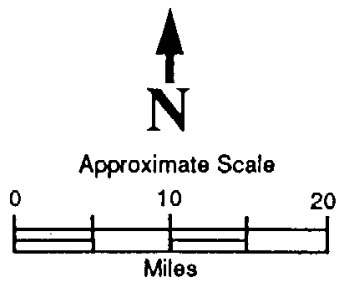
Justification. In narrative form, summarize the documented evidence that supports this risk assessment.


This assessment is based on the following:

- ① historical records searches that indicated that these sites were used as bombing and strafing targets in the early 1940s
- ② site surveys that indicated that, a) although the sites are not secured, no sensitive areas are located within 2 miles, and b) no evidence of former bombing/strafing activity remains (in the areas surveyed)



A\* - Miscellaneous Bomb Target Location



 <b>SAIC</b> <sup>®</sup> <i>Science Applications</i> <i>International Corporation</i> <i>An Employee-Owned Company</i>	<b>SITE LOCATION</b> <b>MISCELLANEOUS</b> <b>BOMB TARGETS</b> <b>J09CA103800</b> <b>Imperial County, CA</b>		
	PROJECT NO. 1-0255-04-0309		
	DRAWN BY <b>JMS</b>	CHECKED BY <b>PD</b>	DATE <b>12-91</b>

**MISCELLANEOUS BOMB TARGETS IN IMPERIAL COUNTY (11TH NAVAL DISTRICT) SITE NO. J09CA103800**

NAME	TOWNSHIP/RANGE	LATITUDE/ LONGITUDE	OWNER/OPERATOR	OTHER
A. ##Bombing Target (San Felipe)(#67)	S 16, T 13S, R 10E		1944 - State of California had tax title (last assessed to Katherine Irwin, Canada); Navy requested lease from State. Lease evidently executed with state in 1945. <b>Declared surplus 4/46.</b> Presently state/private ownership.	Prior to acquisition was unimproved, undeveloped, rough desert land.
B. ##Bombing Target	S 24, T 15S, R 19E		1944 - Request that land be acquired for Navy use from Department of Interior. Owned by DOI (Imperial Dunes).	Prior to acquisition was unimproved, undeveloped, rough desert land
C. ##Bombing Target	S 26 and W1/2 S 25, T 15S, R 10E		1944 - Request that land be acquired for Navy use from Department of Interior. Owned by DOI (Yuma Reclamation project).	Prior to acquisition was unimproved, undeveloped, rough desert land
D. El Centro Rocket Target No. 1 (#92) (a.k.a. El Centro Practice Bombing Target Site No. 1)	NE1/4, SE1/4 and S1/2 of the SW1/4 of S 25, T 14S, R 12E		1944 - Government-owned (DOI) except the SE1/4; Navy wanted to acquire. Department of Interior gave advance informal approval by 12/44. 1945 - 11th Naval District requested lease from Malcolm Matheson, Stockton, CA for SE1/4. Evidently lease executed. Discontinued by 10/46; steps were being initiated to return the land to its owners. <b>Restoration and termination</b> mentioned in routing slip dated 4/47. E1/2 and E1/2 of W1/2 of S.25 is Navy owned.	Location found unsatisfactory in 1945 and request to return to DOI; was not used, occupied or posted. Later in 1945, request for more access road. In 1945, Navy wanted lease from Matheson for N1/2 of SW1/4 of S 25 for a bombing target site. El Centro rocket targets and Ogilby bomb target (and perhaps the access road) totalled 1443.03 acres.
E. El Centro Rocket Target No. 2 (#93)	E1/2 and N1/2 of the NW1/4 of S 13, T 14S, R 12E		1944 - Government-owned (DOI); Navy wanted to acquire. Department of Interior gave advance informal approval by 12/44. Discontinued by 10/46; steps were being initiated to return the land to its owners. <b>Restoration and termination</b> mentioned in routing slip dated 4/47. Presently DOI owned.	Location found unsatisfactory in 1945 and request to return to DOI; was not used, occupied or posted. Later in 1945, request for more access road. El Centro rocket targets and Ogilby bomb target (and perhaps access road) totalled 1443.03 acres.
F. Access road for El Centro Rocket Targets	Easterly 25' of NE1/4 and easterly 25' of SE1/4 of S24, T 14S, R 12E		1944 - NE1/4 is state-owned and SE1/4 is Govt-owned (DOI); BLM gave advance informal approval by 12/44. Currently N1/2 of Section 24 is privately owned, E1/2 of SE1/4 is DOI owned, and remainder is Navy owned.	In 1945, request for more access road.



**MISCELLANEOUS BOMB TARGETS IN IMPERIAL COUNTY (11TH NAVAL DISTRICT) SITE NO. J09CA103800**

NAME	TOWNSHIP/RANGE	LATITUDE/ LONGITUDE	OWNER/OPERATOR	OTHER
G. El Centro Bombing Target Site (Ogilby)(#69)	S 4, T 15S, R 19E	32-52-30/114-57-15	Used by Navy under permit from Department of Interior dated 1945. **Recommended for discontinuance in 1946. Restoration and termination mentioned in routing slip dated 4/47. DOI owned (Imperial Sand Dunes).	El Centro rocket targets and Ogilby bomb target (and perhaps above access road) totalled 1443.03 acres. **No restoration required.
H. *Coyote Wells Bomb Target (#77)	S 24, T 14S, R 10E and S 19 (W1/2), T 14S, R 11E	*32-56-00/115-52-30 **32-56-45/115-53-43 (illegible)	Acquisition requested in 1943. W1/2 of S 19 and NW1/4 of S 24 obtained from Department of Interior. SW1/4 of S 24 subject to a valid desert entry (made by Lecta Easley). E1/2 of S 24 owned by State of California (by virtue of a tax deed) and used by Navy under a 1943 permit. Authority for use of DOI land and desert entry reportedly addressed in a letter dated 1944; DOI land acquired by Letter Permit. **Recommended for discontinuance (and declared surplus) in 1946. Restoration and termination mentioned in routing slip dated 4/47.	Circle, simulated destroyer deck; high altitude and dive bombing; practice bombs and strafe. **No restoration required (other than target removal).
I. *East Borego BT	S15, T13S, R10E	33-04-00/115-57-25	On 1944 inventory. Now privately owned.	Circle, high altitude and dive bombing, practice bombs and strafe
J. Bomb Target Site and/or emergency field	SE1/4 S 9, T 13S, R 16E		1943 - controlled by Department of Interior; Navy wanted to acquire. Now DOI owned.	
K. Bomb Target Site and/or emergency field	SW1/4 S 10, T 13S, R 16E		1943 - controlled by Department of Interior; Navy wanted to acquire. Now DOI owned.	
L. Bomb Target Site and/or emergency field	NW1/4 S 15, T 13S, R 16E		1943 - controlled by Department of Interior; Navy wanted to acquire. Now DOI owned.	
M. Bomb Target Site and/or emergency field	SE1/4 S 8, T 14S, R 17E		1943 - controlled by Department of Interior; Navy wanted to acquire. Now DOI owned.	
N. Bomb Target Site and/or emergency field	SW1/4 S 9, T 14S, R 17E		1943 - controlled by Department of Interior; Navy wanted to acquire. Navy owned.	
O. Bomb Target Site and/or emergency field	NE1/4 S 17, T 14S, R 17E		1943 - controlled by Department of Interior; Navy wanted to acquire.	
P. *Winona BT 1 (#90)	S 12, T 11S, R 9E	*33-13-30/115-58-15 **33-13-38/115-58-58	Department of Interior granted temporary use to Navy in 8/44 by Letter Permit. **Discontinuance recommended in 1946. Declared surplus 4/46. DOI owned.	Concentric circles, low-level, rockets; 1945 request for access road. **No restoration required (other than target removal).

**MISCELLANEOUS BOMB TARGETS IN IMPERIAL COUNTY (11TH NAVAL DISTRICT) SITE NO. J09CA103800**

NAME	TOWNSHIP/RANGE	LATITUDE/ LONGITUDE	OWNER/OPERATOR	OTHER
Q. *Winona BT 2 (#91)	S 10, T 11S, R 9E	33-13-30/116-00-30	8/44 - Secretary of the Interior granted temporary use to Navy by Letter Permit. 1945 - request for access road. <b>Declared surplus</b> 11/45. DOI owned.	Concentric circles, low-level, rockets.
R. *Holtville Target (BT) No. 1 (#68)	Including, but not necessarily limited to, SE 1/4 S 8, SW 1/4 S9, NE 1/4 S 17; T 14S, R 17E	32-56-45/115-12-30	1944 - Lease from Mable J. Gray to Navy for 80 acres vacant land in Imperial County for this target. Listed sections are Department of Interior lands acquired 6/43 or 5/44 by Letter Permit. In 1946, was proposed to be retained. Currently Navy owned.	Concentric circles, dive bombing, practice bombs and strafe
S. *Holtville Target (BT) No. 2 (#95) (may also be known as Holtville Rocket Target 2R)	Including, but not necessarily limited to, SE 1/4 S 9, SW 1/4 S 10, NW 1/4 S 15, W 30' of SW 1/4 S 15 and W 30' of W 1/2 S 22, except south 873' thereof; T 13S R 16E	33-01-30/115-18-30	Listed sections are Department of Interior lands acquired 6/43 or 5/44 by Letter Permit. In 1946, was proposed to be retained.	Concentric circles, low-level, rocket. In 1945, access road acquired in portions of S 15 and 22; T 13S, R 16E.
T. *Holtville Target (BT) No. 3		33-09-00/115-22-05	On 1944 inventory.	Concentric circles, dive bombing, practice bombs
U. *Holtville Rocket Target 1R (#94)	S 24, T 14S, R 16E. Access road - southerly 30' of portion of S 23, T 14S, R 16E, lying easterly of East High Line Canal.	32-54-45/115-15-30	Request for acquisition in 1944. Apparently acquired ~3/45. Currently DOI owned.	Concentric circles, low-level, rocket.
V. *Kane Springs SBT (#62)	S 2, T 13S, R 11E	*33-04-10/115-47-45 **33-04-05/117-48-14	Department of Interior granted temporary use to Navy by Letter Permit in 8/44. <b>Declared surplus</b> 4/46. Discontinued by 10/46; steps were being initiated to return the land to its owners. DOI owned.	Radar-rigged fence, low-level, miniature bombs and strafe. **No restoration required (other than target removal).
W. Bomb Target (#78)	S 1/2 S 22 and N 1/2 S 27; T 14S, R 10E		Acquisition (via permits) requested 1945. S 1/2 S 22 belonged (possessory interest) to W.D. Rambo, address unknown. N 1/2 S 27 belonged (possessory interest) to H.T. Hoag, address unknown (claim was cancelled and land reverted to Government). DOI owned.	Together with target #103, totals ~1280 acres. High altitude bombing target. At time of request, site was unimproved, rough, desert land.
X. Bomb Target (#79)	S 1/2 S 29 and N 1/2 S 32; T 14S, R 10E		Acquisition requested 1945. Belonged to Department of Interior. <b>Restoration and termination</b> mentioned in routing slip dated 4/47. DOI owned.	High altitude bombing target. At time of request, site was unimproved, rough, desert land.

**MISCELLANEOUS BOMB TARGETS IN IMPERIAL COUNTY (11TH NAVAL DISTRICT) SITE NO. J09CA103800**

NAME	TOWNSHIP/RANGE	LATITUDE/ LONGITUDE	OWNER/OPERATOR	OTHER
Y. Bomb Target (#103)	S 1/2 S 6 and N 1/2 S 7; T 15S, R 11 E		Acquisition requested 1945. Belonged to Department of Interior. Currently Navy owned.	Together with target #78, totals ~1280 acres. High altitude bombing target. At time of request, site was unimproved, rough, desert land.

\*Listed as one of "all bombing targets in Southern California Sector of the Western Sea Frontier," August 1944; not all targets were in commission as yet.

##Use should cause "no damage to surface affecting future agricultural use"; request to obtain sites "for the duration and six months" (letter 22 November 1944); total acreage 1600 acres.

\*\*3/46 letter for discontinuing targets; recommended taking necessary action to "terminate the leases, rescind the danger areas and restore land to its former status," and to "remove targets and restore the land to its original state."

1946 - leases for outlying fields and bombing targets (11th Naval District) evidently totalled 21.

6/46 - By this date, all lands indicated as "declared surplus" above, had been restored to the condition prior to use.

**APPENDIX E**

**LETTERS / MEMORANDA  
/ MISCELLANEOUS ITEMS**

Ordnance and Explosives  
Chemical Warfare Material  
**Archives Search Report**

**FINDINGS**

**Winona Bombing Target #2**  
Salton City, California  
Imperial County  
Project Number - J09CA016801

APPENDIX E

**LETTERS / MEMORANDA / MISCELLANEOUS ITEMS**

- E-1 Bureau of Aeronautics  
Letter from G. L. Huff, Commander U. S. Navy to Chief, Bureau of Docks, dated 31 March 1945. Record Group 72, Box 2323, General Correspondence File. National Archives - Archives I, Washington, D. C.
- E-2 Eleventh Naval District  
Circular Letter Number 20-44 from Commander, Aircraft, Southern California Sector, Western Sea Frontier to Aircraft, Southern California Sector, Western Sea Frontier, dated 24 August 1944. Record Group 181, Box 87, General Correspondence Files. National Archives Pacific Southwest Region, Laguna Niguel, California.
- E-3 Eleventh Naval District  
Letter from A. D. Bernard, Commander, Naval Air Bases to all units of the Naval Air Bases, Eleventh Naval District, dated 23 April 1945. Record Group 181, Box 38, General Correspondence Files. National Archives Pacific Southwest Region, Laguna Niguel, California.
- E-4 Eleventh Naval District  
Letter from A. K. Fogg, Public Works Officer to Bureau of Docks, dated 24 April 1946. Record Group 181, Box 425, Entry Eleventh Naval District. National Archives Pacific Southwest Region, Laguna Niguel, California.
- E-5 Naval Air Command  
Letter from G.M. Ravenscrone, Assistant Commandant Logistics to Commander, Naval Air Command South Pacific Division, dated 29 August 1944. Record Group 181, Box 38, General Correspondence File. National Archives Pacific Southwest Region, Laguna Niguel, California.

Ordnance and Explosives  
Chemical Warfare Material  
Archives Search Report

**FINDINGS**

**Winona Bombing Target #2**  
Salton City, California  
Imperial County  
Project Number - J09CA016801

- E-6      Navy Department  
Letter from Jack E. Cochran by Direction of Chief Bureau of Ordnance to  
Commandant, Eleventh Naval District, dated 19 February 1947. Record  
Group 74, Box 209, General Correspondence File. National Archives -  
Suitland Branch, Suitland, Maryland.
- E-7      United States Pacific Fleet Air Force  
Listing for munition requirements for Fleet Air, West Coast, dated 26 January  
1946. Record Group 74, Box 287, General Correspondence File. National  
Archive - Suitland Branch, Suitland, Maryland.

## **APPENDIX E-1**

**Bureau of Aeronautics**

**Letter from G. L. Huff, Commander U. S. Navy to  
Chief, Bureau of Docks, dated 31 March 1945.**

**Record Group 72, Box 2323, General  
Correspondence File. National Archives -  
Archives I, Washington, D. C.**

End--1 on Comll ltr to BuAer NAB/1:2  
Ser P-18108 dtd 24 Mar 45

31 MAR 1945

From: Chief, BuAer  
To: Chief, BuDocks  
Via: CMC

Subj: MCAS El Centro, Calif. - Access Roads to El Centro Rocket  
Targets Nos. 1 and 2 and Salton Sea Rocket Targets  
(Winona No. 1 and 2); Request for.

54064

Ref: (c) ComMALL ltr MALL/M20-10, 800152 Hs:mj dtd 20 Feb 45

Encl: (A) Copy of ref. (c).

1. Forwarded.
2. Ref. (c) recommended that funds be allotted for the construction of subject access roads. By first endorsement dated 1 March 1945 to ref. (c) ComEleven stated that the necessary road easements for use of lands not already acquired in connection with the targets would be obtained by the District Land Acquisitions Section. Ref. (a) informed ComEleven that the project was being held in abeyance pending receipt of the necessary easements and/or land data for acquiring them. The data was forwarded to BuAer by the basic letter.
3. It is requested that BuDocks take the necessary action to acquire a permit for the construction, maintenance, and use of the access road over the property described in the basic letter for the duration and six months.
4. The nominal consideration, if any, for the permit is chargeable to the appropriation "Aviation Navy 1945, Subhead 3."
5. The subject project does not represent an increase in scope of existing facilities or establish any new facilities for which Naval personnel will be required at MCAS El Centro, Calif. This information is given in conformance with SecNav confidential directive, (SC) P16-1/RN, dated 26 January 1944 re Employment of personnel.
6. From encl. 1 of ref. (c) it appears that the access road may not lie within the land described in the basic letter and from encl. 2 of ref. (c) it appears that the deflection spotter shack for El Centro Rocket Target No. 1 may not lie within the land requested for this target. By copy hereof the Station is requested to advise BuAer on these matters.

CC: ComEleven  
ComNavAirBases, 11th NavDist  
GO, MCAS El Centro, Calif.  
Lt. Gustafson - Rm. 3325  
Lt. Woodside - Rm. S-1600  
Lt. Campbell - Rm. S-1079

Lt. Merrick I. Campbell  
29 March 1945  
REHeare

G. E. HUFF  
Comdr. U.S.N.  
By direction Chief of Bureau

5086047



## **APPENDIX E-2**

**Eleventh Naval District  
Circular Letter Number 20-44 from Commander,  
Aircraft, Southern California Sector, Western Sea  
Frontier to Aircraft, Southern California Sector,  
Western Sea Frontier, dated 24 August 1944.  
Record Group 181, Box 87, General  
Correspondance Files. National Archives Pacific  
Southwest Region, Laguna Niguel, California.**

AGC/F41-10  
A2-11(wt)  
Serial: 98

AIRCRAFT  
SOUTHERN CALIFORNIA SECTOR  
WESTERN SEA FRONTIER

24 August, 1944

Eleventh Naval District  
San Diego, California

AIRCRAFT SOUTHERN CALIFORNIA SECTOR, WESTERN SEA FRONTIER  
CIRCULAR LETTER NUMBER 20-44

From: Commander Aircraft, Southern California Sector, Western  
Sea Frontier.  
To : AIRCRAFT, Southern California Sector, Western Sea Frontier.  
Subj: Bombing Targets in Southern California Sector, Western Sea  
Frontier.

1. Enclosure (1) contains the position and description of all bombing targets in the Southern California Sector of the Western Sea Frontier, together with a statement of the type of bombing runs permitted and the type of ordnance permitted.
2. Certain bombing targets listed in enclosure (1) are not in commission as yet. A notam will be issued when such targets are commissioned.
3. The targets listed in enclosure (1) shall be used solely by the units to whom they are assigned by Joint Operations Center, San Diego (Naval Air Control Center). The unit to whom the target is assigned, however, may permit another unit to use such target. When such permission is given, Air Control Center shall be advised by teletype.
4. Where areas, targets, and landing fields are assigned by Joint Operations Center, San Diego, to more than one unit, the senior naval aviator of the units assigned the same areas, targets and landing fields shall coordinate the schedules except in cases where the assignments specify the hours a unit is to use such area, target or landing field.
5. It is frequently necessary to conduct air and surface firing and other surface operations in the same areas. All units must exercise caution. Aerial gunnery above an overcast is not permitted.
6. No dummy runs are to be made on any target declared closed.
7. Water filled bombs over 100 pounds may not be used on water bombing targets or land skip bombing targets.
8. Units desiring to drop live bombs must notify Joint Operations Center, San Diego at least 24 hours in advance.
9. The following targets can be illuminated: Otay on request to Naval Auxiliary Air Station, Brown Field, all Salton Sea targets on request to

Jan

ACC/F41-10

A2-11(wt)

Serial: 98

24 August, 1944

Subj: Bombing Targets in Southern California Sector, Western  
Sea Frontier.

-----  
Naval Auxiliary Air Station Salton Sea and Holtville one (1) and two (2)  
on request to Naval Auxiliary Air Station Holtville.

10. Squadrons must observe provisions of Fleet Air Detachment Circular  
Letters 25-43 and 22-44.

By direction of ComAirSoCalSec, WSP.

Enc-(1) Position & Description  
of Bombing Targets.

*Max L. Black*  
MAX L. BLACK  
Deputy Commander

Reproduced from the holdings of the National Arch  
 Pacific Southwest Region

NAME	POSITION	DESCRIPTION	TYPE OF BOMBING RUN	TYPE OF ORDNANCE
WBT A	32-32-10 117-12-30	Radar-rigged Pyramid	Bombing runs must be conducted at an alt. not to exceed 700 ft. Actual releases at 200 feet.	Practice Bombs
WBT B	33-04-40 117-19-50	Radar Rigged Pyramid	Low level (see WBT A)	Practice bombs
Borego Hotel BT D CO.	33-05-30 116-06-06	Concentric Circles	High Altitude and Dive Bombing	Practice bombs and strafe
Borego Wash BT	33-11-45 115-09-15	Concentric circles with airplane silhouette adjacent to target for strafing only	High Altitude and Dive Bombing	Practice bombs and strafe
WBT C	33-26-00 117-41-30	Radar-rigged Pyramid	Low-level (see WBT A)	Practice bombs
Catalina BT	33-18-50 118-26-40	Concentric circles	Dive Bombing	Practice bombs
Clarks Dry Lake BT	33-20-24 116-16-48	Concentric circles simulated submarine	High Altitude and Dive Bombing	Practice bombs and strafe
Cortes Bank WBT	32-28-45 119-12-50	Radar-rigged	Low-level	Practice bombs
Coyote Wells BT	32-56-00 115-52-30	Circle - simulated Destroyer deck	High Altitude and Dive bombing	Practice bombs and strafe
WBT D	33-37-27 118-04-00	Radar-rigged Pyramid	Low-level (See WBT A)	Practice bombs
WBT E	34-01-00 118-36-00	Radar-rigged Pyramid	Low-level (see WBT A)	Practice bombs
East Borego BT	33-04-00 115-57-25	Circle	High Altitude and Dive Bombing	Practice bombs and strafe
Holtville BT 1	32-56-45 115-12-30	Concentric circles	Dive Bombing	Practice bombs and strafe
Holtville BT 2	33-01-30 115-18-30	Concentric circles	Low-level	Rocket
Holtville BT 3	33-09-00 115-22-05	Concentric circles	Dive Bombing	Practice bombs

Photoduplicate of the ComAirSecSec  
 No. 20-44

NAME	POSITION	DESCRIPTION	TYPE OF BOMBING RUN	TYPE OF ORDNANCE
Holtville 1 R	32-54-45 115-15-30	Concentric circles	Low-level	Rocket
Lake Hodges BT	33-00-55 117-08-45	Concentric circles simulated destroyer deck	Dive Bombing	Practice Bombs
Kane Springs SBT	33-04-10 115-47-45	Radar-rigged fence	Low-level	Miniature Bombs and strafe
Miramar BT	32-54-00 117-07-00	Concentric circles	Runs must be made so that pull-outs will be in northerly direction and when operating below 5000 feet will remain north of an eastwest line drawn through the field to avoid conflict with traffic on Camp Kearney Field.	Practice Bombs
Ocotillo Mobile and Stationary BT	33-08-08 116-07-09	Concentric circles	Dive bombing	Practice Bombs
Otay BT	32-35-00 116-55-45	Concentric circles simulated destroyer deck	Dive bombing	Practice bombs
Ramona BT	33-02-00 116-54-48	Concentric circles simulated destroyer deck	Dive bombing	Practice bombs
<u>ALTON, SEA</u> SBT	33-15-15 115-49-15	Screened raft-radar	Low-level	Practice bombs (Target closed for repairs 0001 to 2000 each Monday.)
FBT 11	33-18-15 115-51-15	Pyramid	High Altitude and Dive Bombing	Practice bombs
FBT 12	33-24-30 115-59-15	Pyramid	High Altitude and Dive Bombing	
FBT 13	33-28-15 116-02-15	Pyramid	High Altitude and Dive Bombing	Practice bombs
FBT 14	33-29-30 115-55-00	Pyramid	High Altitude and Dive Bombing	Practice Bombs

NAME	POSITION	DESCRIPTION	TYPE OF BOMBING RUN	TYPE OF ORDNANCE
FBT 15 ✓	33-27-00 115-52-30	Pyramid	High Altitude and Dive Bombing	Practice Bombs
FBT 16 ✓	33-23-30 115-48-15	Pyramid	High Altitude and Dive Bombing	Practice Bombs
FBT 17 ✓	33-20-15 115-45-00	Pyramid	High Altitude and Dive Bombing	Practice Bombs
FBT 18 ✓	33-17-30 115-40-30	Pyramid Radar-rigged	Low-level	Practice Bombs
FBT 19 ✓	33-15-15 115-37-00	Radar-rigged Pyramid	Low-level	Practice Bombs
<u>SAN CLEMENTE</u>				
LBT 21	32-53-23 118-29-13	Concentric circles and rectangle	Dive Bombing	Practice bombs
WBT 5	32-54-55 118-27-42	Pyramid	High Altitude and Dive Bombing	Practice Bombs
Castle Rock BT	33-02-10 118-36-45	Rock	High Altitude and Dive Bombing	Practice Bombs and Strafe
WBT 6	32-49-57 118-21-17	Pyramid	High Altitude and Dive Bombing	Practice Bombs
Trabuco BT	33-37-45 117-36-00	X east target a destroyer masthead Y center target a circle Z west target a circle	Dive and Glide Bombing	Five pound practice bombs only
WBT 1	32-27-00 117-10-30	Radar-rigged Pyramid	Low-level	Practice Bombs
WBT 2	32-22-45 117-09-18	Radar-rigged	Low-level	Practice Bombs
WBT 3	32-17-34 117-09-30	Pyramid	Low-level	Practice Bombs
Winona BT 1	33-13-30 115-58-15	Concentric Circles	Low-level	Rockets
Winona BT 2	33-13-30 115-00-30	Concentric Circles	Low-level	Rockets
Wilson Rock BT	34-06-30 120-24-12	Rock	High Altitude and Dive Bombing	Practice and live Bombs and Strafe

## **APPENDIX E-3**

**Eleventh Naval District Letter from A. D. Bernard, Commander, Naval Air Bases to all units of the Naval Air Bases, Eleventh Naval District, dated 23 April 1945. Record Group 181, Box 38, General Correspondence Files. National Archives Pacific Southwest Region, Laguna Niguel, California.**

HEADQUARTERS  
COMNAVFOR, U.S. NAVY  
ELEVENTH NAVAL DISTRICT

NAB11/OT  
(950129)(mc)

23 April 1945

NAB-11TH N. D. ORDER NO. 4

To: Commanding Officers and Officers-in-Charge, All Units  
of the Naval Air Bases, Eleventh Naval District.

Subj: Land and Water Targets - Numbering of.

1. In the past, all targets in the Eleventh Naval District, used for aircraft training, have been designated by name or number and have caused some confusion in assignment.
2. In order to simplify the identity of targets, all land and water targets will bear a series of numbers, the series indicating the location or type of target.
3. Listed below are the old names and numbers of the targets and the new numbers which are being assigned.
4. Water and Off-Coast targets will bear numbers from 1 to 30.

<u>Present Name of Target</u>	<u>New Number</u>
WBT #1	1
WBT #2	2
WBT #3	3
WBT A	4
WBT B	5
WBT C	6
WBT D	7
WBT E	8
WBT F	9
WBT G	10
Wilson Rock	11
Borg Rock	12
Jacobs Rock	13
San Clemente #5	14
San Clemente #6	15
San Clemente #21	16
Catalina (Catalina)	17
Cortes Bank (Cortes)	18
Glide Angle Target	19

Numbers 20 to 30 available for assignment to new targets.



MAR 11/07  
(730136) (mc)

Subj: Land and Water Targets - Numbering of.

5. Land targets near the coastline will bear numbers from 30 to 50.

<u>Present Name of Target</u>	<u>New Number</u>
Lake Hodge's	
Lake Hodge's	30
Miramar	31
Otay	32
Tomocula #1	33
Tomocula #2	34
Trabuco X	35
Trabuco Y	36
Trabuco Z	37

Numbers 38 to 50 available for assignment to new targets.

6. Targets in the desert area other than Rocket Targets will bear numbers from 50 to 90.

<u>Present Name of Target</u>	<u>New Number</u>
Salton Sea #9	50
Salton Sea #10	51
Salton Sea #11	52
Salton Sea #12	53
Salton Sea #13	54
Salton Sea #14	55
Salton Sea #15	56
Salton Sea #16	57
Salton Sea #17	58
Salton Sea #18	59
Salton Sea #19	60
Salton Sea Skip Bombing Target	61
Alamo Springs (Rene)	62
Borego Motel	63
Borego Wash	64
Clark's Dry Lake	65
Cactillo	66
San Felipe	67
Holtville #1	68
Orilby	69
(29) 29 Palms Skip Target	70
Mojave #2	71
Mojave #3	72
Mojave #4	73
Mojave #5	74
Mojave #6	75
Mojave Mobile	76
Coyote Wells	77

Numbers from 78 to 90 available for assignment to new targets.

NAB-11th  
(950126) (mc)

23 April 1945

Subj: Land and Water Targets - Numbering of

7. Rocket Targets regardless of location will bear numbers from 90 on.

<u>Present Name of Target</u>	<u>New Number</u>
Winona #1	90
Winona #2	91
El Centro #1	92
El Centro #2	93
Holtville 1R	94
Holtville 2R	95
King #1	96
King #2	97
29 Palms #1	98
29 Palms #2	99
29 Palms #3	100
Mojave 1	101
Trabuco Rocket	102

Numbers from 103 on available for assignment to new rocket targets.

*A. D. Bernhard*

A. D. BERNHARD  
Commander, Naval Air Bases,  
Eleventh Naval District.

Copies to:  
ComEleven (30)  
ComFairWestCoast (150)  
Deputy Comdr., NAB-11th N.D. (100)  
MarFairWestCoast (100)  
Naval Air Control Center (250)

## **APPENDIX E-4**

**Eleventh Naval District Letter from A. K. Fogg,  
Public Works Officer to Bureau of Docks, dated  
24 April 1946. Record Group 181, Box 425,  
Entry Eleventh Naval District. National Archives  
Pacific Southwest Region, Laguna Niguel,  
California.**

PL:W

24 APR 1946

To: BuDocks.

Attn: P-5.

Subj: Target Bombing and Rocket Ranges - DISCONTINUANCE OP.

Ref: (a) ComMAB ltr F41-10-ADR:an, Ser. 66-95 dtd 28 March 1946 to Com1 w/encl.

(b) BuDocks spltr dtd 14 Aug. 1946 to Comdts. All Naval Districts and River Commands, All Bureaus, Navy Dept.

1. Encl. 1, copy of Ref. (a), advised that certain bombing and rocket targets under cognizance of the Eleventh Naval District are not required for further use, and recommends necessary action be taken to terminate the leases, rescind the danger areas, and restore the land to its former status. Com1 concurs with the recommendations of ComMAB as set forth in Encl. 1. Encl. 2 is a list of the subject facilities located by target number coordinates and status of lease or permit.

2. The information required by Ref. (b) in cases of requests for cancellation is as follows. No salvage can be obtained from improvements as targets were demolished and repaired as needed. Where access roads were constructed, there is no salvage. Ref. (a) directs the activity having cognizance of the various targets and ranges to remove targets and restore the lands. As this will be done, no further restoration is anticipated.

3. Encl. 3 is a resume of the said status of lands involved in the various targets and sets forth the letter of request and letter of authorization for use, names of owners, legal descriptions, and status of leases, permits, or negotiations therefor.

By direction of the Commandant

A. K. FOGG,  
Public Works Officer  
11th Naval District;

Encl.

1. (HW) Copy of Ref. (a).
2. (HW) List of Targets to be Discontinued.
3. (HW) Resume of Status of Lands involved in various targets.

Copy for Commandant's Office ✓

In reply address  
COMMANDER  
NAVAL AIR BASES  
11th Naval District  
San Diego 26, Calif.  
and refer to:  
NA011/P41-10 Admin  
Serial 66 - 66

(COPY)

HEADQUARTERS  
COMMANDER, NAVAL AIR BASES  
ELEVENTH NAVAL DISTRICT

1946  
MAR 20 1946

To: Commandant, ELEVENTH Naval District.

Subj: Targets - Discontinuance of.

1. Present fleet requirements indicate that there is no further need to retain targets listed in enclosure 1. It is, therefore, recommended that necessary action be taken to terminate the leases, rescind the danger areas and restore the land to its former status.

2. Upon receipt of copy of this letter, units of Commander, Naval Air Bases, Eleventh Naval District, having cognizance of subject targets, will take necessary action to remove targets and restore the land to its original state, reporting to Commander, Naval Air Bases, Eleventh Naval District, when the restoration is completed.

/s/ A. D. Bernhard  
ALVA D. BERNHARD  
Commander, Naval Air Bases,  
Eleventh Naval District.

Encl. (HW)

1. List of Targets to be Discontinued.

cc: Navy Member, Los Angeles Subcommittee, IATCB  
Commandant  
Commander  
CO, NAS, El Centro  
CO, NAS, Holtville  
Chief, NAS, Salton Sea

(ENCLOSURE 1.)

to Coml ltr HD11/NA011/P41-10, Ser. No. P-22224

**TARGETS, INCLUDING LOCATION AND STATUS OF LEASE PERMITS  
TO BE DISCONTINUED**

TARGET NUMBER	LOCATION	STATUS LEASE PERMIT
14	Lat. 33-20-45 N Offshore Long. 118-31-00	None Necessary
19	Cercados Islands Lat. 32-25-35 N Long. 117-15-45 W	International Permit with Mexico Government.
28	Lat. 33-28-28 N Offshore Long. 118-35-28 W	None Necessary
29	Lat. 33-18-30 N Salton Sea Long. 118-55-10 W	No record of lease Ownership not established
57	Lat. 33-23-18 N Salton Sea Long. 118-49-45 W	Permit S. P. Land Co.
58	Lat. 33-20-50 N Salton Sea Long. 118-44-45 W	U. S. Govt. Dept. of Int. Eg Section 14 - US Govt.
59	Lat. 33-17-45 N Salton Sea Long. 118-40-30 W	Eg Section 23 S. P. Land Co.
60	Lat. 33-15-15 N Salton Sea Long. 118-44-50 W	U. S. Govt. Dept. of Int.
61	Lat. 33-15-15 N Salton Sea Long. 118-49-00 W	U. S. Govt. Dept. of Int.
62	Lat. 33-04-05 N Long. 117-48-14 W	U. S. Govt. Dept. of Int.
68	Lat. 32-52-30 N Long. 114-57-15 W	U. S. Govt. Dept. of Int.
77	Lat. 32-55-45 N Long. 115-53-45 W	480 acres U.S. Govt. Dept. of I 320 acres State of Cal. Permit 160 acres lease from Leeta East
90	Lat. 33-13-38 N Long. 118-58-58 W	U.S. Govt. Dept. of Int.
91	Lat. 33-13-38 N Long. 118-00-55 W	U.S. Govt. Dept. of Int.

(ENCL. 5.)

OFF SHORE TARGETS

TARGET NO. 14.

Pacific Ocean. Lat. 33°20'45" N, Long. 115°31'00" W. Off shore from Santa Catalina Island. No land acquired. No restoration.

TARGET NO. 19.

Coronado Island. Lat. 32°25'33" N, Long. 117°15'45" W. Republic of Mexico, owners. Authority for use granted by International Permit with the Mexican Government. Ref. ComNav confidential ltr to Vice CNO, File No. NP44/A1(A7-22)SW1207 dtd 20 Oct. 1943. It is assumed that restoration will be made by the target crew stationed at this target and that no additional funds will be required for restoration.

TARGET NO. 22.

Pacific Ocean. Lat. 33°25'20" N, Long. 115°26'25" W. Off shore from Santa Catalina Island. No land acquired. No restoration.

TARGET NO. 23.

Salton Sea Target. Lat. 33°19'50" N, Long. 115°55'10" W. Located in Section 8, Twp. 105, Rgn. 10N. Original target location was in Section 10, Twp. 104, Rgn. 10N, which section was Government owned by Dept. of Interior and authority was given for Navy use of land by permit from Secretary of Interior (the present location of the target is probably due to shifting from the action of wind and storms as this is a water target and was anchored at its original location). ((a) Ref. (a), ComNav ltr to Com1, NA011/55/N12(201369) dtd 1943. (b) Withdrawn by Executive Order dtd 3 Sept. 1941.) Removal of target will be by station labor. No restoration will be required.

TARGET NO. 27.

Salton Sea Target. Lat. 33°23'15" N, Long. 115°43'45" W. Located in Section 15, Twp. 08, R 11E, S20N, used by the Navy under Revocable Permit from the Imperial Irrigation District No. 808-2-39 dtd 20 April 1943 and "Amendment to Revocable Permit dtd 20 April 1943." Amendment dtd 3 Feb. 1954. Request: Ref. ComNav ltr to Com1 NA011/25/N12(201369) dtd 12 Dec. 1943. This is a water target. Removal of target will be by station labor. No restoration will be required.

(ENCL. 3.)

to Com1 ltr WD11/NA011/741-10, Ser. No. P-22634

TARGET NO. 58.

Salton Sea Target. Lat. 33°20'50" N. Long. 115°44'56" W. Located in Section 32, Twp. 05, R 12E, S20E, Imperial County, and was apparently originally located in Sec. 6, T 10S, R 12E, which section is Government owned under Dept. of Interior. Request: Ref. ComNAS ltr to Comll HAO11/SS/N12(801369) dtd 12 Dec. 1942. Present coordinate position probably due to drifting of target due to winds and storms. This is a water target. Removal of target will be by station labor. No restoration required.

TARGET NO. 59.

Salton Sea Target. Lat. 33°17'45" N. Long. 115°40'30" W. Located in the 3/4 of Sec. 14 and 1/2 of Sec. 23, Twp. 10S, Rge. 12E, SBHAM, Imperial Co. Request for: ComNAO ltr to Comll, HAO11/SS/N12 (801369). Section 14 is Govt. Owned land under Dept. of Interior, and Sec. 23 is Navy used under Revocable Permit from the Southern Pacific Land Company. This is a water target. Removal of target will be by station labor. No restoration will be required.

TARGET NO. 60.

Salton Sea Target. Lat. 33°15'15" N. Long. 115°44'50" W, located in Section 32, Twp. 10S, Rge. 12E, original location requested by ComNAS ltr to Comll, HAO11/SS/N12(801369) dtd 12 Dec. 1942 w/ Sec. 4 and Sec. 5, Twp. 11S, R 12E. These sections were in the Wild Life Refuge and target was relocated in present position on Dept. of Interior land. (Ref. Comll ltr to DuBocks, HAO11/Pal-10, Ser. No. P-14190 dtd 29 April 1944.) This is a water target. Target will be removed by station labor. No restoration required.

TARGET NO. 61.

Salton Sea Target. Lat. 33°15'18" N. Long. 115°49'00" W. Located in Sec. 24, Twp. 10S, Rge. 11E. Original location requested, Sec. 28 and 33, Twp. 10S, Rge. 11E, by ltr ComNAS to Comll, HAO11/SS/N12(801369) dtd 12 Dec. 1942. Sec. 28 is Government owned. Used under permit Dept. of Interior. Sec. 33 being lands of the Imperial Irrigation District and Navy used under a revocable permit therefrom. The present coordinate location is probably due to drifting of the target due to wind and storms. This is a water target. Target will be removed by station labor. No restoration required.



TARGET NO. 68.

Kanes Springs Target. Lat.  $35^{\circ}04'08''$  N., Long.  $117^{\circ}49'14''$  W. Located in Section 5, Twp. 13, Rge. 11E, SBB&M, Govt. owned under Dept. of Interior. Request: Ref. ComNAC ltr to Comll, NAC11/NI-13(950333) fre dtd April 22, 1944. Land withdrawn under Reclamation Act of June 17, 1908. Dept. of Interior. Ref. Comll ltr to BuDocks NAC11/F41-10, Ser. No. P-14190. Removal of target by station labor. No restoration required.

TARGET NO. 69.

Ogilby Bombing Target. Lat.  $32^{\circ}32'30''$  N. Long.  $114^{\circ}57'15''$  W. Located in Section 4, Twp. 15S, R 19E, SBB&M, Imperial County. Govt. owned under Dept. of Interior. Requested by ComNAC ltr to Comll NI-13(960628)mo dtd. 3 Dec. 1944 and Comll ltr to BuDocks KV37, Ser. P. 17311, dtd 3 Feb. 1945 used by Navy under permit from Dept. of Interior dtd 27 March 1945. No restoration required.

TARGET NO. 77.

Coyote Wells Target. Lat.  $32^{\circ}58'45''$  N. Long.  $115^{\circ}53'45''$  W. Located in Sec. 24, Twp. 14S, Rge. 10E and Sec. 19, Twp. 14S, R 11E, SBB&M. The  $\frac{1}{2}$  of Sec. 19, Twp. 14S, R 11E and the  $\frac{1}{2}$  of Sec. 24, Twp. 14S, R 10E are Govt. owned under the Dept. of Interior. The  $\frac{3}{4}$  of Sec. 24 being subject to a valid desert land entry No. 039104 made 21st of May 1913 Lesta Masley. (Present whereabouts unknown). The  $\frac{1}{4}$  of Sec. 24 is owned by the State of California and used by the Navy under permit with the State of California dtd 24 March 1943. Ref. Comll ltr to BuDocks NAC11/F41-10 (Ser. No. P-12066) dtd 14 Sept. 1943. Authority for use of Dept. Interior Land and Desert Entry. Ref. ltr from BuDocks to Comll NAC11/NI-13-P-5-3/RAG/film 65-7-CW dtd 11 Sept. 1944. Removal of target by station labor. No restoration expected.

TARGET NO. 80.

Winona #1. Rocket Firing. Lat.  $35^{\circ}15'38''$  N. Long.  $115^{\circ}58'55''$  W. Located in Section 12, Twp. 11S, Rge. 9 E, SBB&M. Ref. Logistic ltr to ComNAC, NAC11/F41-10, Ser. No. P-15546 dtd 29 Aug. 1944. Request for target lands. Comll ltr to BuDocks NAC11/F41-10, Ser. No. P-14190 dtd 29 April 1944. Govt. owned. Dept. of Interior. Removal of target by station labor. No restoration expected.

TARGET NO. 91.  
(Originally designated Rocket Target No. 31)

Winona #2, Rocket Piping Target. Lat.  $33^{\circ}13'39''N$ , Long.  $110^{\circ}00'55''W$ .  
Located in Sec. 10, Twp. 113, Rge. 3E, SBHM. Ref. Logistic ltr to  
Comd MAC11/P41-10, Ser. No. P-15546 dtd 27 Aug. 1944. Access road to  
targets 90-91. Ref. Par. 3 Comd ltr to BuDecks MAC11/P41-10, Ser. No.  
P-15952 dtd 12 May 1945 re permit to use portion of Sec. 11. Request  
for target leads. Comd ltr to BuDecks MAC11/P41-10, Ser. No. P-14190.  
Govt. owned Dept. of Interior. Removal of target by station labor. No  
restoration expected.

## **APPENDIX E-5**

**Naval Air Command  
Letter from G.M. Ravenscrone, Assistant  
Commandant Logistics to Commander, Naval Air  
Command South Pacific Division, dated 29  
August 1944. Record Group 181, Box 38,  
General Correspondence File. National Archives  
Pacific Southwest Region, Laguna Niguel,  
California.**

NAC11/F41-10  
(Serial No.P-15546)

Lat:Pas

29 AUG 1944

To: Comdr. NAO, SD.

Subj: Acquisition of land for Bombing Targets, NAO, San Diego, California.

Ref: (a) Ultr NAO11/W1-13 (950333) fro, dated 22 April 1944.

1. By ref. (a) it was requested Government land under the jurisdiction of the Department of Interior be transferred to the Navy Department for use as Bombing Target Sites. The following sections of land were requested:

- a. Section 2, Township 13 South, Range 11 East.
- b. Section 12, Township 11 South, Range 9 East. — 90
- c. Section 10, Township 11 South, Range 9 East. — 91
- d. Section 16, Township 13 South, Range 10 East.
- e. Section 12, Township 12 South, Range 15 East.
- f. Section 32, Township 10 South, Range 12 East.

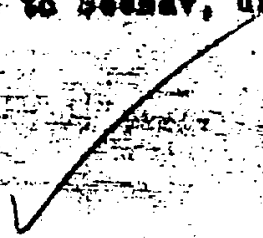
2. Encl. 1 is letter from the Secretary of Interior granting to the Navy Department temporary use of all the above sites requested with the exception of site d and e.

3. Item d, being Section 16, Township 13 South, Range 10 East, S.B.B.M. was changed to Section 15 by despatch after reference was forwarded, because said Section 16 was California State School property.

G. M. DAMENSCOFF  
Assistant Commandant (Logistics)

Encl.  
1. (HW) Copy of ltr from SecInt to SecNav, dated 15 Aug. 1944.

*8/30/44*  
*[Handwritten initials]*



*14*

Copy for Commandant's Office

## **APPENDIX E-6**

### **Navy Department**

**Letter from Jack E. Cochran by Direction of Chief  
Bureau of Ordnance to Commandant, Eleventh  
Naval District, dated 19 February 1947. Record  
Group 74, Box 209, General Correspondance File.  
National Archives - Suitland Branch, Suitland,  
Maryland.**

*Scitlan*  
Ry 741, Entry 5545, BOX 204  
ND 10-ND 12, 1947

ADDRESS REPLY TO  
THE BUREAU OF YARDS AND DOCKS

AND REFER TO

NAVY DEPARTMENT

WASHINGTON 25, D. C.



- ND 11/MI-13
- TB-2-SD-20
- TS-7-SF-1
- TS-7-SD-2
- TS-7-SD-3
- TS-7-CX
- 7-5-3-B-HAS:vrw

ND 11  
MN 2  
2777D

19 FEB 1947

022047  
0300

To: Commandant, Eleventh Naval District,  
San Diego, 30, California

Subject: Discontinuance of Target and Bombing Ranges.

Reference: (a) Ltr. Sec. Nav. dated 24 Jan. 1947, Same subject,  
to Sec. Interior

1. In Reference (a) the Secretary returned to the jurisdiction of the Department of the Interior the public lands used for targets Number 58, 59, 60, 61, 62, 69, 77, 90 and 91, all in the general area of the Salton Sea. The Secretary of the Interior requests information "whether any harmful elements, such as unexploded shells or ammunition, which may have been deposited upon the lands as a result of Navy Department use, have been removed or rendered harmless." It is requested that such information in the premises as it is possible to obtain, be forwarded to this Bureau.

Jack E. Cochran  
By direction of Chief of Bureau

CO: SecNav  
C.N.O.  
BuOrd  
BuAer

## **APPENDIX E-7**

**United States Pacific Fleet Air Force  
Listing for munition requirements for Fleet Air,  
West Coast, dated 26 January 1946. Record  
Group 74, Box 287, General Correspondance File.  
National Archive - Suitland Branch, Suitland,  
Maryland.**

Rg 74, Entry 444, Box 28  
 ND 8-ND 11, 1946

DECLASSIFIED PER EXECUTIVE ORDER 12356, SECTION 3.3, MND PROJECT  
 NUMBER NND 917566, BY J3/CWC, DATE 12/14/95

UNITED STATES PACIFIC FLEET  
 AIR FORCE  
 FLEET AIR, WEST COAST

26 Jan 1946

045

C O N F I D E N T I A L

COMFAIR WEST COAST SERVICE AND TRAINING MUNITION REQUIREMENTS

	<u>NAS SAN DIEGO</u>	<u>NAAS BROWN</u>	<u>NAAS CAMP KEARNEY</u>	<u>MCAS EL CENTRO</u>	<u>NAAS LOS ALAMITOS</u>
<u>SERVICE</u>					
100# GP	300	114	---	126	---
500# GP	96	48	---	48	---
1000# GP	20	20	36	32	---
350# BB	72	---	72	---	---
Torpedoes	44	---	---	---	---
.30 Cal.	96,000	48,000	---	48,000	---
.50 Cal.	434,460	145,050	172,800	195,630	---
20 MM	19,200	9,600	---	9,600	---
5' HVAR	900	342	---	272	---
Tiny Tim	---	---	---	12	---
<u>TRAINING (For a four month period)</u>					
100# Live	744	244	162	---	---
500# Live	318	122	---	---	---
1000# Live	372	122	81	---	---
325-350# DB	54	---	81	---	---
100# H2O fill.	7,440	2,440	810	11,176	1,220
Minatures	22,320	7,320	2,430	20,176	3,660
SCAR (fast)	7,632	2,928	---	53,292	1,464
3.5 A R	---	---	---	2,500	---
Tiny Tim	---	---	---	1,224	---
.30 Cal	696,000	348,000	---	348,000	174,000
.50 Cal	5,193,120	1,776,960	864,000	2,380,560	888,480
20 MM	139,200	69,600	---	69,600	34,800

ENCLOSURE (A)

ENCLOSURE (A)

C  
 O  
 P  
 Y

030645 0318



**APPENDIX F**  
**REAL ESTATE DOCUMENTS**

Ordnance and Explosives  
Chemical Warfare Material  
**Archives Search Report**

**FINDINGS**

**Winona Bombing Target #2**  
Salton City, California  
Imperial County  
Project Number - J09CA016801

APPENDIX F

**REAL ESTATE DOCUMENTS**

The archive search did not locate any real estate documents that contradicted or modified the information contained in the Inventory Project Report (INPR) for Winona Bombing Target #2 contained in Appendix D-1. Complementary real estate documents were gathered and reviewed but are not presented here. These documents will be stored with all the original ASR information.

**APPENDIX G**  
**NEWSPAPER / JOURNALS**  
**Not Used**

**APPENDIX H**  
**INTERVIEWS**

Ordnance and Explosives  
Chemical Warfare Material  
Archives Search Report

**FINDINGS**

**Winona Bombing Target #2**  
Salton City, California  
Imperial County  
Project Number - J09CA016801

**APPENDIX H**

**INTERVIEWS**

The following individuals were interviewed and provided information concerning Winona Bombing Target #2. The conversations are documented in Telephone Conversation Records that follow:

<u>Individual Contacted</u>	<u>Date Interviewed</u>	<u>Position/ Organization</u>	<u>Page Number</u>
Tim Finger/Linda Kastoll	26 January 1996	BLM	H-2
Ron Plante	31 January 1996	Project Manager	H-4
Sergeant McCoy	1 February 1996	Marine EOD	H-5
Bradley M. Garrison	20 February 1996	County Bomb Unit	H-6

The following individuals were also contacted and assisted in the preparation of the ASR though these conversations were not documented.

<u>Individual Contacted</u>	<u>Telephone Number</u>	<u>Position/ Organization</u>
Debbie Castens	213-894-2865	USACE - Los Angeles District
Greg Boghossian	213-894-3760	USACE - Los Angeles District
Trudy Knutson	213-894-6388	USACE - Los Angeles District
Joe Jennings	DSN 585-8019	Project Manager USACE

# TELEPHONE OR VERBAL CONVERSATION RECORD

DATE: 26 January 1996

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

<b>SUBJECT OF CONVERSATION</b> Winona Bombing Target #1 and #2		
<b>INCOMING CALL</b>		
<b>PERSON CALLING</b>  	<b>ADDRESS</b>  	<b>PHONE NUMBER AND EXTENSION</b>  
<b>PERSON CALLED</b>  	<b>OFFICE</b>  	<b>PHONE NUMBER AND EXTENSION</b>  
<b>OUTGOING CALL</b>		
<b>PERSON CALLING</b> Jennifer James	<b>ADDRESS</b> CELMS-PM-M	<b>PHONE NUMBER AND EXTENSION</b> 314-331-8782
<b>PERSON CALLED</b> Tim Finger Linda Kastoll	<b>OFFICE</b> Bureau of Land Management, El Centro Division	<b>PHONE NUMBER AND EXTENSION</b> 619-337-4400

**SUMMARY OF CONVERSATION:**

I contacted Mr. Finger to inquire about the two former Navy rocket ranges called Winona #1 and #2 located at Sections 10 and 12 of Township 11 South, Range 9 East in Imperial County. My main questions were of ordnance contamination, if a 4 wheel drive vehicle would be necessary during a site visit, and if there would be any problems with right of entry for a site visit.

Mr. Finger replied that there would be no problem with a site visit. He remarked that a lot of that part of the county has a military background and he would have to do a little research as far as ordnance contamination is concerned. He also said he would have to look at the big map for access roads and he would call me back later today.

**FOLLOW-UP 26 JANUARY 1996**

Ms. Linda Kastoll contacted me in regards to my questions on Winona Bombing Target #1 and #2. She had been asked by Mr. Finger to respond to the questions asked as this is more her territory. Ms. Kastoll said that the BLM was not aware that this property had ever been leased to the Navy. She stated that there was no El Centro office in the 1940's, and all historic records concerning the property have been lost.

Ms. Kastoll stated that the BLM has received no reports of any ordnance contamination concerning these two pieces of property. The current site use

is undeveloped desert. To her knowledge there are not any plans for development in the future.

I also asked her about the Ocotillo Wells State Vehicular Recreation Area which is located close to the former bombing targets. She replied that this is part of a state park which is motor cycle and dune buggy trails. I thanked Ms. Kastoll for her time.

# TELEPHONE OR VERBAL CONVERSATION RECORD

DATE: January 31, 1996

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

<b>SUBJECT OF CONVERSATION</b>  Winona Bombing Target #1 and #2		
<b>INCOMING CALL</b>		
<b>PERSON CALLING</b>  [Empty]	<b>ADDRESS</b>  [Empty]	<b>PHONE NUMBER AND EXTENSION</b>  [Empty]
<b>PERSON CALLED</b>  [Empty]	<b>OFFICE</b>  [Empty]	<b>PHONE NUMBER AND EXTENSION</b>  [Empty]
<b>OUTGOING CALL</b>		
<b>PERSON CALLING</b>  Jennifer James	<b>ADDRESS</b>  CELMS-PM-M	<b>PHONE NUMBER AND EXTENSION</b>  314-331-8782
<b>PERSON CALLED</b>  Ron Plante	<b>OFFICE</b>  Project Manager CE Rock Island, IL	<b>PHONE NUMBER AND EXTENSION</b>  309-794-6006

**SUMMARY OF CONVERSATION:**

I contacted Mr. Plante to ask information about the Naval Auxiliary Air Station, Salton Sea. He is currently the Project Manager for an ASR BRAC report. Salton Sea was the closest naval air station to the Winona Bombing Targets. I was generally looking for information that he might have run across in his research which might have mentioned the Winona fields.

As we compared information it was realized that he had the same historical documentation and maps that we had. He also commented on the many bombing targets that were located in the area. **Mr. Plante commented also that there is no direct evidence that the Winona Bombing Targets were directly related to the Salton Sea Station. He explained his theory that the targets were probably used by many of the airfields.**

He mentioned that the aircraft most likely used in this area were the TBF Avenger (torpedo - bombers), F4U Corsair and F6F Hellcat (fighters), and possibly the PBV 5A Catalina (sea plane). The sea planes may have been used to shoot rockets at land targets. He also brought up that the rockets that have come up in his research are the 3.5 inch aerial rocket (AR), the 2.25 Sub Caliber Aerial Rocket (SCAR) which was the trainer for the 4.5 inch, and the 5 inch.

Mr. Plante volunteered to send a draft copy of his report on the Naval Auxiliary Air Station, Salton Sea in the next 7 to 10 days as he is finishing it up. He suggested it might give us a little insight into the area and what has taken place. He also suggested talking to Joe Jennings (DSN 585-8019) at Savanna, a Project Manager working on the Carrizo Impact Area ASR. This area was also close to the Winona Bombing Targets.

We closed our conversation and commented that I would be looking forward to reviewing the report he was sending.



**TELEPHONE OR VERBAL CONVERSATION RECORD**

DATE: February 1, 1996

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

<p><b>SUBJECT OF CONVERSATION</b></p> <p>Winona Bombing Target #1 and #2</p>		
<p><b>INCOMING CALL</b></p>		
<p><b>PERSON CALLING</b></p>	<p><b>ADDRESS</b></p>	<p><b>PHONE NUMBER AND EXTENSION</b></p>
<p><b>PERSON CALLED</b></p>	<p><b>OFFICE</b></p>	<p><b>PHONE NUMBER AND EXTENSION</b></p>
<p><b>OUTGOING CALL</b></p>		
<p><b>PERSON CALLING</b></p> <p>Jennifer James</p>	<p><b>ADDRESS</b></p> <p>CELMS-PM-M</p>	<p><b>PHONE NUMBER AND EXTENSION</b></p> <p>314-331-8053</p>
<p><b>PERSON CALLED</b></p> <p>Gunnery Sergeant McCoy</p>	<p><b>OFFICE</b></p> <p>Marine Corp EOD Yuma Proving Ground</p>	<p><b>PHONE NUMBER AND EXTENSION</b></p> <p>602-341-2303</p>

**SUMMARY OF CONVERSATION:**

I contacted the servicing EOD unit for that area to inquire about possible incidents that they may have responded to in the areas of the Winona Bombing Targets. Sgt. McCoy has been with the unit for several years and was glad to be of service.

I described the area where the bombing ranges are located. After looking through the unit's records, Sgt. McCoy said they have not had any calls in that particular area around Salton City. The closest incident that they have responded to was more in the "Borengo" area, which is more southwest.

I thanked the Sgt. for his time and we closed our conversation.

# TELEPHONE OR VERBAL CONVERSATION RECORD

DATE: February 20, 1996

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION  Winona Bombing Target #1 and #2		
INCOMING CALL		
PERSON CALLING	ADDRESS	PHONE NUMBER AND EXTENSION
PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION
OUTGOING CALL		
PERSON CALLING  Jennifer James	ADDRESS  CELMS-PM-M	PHONE NUMBER AND EXTENSION  314-331-8782
PERSON CALLED  Bradley M. Garrison Arson/Bomb Unit	OFFICE  Imperial County Fire Department	PHONE NUMBER AND EXTENSION  619-355-1164

**SUMMARY OF CONVERSATION:**

I contacted Mr. Garrison concerning possible incidents concerning the Winona Bombing Targets. After a geographic explanation of the areas, he responded that to his knowledge they have not received any bomb squad calls to that area.

Mr. Garrison explained that the only incident they have been called on in that area was half-way between Westmorland and Salton City. It involved a man in a rural area that uncovered a 3 pound practice bomb while digging in an area. He said they responded and removed the item as the spotting charge was expended. This is the only incident that they have responded to in a long time. He stated that the Marine EOD unit out of Yuma takes these type incidents involving military ammunition or explosives. I thanked Mr. Garrison for his time and we closed our conversation.

Ordnance and Explosives  
Chemical Warfare Material  
Archives Search Report

FINDINGS

Winona Bombing Target #2  
Salton City, California  
Imperial County  
Project Number - J09CA016801

APPENDIX I

PRESENT SITE PHOTOGRAPHS

TABLE OF CONTENTS

<u>Photo. No.</u>	<u>Photograph Location</u>	<u>Page No.</u>
1	<u>Assorted OE Debris</u> - suspension lug strap	I-2
2	<u>2.25 inch practice rocket</u> - rocket motor	I-2
3	<u>3 pound miniature practice bomb</u>	I-2
4	<u>3 pound miniature practice bomb</u>	I-3
5	<u>SW Corner of <math>\approx</math>250' square "target"</u> - looking northeast	I-3
6	<u>SE Corner of <math>\approx</math>250' square "target"</u> - looking northwest	I-3
7	<u>2.25 inch practice rocket</u> - curled scrap from rocket motor	I-4
8	<u>2.25 inch practice rocket</u> - inert, zinc head	I-4



Photo #1  
Winona Bombing Target #2  
8 February 1996  
Assorted OE Debris -  
suspension lug strap for  
a 100 pound practice  
bomb; tailfins from a  
2.25 inch practice  
rocket

Photo #2  
Winona Bombing Target #2  
8 February 1996  
2.25 inch practice  
rocket - rocket motor



Photo #3  
Winona Bombing Target #2  
8 February 1996  
3 pound miniature  
practice bomb - pieces  
of nose (cast iron  
nose); other metal  
fragments edges do not  
have characteristic  
fragmentation look of  
shrapnel from a high  
explosive round;



Photo #4  
Winona Bombing Target #2  
8 February 1996  
3 pound miniature  
practice bomb - pieces  
of nose (cast iron  
nose); other metal  
fragments edges do not  
have characteristic  
fragmentation look of  
shrapnel from a high  
explosive round; Note:  
.30 cal projectiles too.

Photo #5  
Winona Bombing Target #2  
8 February 1996  
SW Corner of ≈250'  
square "target" -  
looking northeast.



Photo #6  
Winona Bombing Target #2  
8 February 1996  
SE Corner of ≈250'  
square "target" -  
looking northwest; Note:  
two other inspection  
team members are  
standing, at the center  
of the square (N 33° 13'  
38.2", W 116° 01' 08.2")  
and farther in the  
distance on the NW  
corner.



Photo #7  
Winona Bombing Target #2  
8 February 1996  
2.25 inch practice  
rocket - curled scrap  
from rocket motor.  
Edges do **not** have  
characteristic  
fragmentation look of  
shrapnel from a high  
explosive round.  
Curling appears to have  
been caused by landing  
nose down.

Photo #8  
Winona Bombing Target #2  
8 February 1996  
2.25 inch practice  
rocket - inert, zinc  
head and .50 cal belt  
links



**APPENDIX J**  
**HISTORICAL PHOTOGRAPHS**

**Not Used**

**APPENDIX K**

**HISTORICAL MAPS / DRAWINGS**

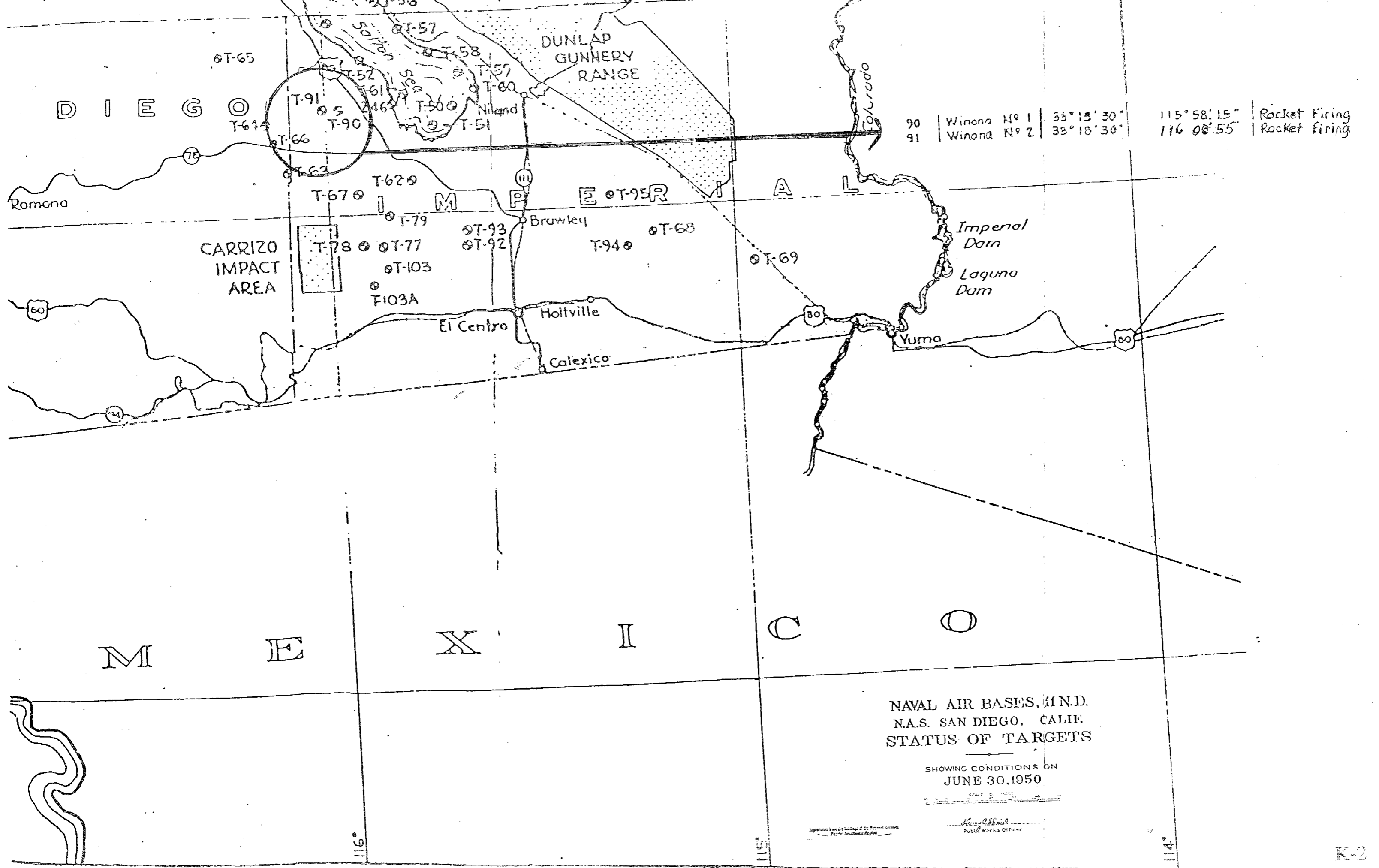


## APPENDIX K

### HISTORICAL MAPS / DRAWINGS

<u>Page No.</u>	<u>Historical Maps / Drawings</u>
K-1	Map entitled "Status of Targets" for the Naval Air Bases 11th Naval District. Showing conditions on June 30, 1950. Record Group 181, Box 38, General Correspondance File 1925-1952. National Archives Pacific Southwest Region, Laguna Niguel, California.
K-2	Map entitled "Status of Targets" for the Naval Air Bases 11th Naval District. Showing conditions on June 30, 1950. Record Group 181, Box 38, General Correspondance File 1925-1952. National Archives Pacific Southwest Region, Laguna Niguel, California.





90	Winona No 1	33° 13' 30"	115° 58' 15"	Rocket Firing
91	Winona No 2	33° 18' 30"	116° 00' 55"	Rocket Firing

NAVAL AIR BASES, N.A.S. SAN DIEGO, CALIF.  
STATUS OF TARGETS

SHOWING CONDITIONS ON  
JUNE 30, 1950

Henry R. Baird  
Public Works Officer

**APPENDIX L**

**SITE SPECIFIC SAFETY AND HEALTH PLAN /  
SITE INSPECTION REPORT**

Ordnance and Explosives  
Chemical Warfare Material  
**Archives Search Report**

**FINDINGS**

**Winona Bombing Target #2**  
Salton City, California  
Imperial County  
Project Number - J09CA016801

**APPENDIX L**

**SITE SPECIFIC SAFETY AND HEALTH PLAN / SITE INSPECTION REPORT**

- L-1 Site Specific Safety and Health Plan (SSHP) - Winona Bombing Target #2
- L-2 Site Inspection Report - Winona Bombing Target #2

## **APPENDIX L-1**

**Site Specific Safety and Health Plan (SSHP) -  
Winona Bombing Target #2**

SITE SPECIFIC SAFETY AND HEALTH PLAN (SSHP)  
OE/CWM Archives Search Site Inspection Visit  
WINONA BOMBING TARGET #2  
Imperial County, California  
Site #J09CA016802

1. REFERENCES:

- a. Code of Federal Regulations (29 CFR); revised 1 Jul 94; Subpart H - Hazardous Materials; section 1910.120, Hazardous Waste Operations.
- b. CEHND 1115-3-521 "Archives Search Report Procedural Document", Jun 94.
- c. CEHND "Ordnance and Explosive Waste Field Operations Handbook", Feb 95
- d. CELMS-PM-M "Safety and Health Program for Hazardous Waste Operations", 8 Jan 96
- e. CELMS-PM-M "SOP for Reporting Ordnance and Unexploded Ordnance", 19 Jan 95.

2. GENERAL: This plan prescribes the safety and health requirements for team activities and operations conducted to determine the presence of ordnance and explosive waste and /or chemical warfare materials at the specified site.

a. The Safety Officer has final authority on all matters relating to safety. The safety rules will be followed at all times. Any member of the team may stop operations if they observe a situation or activity which poses a potential hazard to any individual or to the operation. All actions must comply with the common sense rule!

b. All team members will be aware of the local emergency numbers and the location of the nearest telephone.

c. A minimum of two and a maximum of eight persons will be allowed on-site at any one time.

d. The property owner is not required to sign the SSHP, but should be politely asked to participate in the safety briefing.

3. MISSION: Reconnoiter, document, and photograph areas on the Winona Bomb Target #2 suspected to be contaminated with UXO and/or toxic chemical munitions. The site is located approximately 4.85 miles south of the center of Salton City. In 1944, the Eleventh Naval District acquired temporary use of this site as a low-level rocket target. Evidence of additional ammunition being found on the site indicate that it was used for more than a rocket target.

4. SAFETY PRECAUTIONS: All team members will stay within sight of each other while on site. A first aid kit will be on hand. The following three basic safety rules apply at all times:

a. Rule 1 - Do not touch or pick up anything at the site.

b. Rule 2 - Do not step anywhere you cannot see where you place your foot.

c. Rule 3 - There will be no eating or smoking at the site. Hands will be washed after the survey and prior to eating. Drinking fluids should be done during periodic breaks.

5. SITE COMMUNICATIONS: The primary means of communicating with other team members will be by voice. Team members will always remain within sight of each other. Cellular telephones should be carried to facilitate and expedite calling for emergency medical services.

6. NATURAL HAZARDS: Animals(rabies), poisonous snakes. This time of the year the weather is mildly cool, therefore snakes may be less active and may not be as prone to warn prior to striking. Thunderstorms can form in the mountains unexpectedly and very quickly this time of the year, In addition to the lightning hazard, flash flooding is a potential threat.

7. ORDNANCE HAZARDS: Bombs, GP & DB, 100-1000 pound; Bombs, practice, 100-pound and miniature; Rockets, Tiny Tim, 5" HVAR, and 3.5-inch SCAR; Mortars; Artillery munitions; small arms up to and including 20mm.

8. HAZARD EVALUATION: Estimate the overall hazards using the following guidelines: (check appropriate item).

- Low (small arms ammunition)
- Moderate (practice bombs with spotting charge)
- High (high explosive munitions, toxic chemicals, WP)
- Unknown

9. EMERGENCY PROCEDURES: First aid will be rendered for any injuries. In the event of a detonation, everyone should freeze until the situation can be assessed by the team leader. Unnecessary injuries can be avoided by not panicking and planning a logical course of action, which may include retracing your steps out of an impact area. Emergency medical services will be contacted by the most expeditious means available.

10. SAFETY STATEMENT: Safety is everyone's business. No unnecessary risks will be taken to obtain photos or other data. Team members are responsible for notifying the Project Manager or Safety Officer of any physical conditions that may impede or prevent their accomplishment of the mission. An example is allergic reactions to bee stings.



**Important Phone Numbers**

Imperial County Sheriffs Department: ..... (619) 339-6301

Hospital: .....(619) 347-6191  
John F. Kennedy  
47111 Monroe St  
Indio, Ca

Imperial County Fire Department: ..... (619) 355-1164  
Hazardous Devices Unit (Bomb Squad)

Huntsville Safety: .....(205) 895-1582/1579  
24 hour number: .....(800) 627-3532, PIN 777-2534

St Louis Corps of Engineers .....(314) 331-8036

SSHP reviewed by:

*William F. James*  
QASAS

Encls

1. Safety Briefing Attendance
2. Safety gear
3. Map

# SITE SURVEY SAFETY BRIEFING

(Check subjects discussed)

Date 2/8/96

## GENERAL INFORMATION


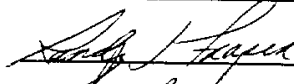
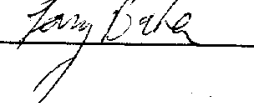
- Purpose of Visit
- Identify Key Site Personnel

## 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
- Weather Precautions
  - (x) Cold/Heat *low 90's . Sunny*
  - ( ) Severe Weather

### Safety Briefing Attendance

All team members and any accompanying personnel will be briefed and sign this form:

NAME (Print)	ORGANIZATION	SIGNATURE
<u>Randal Curtis</u>	<u>USACE-STL, Project Manager</u>	<u></u>
<u>Randy Fraser</u>	<u>USACE-STL, Safety Specialist</u>	<u></u>
<u>Larry Baker</u>	<u>USACE-STL, OASAS</u>	<u></u>
<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>                    </u>	<u>                    </u>	<u>                    </u>

MANDATORY MINIMUM SAFETY GEAR

First aid kit (individual)   X  

Survival kit   X  

Fire starter   X  

Space blanket   X  

Whistle   X  

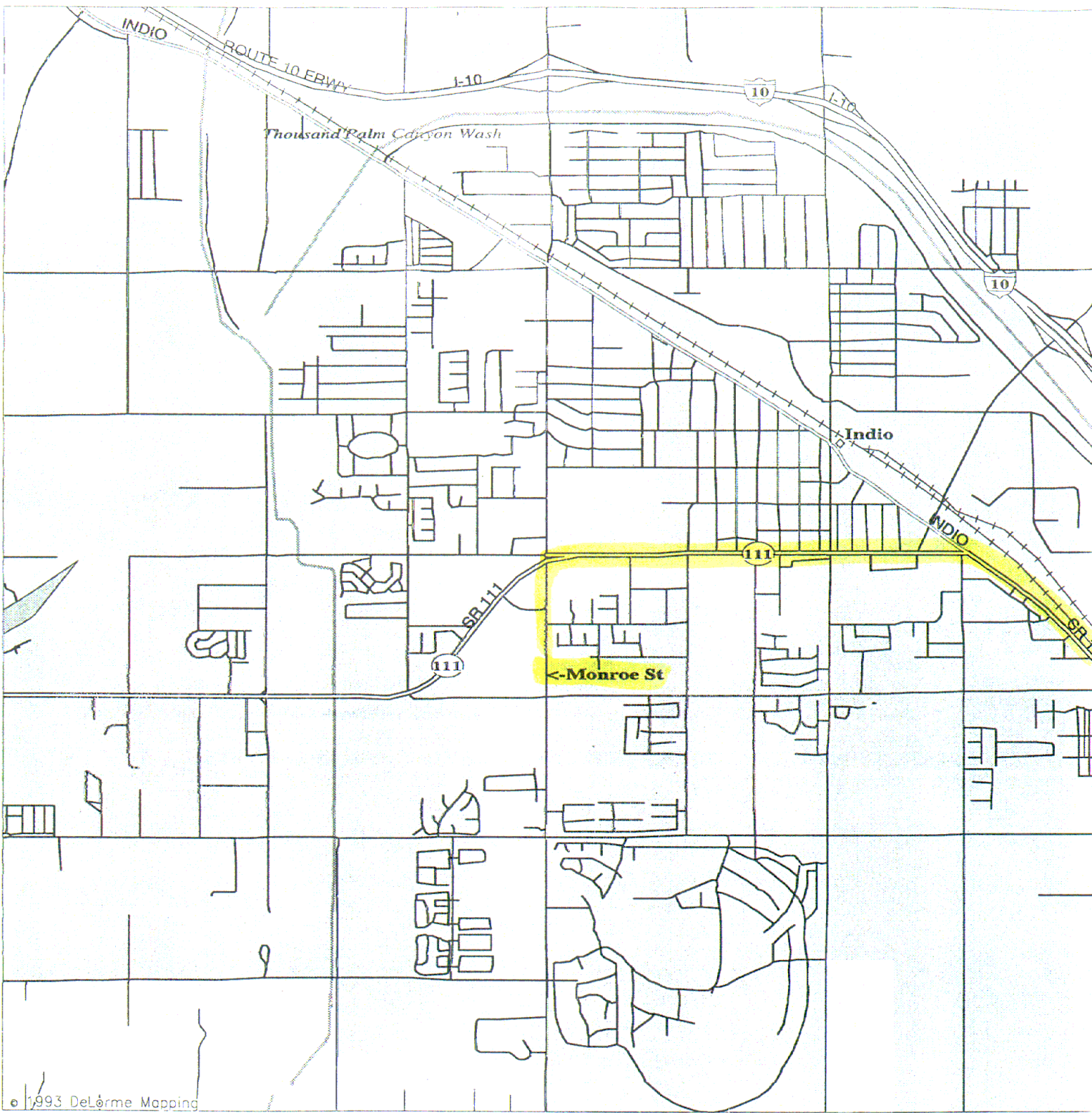
Mirror   X  

Cellular phone   X  

Flash light   X  

Survey tape   X  

Canteen   X



© 1993 DeLorme Mapping

- LEGEND**
- Population Center
  - State Route
  - ◇ Town, Small City
  - Street, Road
  - Major Street/Road
  - State Route
  - Railroad
  - River

--- Intermittent River

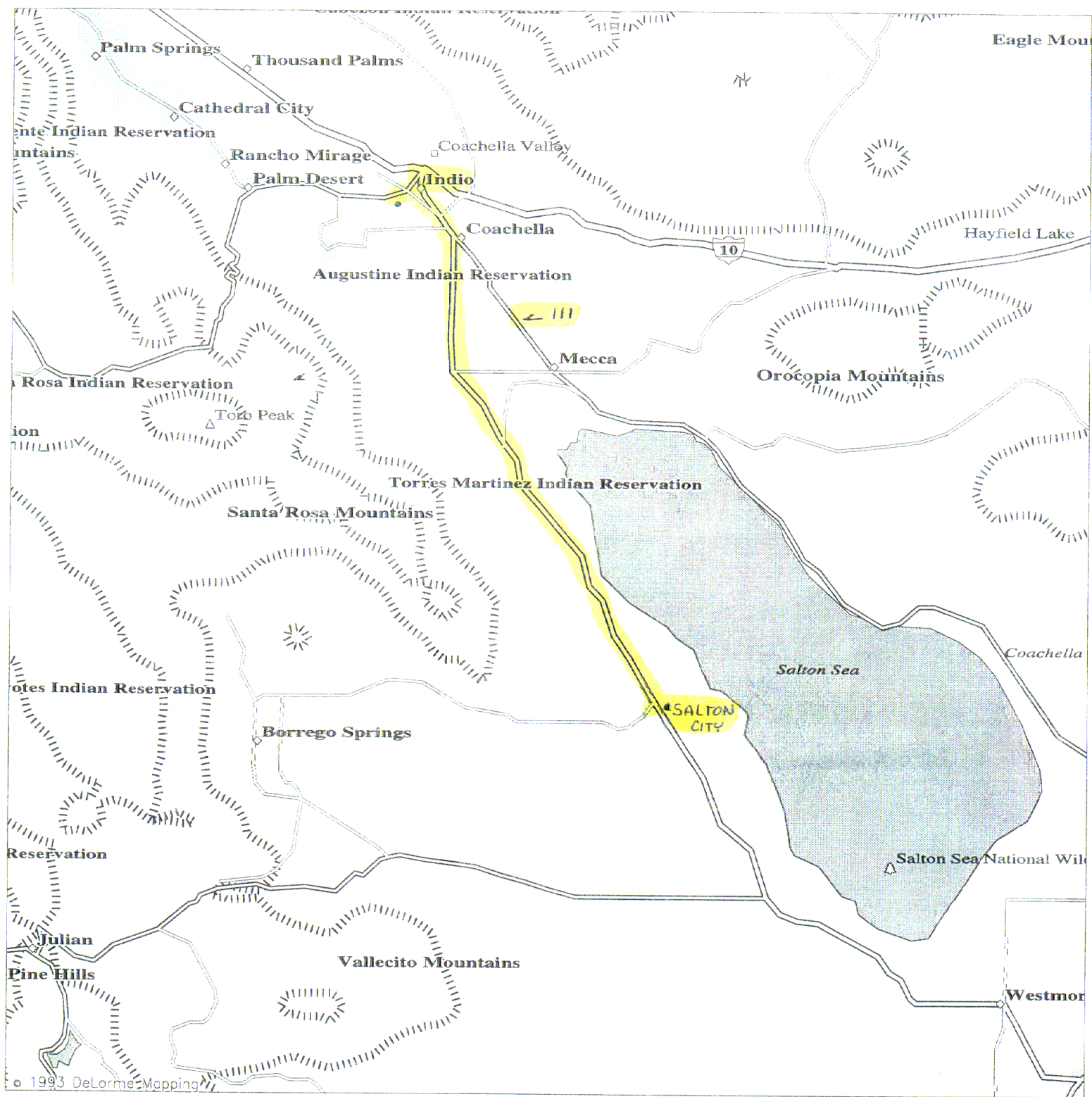
Scale 1:31,250 (at center)

2000 Feet

1000 Meters

Mag 14.00  
Thu Feb 01 09:02:12 1996

HOSPITAL. JOHN F. KENNEDY  
47111 MONROE ST  
INDIO, CA  
(619) 347-6191



- LEGEND**
- ◇ Town, Small City
  - Major Street/Road
  - State Route
  - Interstate Highway
  - US Highway
  - Open Water
  - ||||| Contour

Scale 1:500,000 (at center)

10 Miles

10 KM

Mag 10.00  
 Thu Feb 01 09:17:55 1996

## **APPENDIX L-2**

### **Site Inspection Report - Winona Bombing Target #2**

**MEMORANDUM FOR RECORD****SUBJECT: ASR Site Inspection: Winona Bombing Target #2 - California**

1. Personnel from the St. Louis District Corps of Engineers travelled to California to perform a site survey of the former Winona Bombing Target #2. This site survey was made in conjunction with the preparation of an Archive Search Report (ASR) for this location in the Ordnance and Explosives and Chemical Warfare Materials (OE & CWM) program. This program is in support of the Defense Environmental Restoration Program (DERP) at Formerly Used Defense Sites (FUDS).
2. The purpose of the ASR site inspection is to characterize OE hazard potential based on ascertaining ordnance presence or disposal at Winona Bombing Target #2. Verbal permission was obtained by the present land owners prior to visiting the area. The inspection was limited to visual, non-intrusive methods (i.e. no digging for or handling of potential OE). A site safety plan was developed and followed by the team to prevent injury during the inspection. The inspection team consisted of the following personnel: Randy L. Fraser, Larry V. Baker and Randal S. Curtis. A detailed account of the visit is contained in the paragraphs below.
3. The ASR inspection team arrived at the former Winona Bombing Target #2 on 8 February 1996 in the early afternoon. The team had made arrangements to inspect section mile 10 of Township 11S and Range 9E. The Bureau of Land Management, the property owners, declined to accompany the inspection team.
4. Historical documents indicate that the target consisted of concentric circles but aerial photography analysis was also unable to locate them. However, aerial photography analysis was able to locate a  $\approx 250'$  square "target" about 1,000 feet NE of the center of the section mile. It was decided to concentrate the inspection of the site at this location. The team was able to drive within several hundred feet of the target and quickly beginning locating rusted metal OE debris. The following OE related debris was positively identified:

Small Arms and Medium Caliber Ammunition

- \* .30 cal projectiles
  - \* .50 cal projectiles and belt links
  - \* 20 mm projectiles and belt links
- (Note: no cartridge cases were found)

2.25 inch practice rockets

- \* 2.25" rocket motors

**SUBJECT: ASR Site Inspection: Winona Bombing Target #2 - California**

- \* tailfins
- \* inert head - practice round (steel type)
- \* nozzle closure with electric cable

3.5 inch practice rockets

- \* 3.25" rocket motors for the 3.5" rocket
- \* tailfins
- \* inert head - practice round (steel type)

3 pound miniature practice bomb

- \* full body for MK 23 or 45 (cast iron or steel)
- \* fins with shroud for MK 5 (zinc)
- \* shrapnel

100 pound practice bomb

- \* suspension band with lugs for MK 15
- (Note: no tailfins, nose cones or other related scrap for this type of ordnance was found)

There was a large amount of material found. It did not appear that the site was completely cleaned up prior to its release from the War Department. Most of the debris appeared to have been from rockets and was found in situ. None of the debris found had a characteristic fragmentation look of shrapnel from a high explosive round and no complete rounds of any type of ordnance was found.

5. The four corners of the target were readily identified as mounded lines of stones and a white building blocks. The center of the square target was at coordinates: N 33° 13' 38.2", W 116° 01' 08.2"<sup>1</sup> (see page 4 for a sketch of the site inspection traverse). The team traversed around the target but the amount of OE debris declined sharply. No other evidence of the military's use of the land was discovered during the site inspection.

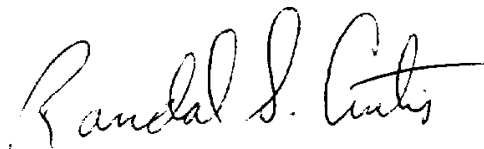
6. No specific ordnance and explosive hazards were discovered in the area during the site inspection.

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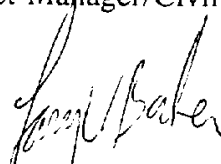
<sup>1</sup> All coordinates were taken with a Trimble Scout GPS (Global Positioning Satellite) receiver using mapping datum WGS-84.



**SUBJECT:** ASR Site Inspection: Winona Bombing Target #2 - California



RANDAL S. CURTIS, P.E.  
Project Manager/Civil Engineer

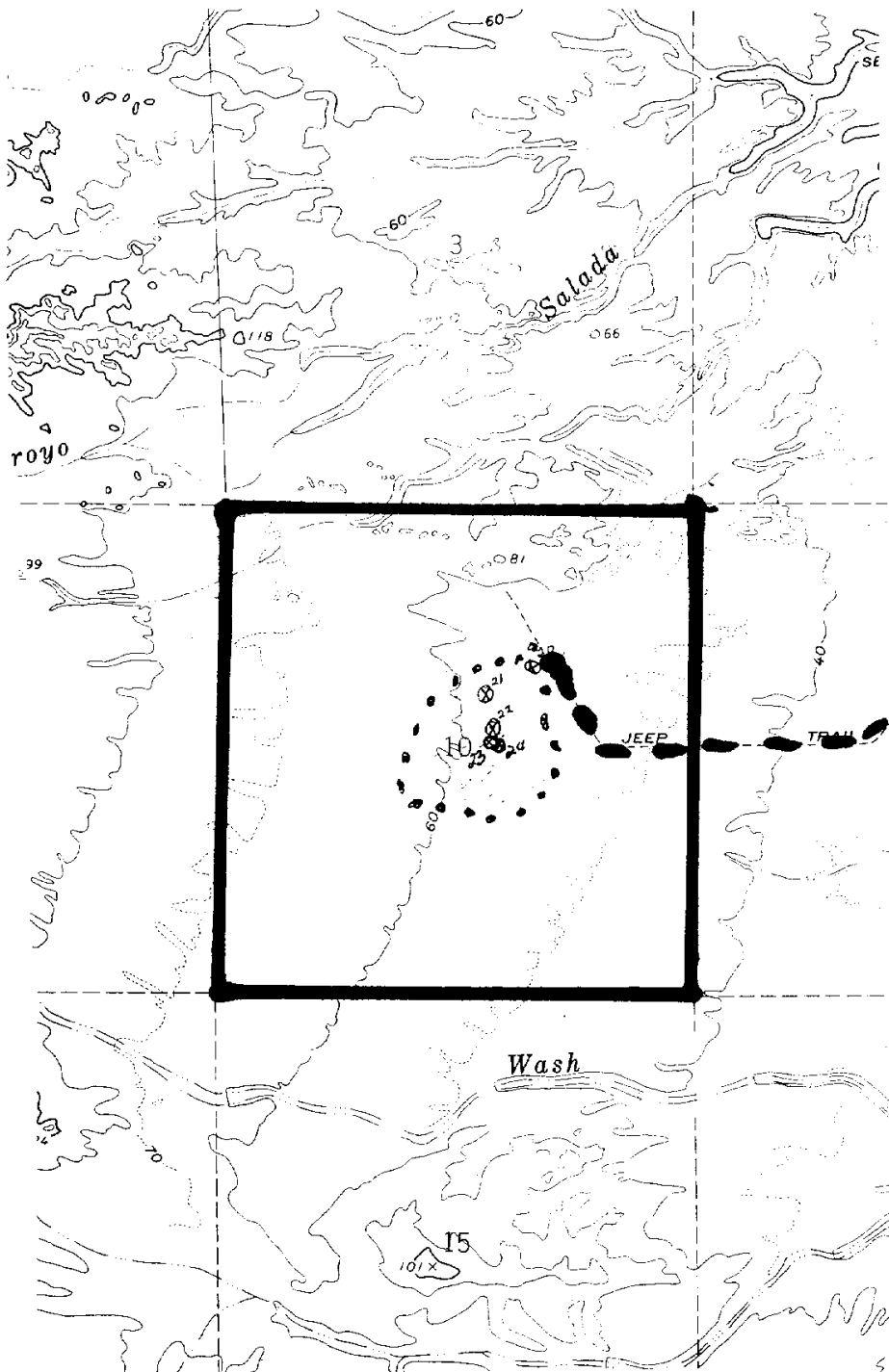


LARRY V. BAKER  
Quality Assurance Specialist Ammunition  
Surveillance (QASAS)



RANDY L. FRASER  
Safety and Occupational Health Specialist

**SUBJECT: ASR Site Inspection: Winona Bombing Target #2 - California**



Sketch of Winona Bombing Target #2 Site Visit (drawn on USGS Quad. Sheets)

— Site Boundary

... Walked Traverse Boundary (shaded); numerous OE debris found in traverse area

- - - Driven Traverse

\* Coordinates located by Global Positioning Satellite receiver (actual locations ≈ 150' off)

\* 23 SW corner of the square target rubble

\* 24 SE corner of the square target rubble

**APPENDIX M**  
**REPORT DISTRIBUTION LIST**

Ordnance and Explosives  
Chemical Warfare Material  
Archives Search Report

**FINDINGS**

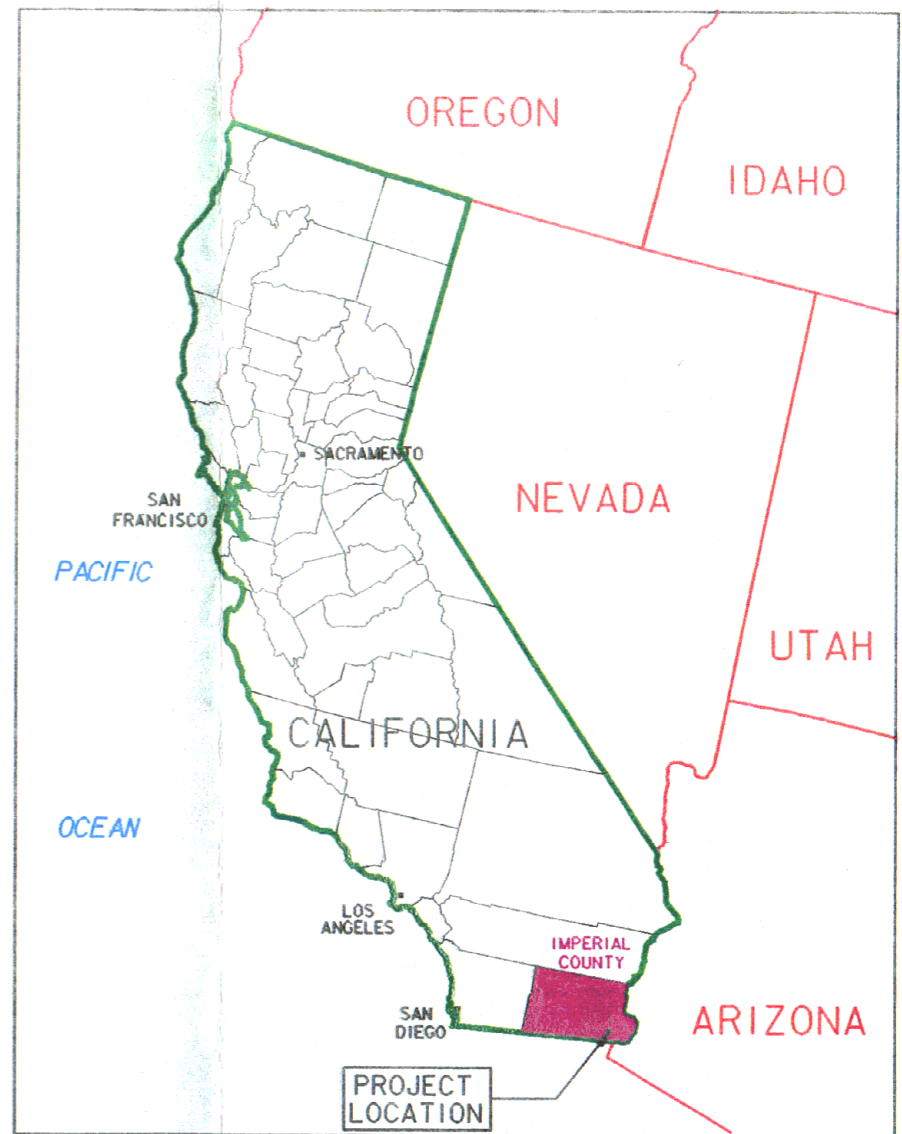
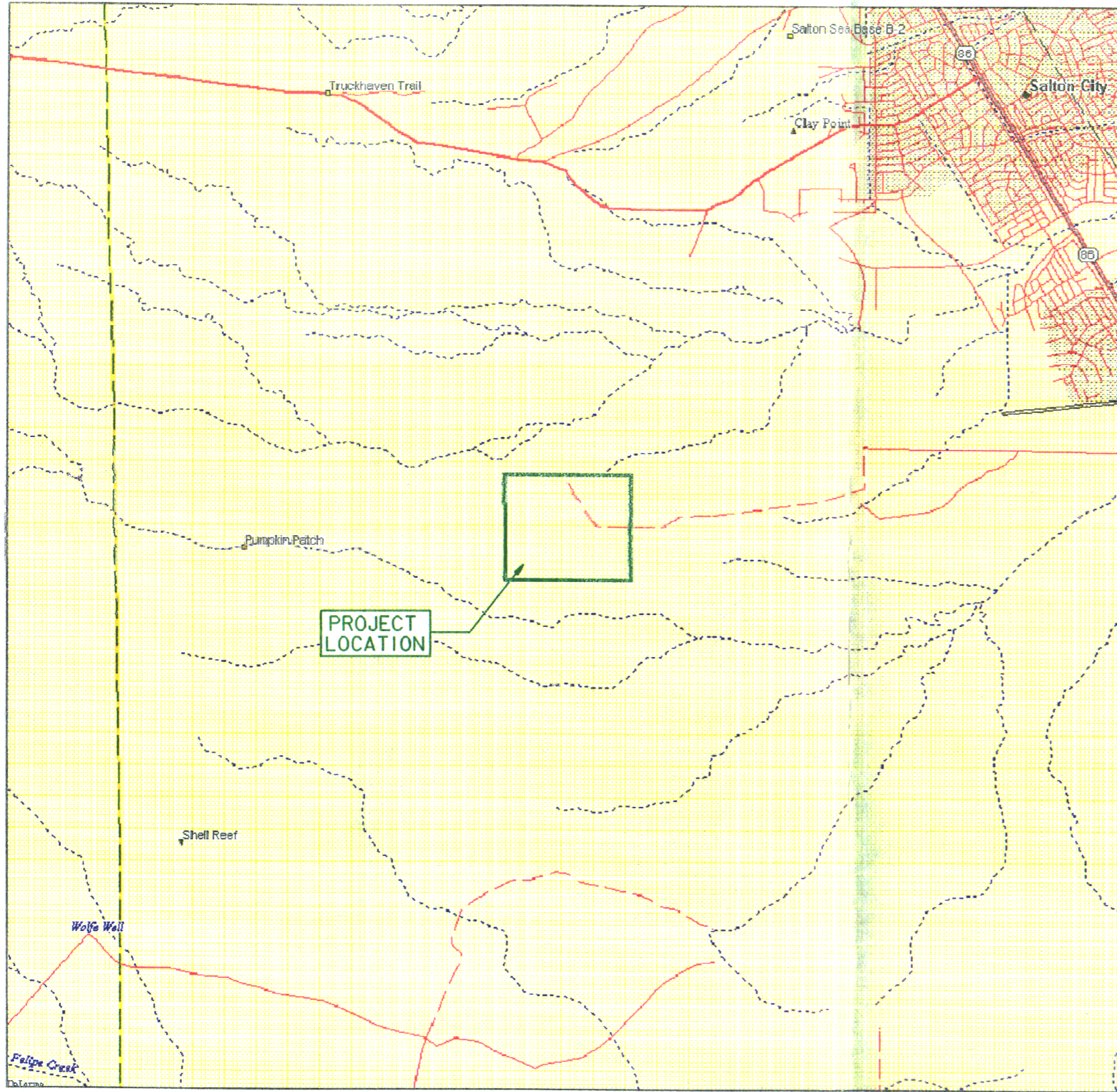
**Winona Bombing Target #2**  
Salton City, California  
Imperial County  
Project Number - J09CA016801

**APPENDIX M**

**REPORT DISTRIBUTION LIST**

<u>Addressee</u>	<u>No. Copies</u>
Commander, U.S. Army Engineering Support Center Huntsville, ATTN: CEHNC-OE-PM P.O. Box 1600 Huntsville, Alabama 35807-4301	2
Commander, U.S. Army Engineer District, Los Angeles ATTN: CESPL-ED-MI P. O. Box 2711 Los Angeles, CA 90053-2325	1
Project Manager Chemical Demilitarization, Non-Stockpile ATTN: SFAE-CD-NM Aberdeen Proving Ground, Maryland 21010-5401	1
Commander, U.S. Army Chemical & Biological Defense Command ATTN: AMSCB-CIH, Bldg. E5183 Aberdeen Proving Ground, MD 21010-5423	1
U.S. Army Technical Center for Explosives Safety ATTN: SMCAC-ESM Savanna, IL 61074-9639	1

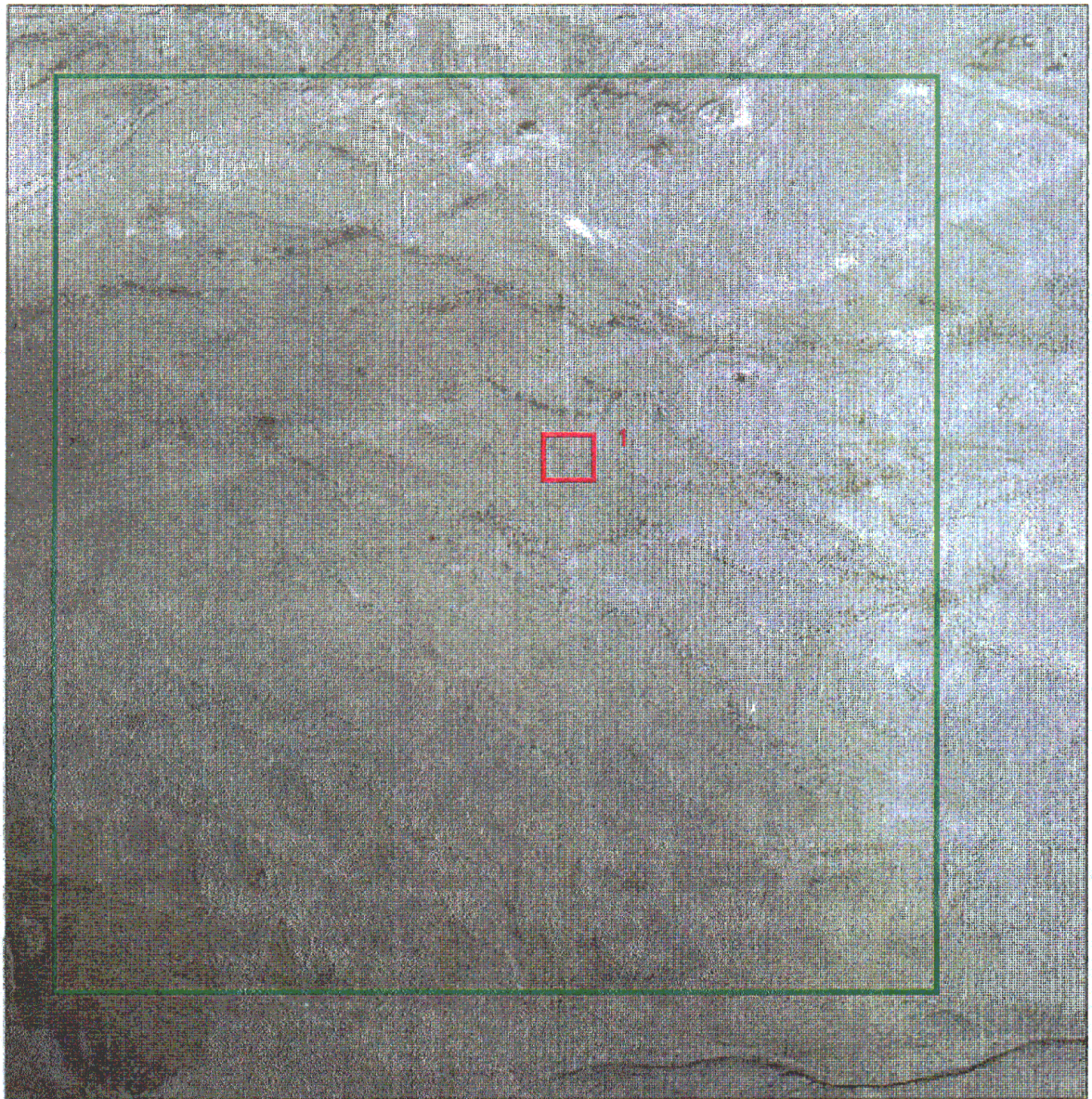
# PLATES



NOT TO SCALE

**PLATE I**  
**WINONA BOMBING TARGET 2 (#91)**  
**SALTON CITY, CALIFORNIA**  
**IMPERIAL COUNTY**  
**DERP-FUDS #J09CA016801**  
**VICINITY MAP**

PROJ. DATE: MARCH 1996	DATE OF MAP: 1993
07-MAR-1996 13:50	N:\OE\96B\C5\PHOTO\WINBT2VC.DGN & EXT



**LEGEND**



SITE BOUNDARY



FEATURE LOCATION

FEATURE NO.	FEATURE DESCRIPTION
1.	250' SQUARE TARGET



**PLATE 2**

WINONA BOMBING TARGET 2 (#91)  
 SALTON CITY, CALIFORNIA  
 IMPERIAL COUNTY  
 DERP-FUDS #J09CA016801  
 1953 AERIAL PHOTOGRAPH

NOT TO SCALE

PROJ. DATE: MARCH 1996	DATE OF PHOTO: 1953
07-MAR-1996 14:32	N/0EW96B/C5/PHOTO/53/WIN028.DGN & EXT