



**US Army Corps
of Engineers**
Rock Island District



Defense Environmental Restoration Program
for
Formerly Used Defense Sites
Ordinance and Explosives

Archives Search Report

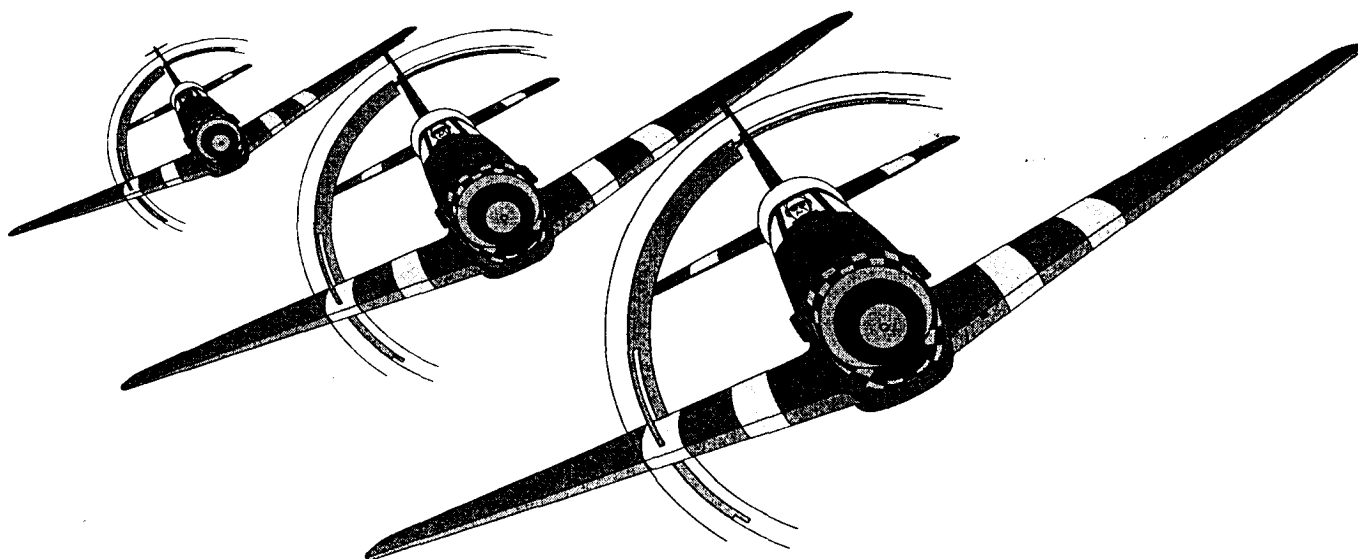
FINDINGS

for
the former

BORREGO HOTEL (TARGET AREA AND EMERGENCY LANDING FIELD)

BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER JO9CA701104

MARCH 1997



DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
for
FORMERLY USED DEFENSE SITES

FINDINGS

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR

BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

MARCH 1997

Prepared for
U.S. Army Corps of Engineers
Engineering and Support Center, Huntsville
ATTN: CEHNC-OE
P.O. Box 1600
Huntsville, Alabama 35807-4301

Prepared by
U.S. Army Corps of Engineers
Rock Island District
ATTN: CENCR-ED-DO
P.O. Box 2004
Rock Island, Illinois 61202-2004

and

Defense Ammunition Center
ATTN: SIOAC-ES
Savanna, Illinois 61074-9639

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

ACKNOWLEDGMENTS				
The following persons provided support as indicated.				
Function	Name	Title	Organization	Telephone
On-Site Assessment	Nick Iaiennaro*	UXO Safety Specialist	CENCR-ED-DO	(309) 794-6056
	Chris Churney	Chemical Engineer	CENCR-ED-DO	(309) 794-6035
Engineering Support	Robert Hoffman	Environmental Engineer	CENCR-ED-DO	(309) 794-6080
Historical Research	Larry Dauphin	Q.A. Spec., Ammunition (QASAS)	SIOAC-ESL	(815) 273-8789
Geographic District	Trudy Knutson	District POC	CESPL-PM-M	(213) 452-3990
Industrial Hygiene	Robert Platt	Industrial Hygienist	MCXM-PMA	(309) 782-0806
CADD Support	Kevin Marker	Technician	CENCR-ED-DO	(309) 794-6026
*Team Leader				

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

FINDINGS

TABLE OF CONTENTS

Section	Page
1. INTRODUCTION.....	1
a. Subject and Purpose	
b. Scope	
2. PREVIOUS INVESTIGATIONS.....	2
a. 1994 Preliminary Assessment	
b. Other Investigations	
3. SITE DESCRIPTION.....	3
a. Existing Land Usage	
b. Climatic Data	
c. Topography	
d. Geology and Soils	
e. Hydrology	
f. Natural Resources	
g. Historical/Cultural Resources	
4. HISTORICAL ORDNANCE PRESENCE.....	9
a. Chronological Site Summary	
b. Ordnance Related Records Review	
c. Interviews with Site-Related Personnel	

5.	SITE ELIGIBILITY	17
	a. Confirmed Formerly Used Defense Site	
	b. Potential Formerly Used Defense Site	
6.	VISUAL SITE INSPECTION	18
	a. General Procedures and Safety	
	b. Area A: Main Target Area	
	c. Area B: Secondary Target Area	
	d. Area C: Impact Area	
	e. Area D: Impact Area (Additional Land)	
	f. Area E: Buffer Area (Additional Land)	
7.	EVALUATION OF ORDNANCE HAZARDS	21
	a. General Procedures and Safety	
	b. Area A: Main Target Area	
	c. Area B: Secondary Target Area	
	d. Area C: Impact Area	
	e. Area D: Impact Area (Additional Land)	
	f. Area E: Buffer Area (Additional Land)	
8.	SITE ORDNANCE TECHNICAL DATA	25
	a. End Item Technical Data	
	b. Chemical Data of Ordnance Fillers	
9.	OTHER ENVIRONMENTAL HAZARDS	27
	a. Hazardous, Toxic, and Radiological Waste	
	b. Building Demolition/Debris Removal	

APPENDICES

A.	REFERENCE SOURCES
B.	REFERENCES/ABSTRACTS
C.	GLOSSARY
D.	TEXTS/MANUALS
E.	REPORTS/STUDIES
F.	LETTERS/MEMORANDUMS/MISCELLANEOUS ITEMS
G.	REAL ESTATE DOCUMENTS
H.	NEWSPAPERS/JOURNALS
I.	INTERVIEWS
J.	PRESENT SITE PHOTOGRAPHS
K.	HISTORICAL PHOTOGRAPHS
L.	REFERENCE MAPS/DRAWINGS
M.	ARCHIVES SEARCH REPORT CORRESPONDENCE
N.	REPORT DISTRIBUTION LIST

TABLES

	Page
2-1 DERP-FUDES Preliminary Assessment Projects.....	2
3-1 Current Land Usage.....	3
3-2 Natural/Cultural Resources.	7
8-1 Ammunition Used and Explosive Filler	26
8-2 Chemical Data of Ordnance Fillers.....	27

REPORT PLATES

1. Site Map
2. Facility Layout (Circa 1942)
3. Project Areas
4. Ownership Map (1997)
5. Photo Locations (1997)
6. OE Evaluation (1997)

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

1. INTRODUCTION

a. Subject and Purpose

(1) This report presents the findings of an historical records search and site inspection for ordnance and explosive (OE) presence located at the former Borrego Hotel (Target Area and Emergency Landing Field) site. See plate 1 for vicinity map. The investigation was performed under the authority of the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP FUDS).

(2) The purpose of this investigation was to characterize the site for potential OE contamination, to include conventional ammunition and chemical warfare material (CWM). This was achieved by a thorough evaluation of historical records, interviews, and an on-site visual inspection.

b. Scope

(1) The investigation focused on 160 acres of land located in the Southeast $\frac{1}{4}$ of Section 26, Township 12 South, Range 8 East of San Diego County, California, that is presently owned by two private landowners. This land was obtained by the Department of the Navy around 1941 for use as an Emergency Landing Field and as a High Altitude (Horizontal) Bombing, Dive Bombing and Strafing Target Area for the U.S. Naval Air Station, San Diego, CA. The Borrego Hotel site was active from 1941 until 1955, at which time it was declared excess to the needs of the Navy. It was further declared surplus in 1955, due to its lack of usefulness to the Federal Government, and sold to a private landowner in 1956.

(2) This report presents the site history, site description, real estate ownership information, and confirmed ordnance presence, based on available records, interviews, and the site inspection. It further provides a complete evaluation of all information to assess potential ordnance contamination where actual ordnance presence has not been confirmed.

(3) For the purpose of this report, OE contamination consists of live ammunition, live ammunition components, CWM or explosives which have been lost, abandoned, discarded, buried, fired, or thrown from demolition pits or burning pads. These items were either manufactured, purchased, stored, used, and/or disposed of by the War Department/Department of Defense. Such ammunition/components are no longer under accountable record control of any DOD organization or activity.

(4) Expended small arms ammunition (caliber .50 or smaller) is not considered OE contamination. OE further includes "explosive soil" which refers to any mixture in soil, sands, clays, etc., such that the mixture itself is explosive. Generally, 10 percent or more by weight of secondary explosives in a soil mixture is considered explosive soil.

2. PREVIOUS INVESTIGATIONS

a. 1994 Preliminary Assessment

(1) A Preliminary Assessment (PA) of the Borrego Springs area was conducted under the Defense Environmental Restoration Program, Formerly Used Defense Sites (DERP FUDS) by the U.S. Army Corps of Engineers, Los Angeles District (CESPL) on 6 July 1994 (site number J09CA701100). At that time, it was determined that the site was formerly used by the DOD for various military functions. Several OE projects, with a broad scope of OE delivery and usage, were classified in the Borrego Springs project, some lying within or in the vicinity of the Borrego Maneuver area, with the Borrego Hotel Site being one of the areas identified and the subject of this report (see document E-1).

(2) The signed FDE concluded that the Borrego Hotel site consisted of 160 acres, was used from 1941 to 1956, and was eligible for restoration under the purview of DERP FUDS (see table 2-1 and document E-1).

TABLE 2-1				
DERP-FUDS PRELIMINARY ASSESSMENT PROJECT				
Project Number	DERP Category	Present Phase	Comments	Location
J09CA701104	OE	SI	Ordnance & Explosives	Borrego Hotel (Target and Emergency Landing Field, See Plates 1 & 2)
	HTRW	--	None Recommended	
	BD/DR	--	None Recommended	

TABLE 2-1 (continued)				
DERP-FUDS PRELIMINARY ASSESSMENT PROJECT				
Project Number	DERP Category	Present Phase	Comments	Location
J09CA701106	OE	SI	Ordnance & Explosives	Benson Dry Lake
J09CA701101	OE	SI	Ordnance & Explosives	Borrego Maneuver Area
J09CA701102	OE	SI	Ordnance & Explosives	Camp Ensign
Note: Project numbers J09CA701103 and J09CA701105 have not been assigned to any DERP FUDS project.				

b. Other Investigations

To the knowledge of the team, no other investigations pertinent to this site have been conducted or are being conducted at this time.

3. SITE DESCRIPTION

a. Existing Land Usage

(1) The former Borrego Hotel site is located in the vicinity of Borrego Springs, California. Total site acreage consisted of 160 acres of barren desert, bearing negligible amounts of arid climate vegetation species, which was acquired by condemnation from one private landholder for use as an Emergency Landing Field, High Altitude (horizontal) Bombing Range, Dive Bombing Range, and Strafing Range (see document L-1).

(2) Today, former project lands are jointly owned by two private landowners. One of the landowners has recently expired, placing the property in the care of an attorney for estate sale and settlement (see document I-5).

(3) Table 3-1 on the next page lists the current listed owners, acreage's and OE areas that are appropriate to this project site.

TABLE 3-1 CURRENT LAND USAGE					
AREA	FORMER USAGE	PRESENT OWNER	CURRENT USAGE	SIZE ACRES	COMMENTS
A	Main Target Area	Josef Janota/ Margaret Acers	Desert	8.10	See plates 3 & 4
B	Secondary Target Area	Josef Janota/ Margaret Acers	Desert	1.00	See plates 3 & 4
C	Impact Zone	Josef Janota/ Margaret Acers	Desert	150.90	See plates 3 & 4
D	Impact Zone (Additional Land)	Multiple Owners	Desert	30.65	See plates 3 & 4
E	Buffer Zone (Additional Land)	Multiple Owners	Desert	30.65	See plates 3 & 4
TOTAL FDE ACRES:				160.00	
TOTAL ADDITIONAL ACRES:				61.30	
TOTAL ACREAGE:				221.30	

b. Climatic Data

(1) The former Borrego Hotel site is a parcel of desert land located in the eastern portion of San Diego County near the western border of Imperial County. The project area is characterized by hot summers and mild winters. The average annual temperature is 72.6 degrees Fahrenheit (F). In the summer months (June through August), the daily average is 88.93 degrees F. The maximum high temperature recorded for the region is 120 degrees F. In the winter months (December through February), the average is 57.3 degrees F, with temperatures rarely falling below freezing.

(2) The average yearly rainfall is 6.83 inches, and occurs primarily during two seasons: winter, when Pacific frontal storms drop some moisture, and summer, when thunderstorms develop out of moist air coming north from the Gulf of California. Winter rains are usually gentle. Summer storms can be locally heavy and cause damaging flash floods. Occasionally, a tropical Pacific cyclone, known in Mexico as a chubasco, will strike the area and dump large amounts of rain in a short period of time. On the average, summer rains attributable to tropical Pacific storms reach southern California once every two years.

(3) Westerly winds prevail in the project region except during the summer (June through August), when easterly winds equal or surpass the westerlies. Average wind speeds are light (2-4 meters/second) most of the year. During the spring, however, average wind speeds increase to a moderate 4-6 meters/second (see references B-6 and B-7).

c. Topography

(1) The former Borrego Hotel site area is located at the southeast end of Borrego Valley, approximately 4 miles south and east of the town of Ocotillo Wells, California, with the elevation being approximately 80 feet above sea level.

(2) The site is situated on a fairly level, broad, and arid plain between Borrego Mountain and the Fish Creek Mountains. Project lands appear to be perfectly flat desert land, falling slightly below the elevation of surrounding lands, forming a pocket for drainage waters. The vegetation of the area is extremely sparse, with solely brush and hummocks present. The drainage pattern and absence of standing water and vegetation characterize approximately 100 acres of project lands to be considered a dry lake, bearing a title of Halfhill Dry Lake (see reference B-5 and Plate 1).

d. Geology and Soils

(1) The Anza-Borrego Desert, in which the project area lies, is part of the Colorado Desert Biogeographical Province of southeast California. The Colorado Desert is a northern extension of the Sonora Desert of Arizona and northwestern Mexico.

(2) The Geology of the Anza-Borrego is diverse, displaying sandstone and silt creations of ancient lakes in much of the area, with flat valleys, jagged mountains, and narrow canyons also predominant features, the result of millions of years of faulting, water scouring, and erosion.

(3) The Anza-Borrego Desert, in the vicinity of project lands, is bisected by two large fault zones, the San Jacinto and the Elsinore. The San Jacinto runs from the Hemet area through the Borrego Valley, sending branches to the Salton Trough. The Elsinore zone runs from the Temecula south along County Road S-2.

(4) The largest earthquake to hit Anza-Borrego in historic times occurred on the Coyote Creek Fault, a branch of the San Jacinto, on 9 April 1968. It measured 6.4 with an epicenter near the Borrego Mountain. Damage to structures in Borrego Springs and Ocotillo Wells were minor.

(5) The predominant soil types of the project area, in descending order of prominence, are identified as follows (see reference B-5):

(a) Playa: essentially barren, level, undrained, closed basins. Some contain water during periods following winter rains. Soil material is clayey or silty and is generally moderately to strongly saline.

(b) Rositas Fine Sand, 0-2% Slopes: Nearly level, somewhat excessively drained soils, fine gravely loam coarse sand. The soil is calcerous and mildly/moderately alkaline.

(c) Indio Silt Loam, Saline, 0-2% Slopes: Nearly level, well drained soils, predominately silt loam with a thin strata of loam and sandy loam occurring in the substratum. The soil is calcerous and mildly/moderately alkaline.

(d) Mecca Sandy Loam, Saline, 0-2% Slopes: Nearly level, well drained soils, coarse sandy loam containing moderate amounts of soluble salts. The soil is calcerous and mildly/moderately alkaline.

e. Hydrology

(1) The Borrego Hotel site falls within the Borrego Valley Ground Water Basin which is an alluvium-filled valley underlain by crystalline bedrock.

(2) The valley fill is classified into three categories: upper, middle and lower aquifers. The upper aquifer ranges in thickness from 0 to 1000 feet, the middle aquifer from 0 to 700 feet, and the lower aquifer from 0 to 1,800 feet.

(3) Ground water levels vary considerably in the valley, ranging between about 18 feet and 305 feet from ground surface, depending upon elevation.

(4) Actual depth to groundwater on the subject site is expected to be from 90 feet to 175 feet, based on well depths in the vicinity.

(5) There are no permanent surface bodies of water on or near project lands. The Halfhill Dry Lake bed, in which a portion of project lands lie, remains dry for most of the year. It holds water briefly following summer flash floods, three to four days maximum (see reference B-5 and document I-12).

f. Natural Resources

(1) The subject site is in the general area of various state and federal endangered and threatened species. While not specifically identified within the site, some of these may occur (see table 3-2).

(2) For additional species in the state of California that are considered Federal Candidate Category 1 and 2, interested parties should contact the U. S. Fish and Wildlife Service and the California Natural Heritage Division to obtain an up-to-date listing (see document E-2 and Appendix A).

g. Historical/Cultural Resources

Ms. Gabrielle Jamison of the San Diego State University South Coastal Information Center (SHPO) has stated that there are no known historical or archaeological sites located directly on the former project area. However, it was stated that there is one prehistoric habitation site located within one mile of project lands. In the event of remediation on the site, it is recommended that the SHPO be contacted for a current re-evaluation of site conditions and remediation guidelines. The phone number for this organization is (619) 594-5682 (see document E-5).

TABLE 3-2 NATURAL/CULTURAL RESOURCES		
Resource Classification	Type	Comment
Wildlife	California Black Rail	Threatened (State)
	Light Footed Clapper Rail	Endangered (State)
	Western Snowy Plover	Threatened (Federal)
	California Least Tern	Endangered (Fed & State)
	Western Yellow Billed Cuckoo	Endangered (State)
	Willow Flycatcher	Endangered (State)
	Bank Swallow	Threatened (State)
	California Gnatcatcher	Threatened (Federal)
	Least Bills Vireo	Endangered (Fed & State)
	Beldings Savannah Sparrow	Endangered (State)
	Desert Pupfish	Endangered (Fed & State)
	Unarmored Threespine Stickleback	Endangered (Fed & State)
	Pacific Pocket Mouse	Endangered (State)

TABLE 3-2 (continued)
NATURAL/CULTURAL RESOURCES

Resource Classification	Type	Comment
Vegetation	Stephens Kangaroo Rat	Threatened (State)
	Peninsular Bighorn	Proposed Endangered (Fed) Threatened (State)
	Barefoot Banded Gecko	Threatened (State)
	Arroyo Southwestern Toad	Endangered (Federal)
	Flat-Tailed Horned Lizard	Proposed Threatened (Fed)
	Mohave Tui Chub	Endangered (Federal)
	Unarmored Threespine Stickleback	Endangered (Federal)
	Riverside Fairy Shrimp	Endangered (Federal)
	San Diego Button-Celery	Endangered (Fed & State)
	Encinitas Baccharis	Proposed Endangered (Fed) Endangered (State)
	Otay Tarplant	Proposed Endangered (Fed) Endangered (State)
	Mohave Tarplant	Endangered (State)
	Gambels Watercress	Endangered (Federal) Threatened (State)
	Cuyamaca Lake Downingia	Proposed Endangered (Fed) Endangered (State)
	Short-Leaved Dudleya	Proposed Endangered (Fed) Endangered (State)
	Piersons Milk-Vetch	Proposed Endangered (Fed) Endangered (State)
	San-Diego Thorn Mint	Proposed Endangered (Fed) Endangered (State)
	Willow Monardella	Proposed Endangered (Fed) Endangered (State)

TABLE 3-2 (continued) NATURAL/CULTURAL RESOURCES		
Resource Classification	Type	Comment
	San Diego Mesa Mint	Endangered (Fed & State)
	Otay Mesa Mint	Endangered (Fed & State)
	Parish's Meadowfoam	Proposed Threatened (Fed) Endangered (State)
	Orcutt's Spineflower	Proposed Endangered (Fed) Endangered (State)
	Small-Leaved Rose	Endangered (State)
	Mexican Flannelbush	Proposed Endangered (Fed)
	Dehesa Nolina	Proposed Threatened (Fed) Endangered (State)
	Thread Leaved Brodiaea	Proposed Threatened (Fed) Endangered (State)
	California Orcutt Grass	Endangered (Fed & State)
Historical		None
Archeological		None on site but one nearby. Coordinate with SHPO prior to remediation.

4. HISTORICAL ORDNANCE PRESENCE

a. Chronological Site Summary

(1) Site Acquisition

(a) On 7 September 1940, the Chief of Naval Operations approved the acquisition of several outlying fields for use by the San Diego Naval Air Station to support advanced carrier training activities, following the recommendations of the Chief of the Bureau of Aeronautics and the Chief of the Bureau of Yards and Docks (see document F-1).

(b) One site selected, known as the Borrego Hotel and also Target 63, consisted of 160 acres of desert land located in the Southeast ¼ of Section 26, Township 12 South, Range 8 East of San Diego County, California. The land for this site was acquired through condemnation on 10 July 1941 for use as an emergency landing field and bombing target (see documents E-1, F-6 and G-1).

(2) Facility Construction and Use

(a) After the procurement of Borrego Hotel lands, the only documented military related improvements added to this property consisted of a North-South Dirt Runway, 2600 feet long by 250 feet wide, a East-West Dirt Runway, 2500 feet long by 250 feet wide, and a Bombing Target consisting of three concentric circles, 50 feet, 100 feet, and 200 feet in radius, with a center circle 15 feet in diameter. The actual East-West Runway was found to be considerably shorter due to main target placement south and east of acquired property center (see documents G-6, K-1, L-3 and plate 3).

(b) The Borrego Hotel site was developed to support High Altitude Bombing (horizontal), Dive Bombing, Strafing, and Emergency Landing Activities (see documents F-2 and F-5).

(c) Practice bombs and strafe (of unspecified types and models) were the only ordnance items historically documented to have been utilized on the Borrego Hotel site (see document F-5).

(3) Site Inactivation and Disposal

(a) On 31 October 1955, the Department of the Navy declared the Borrego Hotel Target Area and Emergency Landing Field excess to Navy requirements and turned the property over to the General Services Administration (GSA) for proper disposal (see document G-2).

(b) On 20 December 1955, the Chief of the GSA declared the Borrego Hotel site surplus to the requirements of the Federal Government after screening the property against known Defense and other Federal Government requirements (see document G-3).

(c) On 25 January 1956, the GSA declared the site surplus, and further applied an agricultural classification to the site property (see document G-4).

(d) On 23 July 1956, the GSA offered three surplus federal properties for sale in the local newspaper. One of the properties was the Borrego Hotel site (see document H-1).

(e) On 6 September 1956, the GSA sold all of the Borrego Hotel site property to one private landowner (see document G-5).

(4) Post Range Disposal Activity and Use

The former Borrego Hotel Target site lands have consistently, since site closure, been under private ownership with no actual use of the land occurring due to desert and dry-lake conditions which are unable to support cultivation and grazing. Usage is expected to remain non-existent in the future.

b. Ordnance Related Records Review

(1) Research efforts for the former Borrego Hotel site began with a thorough review of all reports, historical documents and reference materials gathered during the archives search. During this review, an effort was made to focus on areas of confirmed and/or potential OE contamination.

(2) Several documents were found pertaining to the Borrego Hotel site. The following documents verify its establishment and operation:

(a) A memorandum from the Chief of Naval Operations, dated 7 September 1940, approves the acquisition of 11 auxiliary landing fields in the vicinity of San Diego, California, with the Borrego Hotel site being one of the eleven (see document F-1)

(b) An historical survey map, dated November 1940, displays the location and coordinates of the Borrego Hotel Site (see document L-1).

(c) A memorandum to the Commander of the San Diego Naval Air Station, dated 27 January 1941, recommends (following board determination) the long range development of outlying fields to support an advanced carrier training program, with the Borrego Hotel site to be developed for horizontal bombing, dive bombing, and emergency landing (see document F-2).

(d) A memorandum from the Commander of the San Diego Naval Air Station, dated 13 March 1941, displays that a Navy leased facility consisting of a Landing Field and Dive Bombing Target was in use at the Borrego Hotel Site (see document F-3).

(e) A Declaration of Taking Decree, dated 10 July 1941, identifies the acquisition of 160 acres of land, with the legal description of the Borrego Hotel site identified, for the purpose of establishing an outlying field in connection with the San Diego Naval Air Station (see document G-1).

(f) A Map of Naval Reservations, dated 30 June 1942, displays the presence of a Naval Landing Field at the Borrego Hotel Site (see document L-2).

(g) A Civil Aeronautics Administration listing of civil and military airports, dated 1 December 1942, lists the Borrego Hotel site to be an outlying field of the San Diego Naval Air Station (see document F-5).

(h) An aerial photograph of the Borrego Hotel site, dated 23 March 1944, displays the presence of an emergency landing field and a bomb target at that location (see document K-1).

(i) An 11th Naval District Location Map for the San Felipe Bombing Target, circa 1944, also displays a bombing target and field to be present at the Borrego Hotel site location. In addition, it displays general target specifications (see document L-3).

(j) An 11th Naval District order concerning the numbering of land and water bombing targets, dated 23 March 1945, designates a desert target (other than rocket) at the Borrego Hotel site with a new target designation number of 63 (see documents F-6).

(k) A Report of Excess Real Property, dated 31 October 1955, and two surplus land documents, dated 20 December 1955 and 25 January 1956, established that an emergency landing field and a target (Target 63) existed at the Borrego Hotel Site location (see documents G-2, G-3, and G-4).

(l) A Naval Shore Activity Summary, circa 1956, established that an emergency landing field (containing a north-south and east-west runway) and a target (Target 63) existed at the Borrego Hotel Site (see document G-6).

(3) Although historical documents could not be located to verify the actual type or models of ordnance utilized on the Borrego Hotel site, one document suggests categories of ordnance utilized on the site. An 11th Naval District circular letter concerning bombing targets in the Southern California Sector of the Western Sea Frontier, dated 24 August 1944, displays a target to exist at the Borrego Hotel site. This target consisted of concentric circles and was designated for high altitude and dive bombing with "practice bombs and strafe" (see document F-4).

c. Interviews with Site Related Personnel

(1) Several persons were interviewed that were able to provide some general information of the Borrego Hotel site.

(2) SGT Grayson has been a member of the San Diego County Sheriff's Department Arson/Explosives Unit for 20 years, and is the chairman of all Military/Civilian Explosive Ordnance Disposal (EOD) activity in the County. His organization is presumably notified of all ordnance/explosive incidents which

occur/arise in San Diego County. His organization also supported Imperial County until three years ago. SGT Grayson was not aware of a range or an ordnance or explosives presence at (or originating from) the location of the former privately owned Borrego Hotel Site. SGT Grayson is aware of ordnance activity in the Anza Borrego State Park (a portion of which the former Army Borrego Maneuver Area and a couple of other Navy targets were located), predominately on or originating from the Carrizo Impact area, and in the Chocolate Mountains (see document I-1).

(3) SFC Rodriguez, SSG Thompson, SSG Wilson, and SPC Knowles are all members of the 70th Ordnance Company (Explosive Ordnance Disposal) stationed at the Naval Sub Base in San Diego, California. They surveyed/reviewed all OE related incident reports, journals, and activity report files of their organization (dating from 1992 to present) to determine if an OE related incident response occurred to the Anza-Borrego Desert State Park area of San Diego County, which is in their area of operations. Although several incidents occurred in the Anza-Borrego Desert State Park, none of the incidents occurred at or near the former Borrego Hotel Site, nor was any of the interviewed parties aware of a former bombing target or an OE presence at (or originating from) that location (see document I-2).

(4) Investigator Steve Sawyer has been a member of the Borrego Springs Fire Department Arson/Bomb Unit for 14 years, but has visited the Borrego Springs area for the past 19 years. His organization is normally called for assistance for all ordnance and explosive incidents in the Borrego Springs/Ocotillo Wells vicinity. Investigator Sawyer was not aware of a target area or an ordnance/explosives presence at (or originating from) the location of the former Borrego Hotel site. Investigator Sawyer is aware, however, of former range/OE activity in the Anza-Borrego Desert State Park (see document I-3).

(5) Sheriff's Deputies Hahn and McKenna have been members of the San Diego County Rural Enforcement Division, Borrego Springs Office, for 6 and 17 years, respectively. Their area of operations include the Borrego Springs and Ocotillo Wells areas. Deputies Hahn and McKenna were not aware of a target area or an ordnance and explosives presence at (or originating from) the location of the former Borrego Hotel site. Both individuals, however, are aware of former range/OE activity in the Anza-Borrego Desert State Park presumably associated with the former Borrego Maneuver Area (see documents I-4 and I-15)

(6) Elizabeth Baker is the attorney representing the estate of Josef Janota, who is currently one of the two listed owners of the former Borrego Hotel Site. Ms. Baker stated that the property is to be sold to settle Mr. Janota's estate, but a joint owner/acquaintance of Mr. Janota, Ms. Margaret Acers, is being uncooperative in the listing and sale of the property due to diminished relations with Mr. Janota prior to his death. Ms.

Baker was not informed/aware of the former Naval ownership/usage of the property or of an ordnance presence on (or originating from) the property. Ms. Baker also stated that the current deed does not contain any restrictive clauses to her knowledge (see document I-5).

(7) Nancy Ellis is a lifetime local resident of the Borrego Springs area. Ms. Ellis stated that she was not aware of a target area or an ordnance/explosives presence at (or originating from) the location of the former Borrego Hotel Site. She is familiar, however, with military activity associated with other sites in the Borrego Springs Project Area (see document I-6).

(8) Fred Jee is the Supervising Park Ranger for the California Park Service at the Anza Borrego Desert State Park. He began employment as a Ranger in the Borrego Springs area for the park service in 1975. Mr. Jee was not aware of a target area or an ordnance/explosives presence at (or originating from) the location of the former Borrego Hotel Site. He is familiar, however, with evidence of former military activity presumably associated with the former Borrego Maneuver area, due to the fact that it is part of the State Park in which he has patrolled a good portion of. The Borrego Hotel Site is not within, but is in close proximity to, the Anza-Borrego Desert State Park (see document I-7).

(9) Mark Jorgensen is a Park Ranger and Ecologist for the California Park Service at the Anza Borrego Desert State Park. He began employment as a Ranger in that area in 1972, but began playing in and exploring the area in 1963. Mr. Jorgensen was not aware of a target area or an ordnance/explosives presence at (or originating from) the location of the former Borrego Hotel Site. He was familiar, however, with other past military activity in the area (see document I-8).

(10) Kenneth Smith was a Park Ranger for the California Park Service at the Anza Borrego Desert State Park from 78-91. Mr. Smith was not aware of a target area or an ordnance or explosives presence at (or originating from) the location of the former Borrego Hotel Site. He did have knowledge, though, of other past military activity in the area (see document I-9).

(11) Manford Knack has been an Archaeologist for the California Park Service since 1972, assigned to the Anza Borrego Desert State Park. Mr. Knack was not aware of a target area or an ordnance/explosives presence at (or originating from) the location of the former Borrego Hotel Site. He was familiar, however, with military activity associated with other sites of the Borrego Springs Project Area (see document I-10).

(12) David Ragsdill has been a local resident for 6 years with an interest in military and Anza-Borrego Park history. In addition, Mr. Ragsdill is an Engineer representing a company engaged in hot well boring activities in the area. Mr. Ragsdill was not aware of a target area or an ordnance/explosives presence at (or originating from) the location of the former Borrego Hotel Site. He did have knowledge of other former military sites in the area (see document I-11).

(13) Florence Leedy and her husband Donald are the joint owners of property in the northeast $\frac{1}{4}$ of Section 26, Township 12S, Range 8E which is directly North of the former Borrego Hotel site parcel of land. Mrs. Leedy stated that they have owned the property since 1980, but she has dune-buggied in the area for the past 40 years. Mrs. Leedy was aware that military activity occurred in the area during WWII. She stated that she has seen a concentric circle bombing target and arrows, both formed with painted stone lines, on the adjacent (southern) property. She stated that one may find an occasional thin metal shell (bomb) casing or two on the property, but these are rather scarce because the property has been picked over, over the years. Mrs. Leedy stated that this area, being a dry lake, sees a good deal of recreational use because people are not aware that it is private property. People often fly radio control airplanes on the dry lake bed which was, and is believed to currently be, an emergency landing field. Mrs. Leedy has never discovered ordnance on or near her property. Mrs. Leedy is not aware of any incidents or accidents resulting from ordnance remaining on or removed from the subject property. Mrs. Leedy stated that the Halfhill Dry Lake bed remains dry for most of the year. It holds water briefly during summer flash floods, three or four days maximum. Mrs. Leedy also stated that the subject property does not contain any form of dwelling (see document I-12).

(14) Jim Meiers has been a Ranger for the California Park Service since 1980, assigned to the Anza Borrego Desert State Park. Mr. Meiers was not aware of a target area or an ordnance/explosives presence at (or originating from) the location of the former Borrego Hotel Site. He was familiar, however, with military activity associated with other former military sites in the area (see document I-13).

(15) Bruce Tinknell is a retired Army Explosive Ordnance Disposal (EOD) Technician who had been stationed with the 70th Ord Det (EOD) in San Diego from 1975-1987. The 70th's area of responsibility included the project area. Mr. Tinknell was not aware of a target area or an ordnance/explosives presence at (or originating from) the location of the former Borrego Hotel Site. He was familiar with, and responded to incidents involving, former ordnance activity in the Anza-Borrego Desert State Park Region (see document I-14)

(16) David Rock lived in the Borrego Springs area from the mid 1930's to late 1940's on property that his father homesteaded. Mr. Rock stated that he was not aware of a target area or an ordnance/explosives presence at (or originating from) the location of the former Borrego Hotel Site. He is familiar, however, with military activity associated with other sites of the Borrego Springs Project Area (see document I-16).

(17) Homer Townsend was the Head Ranger for the Anza-Borrego Desert State Park from 1991 to 1996. In addition, he was the Chief Ranger for the Ocotillo State Off-Road Park, located east of the Anza-Borrego Desert State Park and northwest of the project area, from 1983 until 1985. Mr. Townsend was not aware of a target area or an ordnance/explosives presence at (or originating from) the location of the former Borrego Hotel Site. He did, however, have knowledge of former military activity at other area locations (see document I-17).

(18) Bob Begole has been an Archaeologist for the California Park Service for a number of years, working in the Anza-Borrego Desert State Park. Mr. Begole was not specifically aware of a target area or an ordnance/explosives presence at a (or originating from) the location of the former Borrego Hotel Site. He is familiar, however, with evidence of former military activity within lands presumably associated with the former Borrego Maneuver Area (see document I-18).

(19) Bernard Bares is the owner of property in the southeast $\frac{1}{4}$ of Section 25, Township 12S, Range 8E which is directly east of the project parcel of land. Mr. Bares stated that he has owned this property, and a number of other properties in the area for many years. Mr. Bares stated that although having had contact with his property and the subject property, he had no idea that military activity ever occurred in that area. He has never discovered ordnance or artifacts to suggest a military usage (see document I-19).

(20) Willard Henry has been a local resident since 1955 with an interest in military activity/artifacts. Mr. Henry was not aware of a target area or an ordnance or explosives presence at (or originating from) the location of the former Borrego Hotel Site. Mr. Henry does have knowledge of other former military activity in the area (see document I-20).

(21) Al McLeary has been a Ranger for the Ocotillo State Off Road Park for over 20 years, a position he filled following his Navy retirement. The Anza Borrego Desert State Park area north of Route 78 and the Ocotillo State Park were included as part of the Borrego Maneuver Area. Mr. McLeary was not aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. He did, however, have knowledge of former military activity at other area locations (see document I-21).

(22) Sam Fortiner has been a local resident since 1947, but began visiting the Borrego Springs area since 1945/1946. Mr. Fortiner was not aware of a target area or an ordnance or explosives presence at the location of the former Borrego Hotel Site. He was familiar, however, with military activity associated with other sites of the Borrego Springs Project Area (see document I-22).

(23) Denny Duvall has been a local resident all of his life, and was a young boy living in the area at the beginning of WWII. His father (now deceased) owned the Borrego Springs general store/post office during military activities in the area during that era, and he and his family lived across the street from his father's establishment. Mr. Duvall recalls seeing Half Tracks, Jeeps, 6 X 6 vehicles, and a small Banning Tank in the area during that period, never any large tanks. In fact, he was given a ride in the Banning Tank. Mr. Duvall recalls that his father had some ordnance on display in the store/home at that time. He had several 6-8" inch diameter projectiles, about 17" long, some were empty and some filled with steel shot/balls (believed to be 155mm shot rounds). He also had a couple of 3 pound practice bombs on display which had been cleaned and plated. The location where these ordnance items were recovered or their present location is unknown. All the projectiles were devoid of fuzes. Mr. Duvall stated that all the soldiers he encountered were Army soldiers who often ate breakfast cooked by his mom at the store. The soldiers camped in the former Borrego maneuver Area, and were being familiarized in desert operations for future wartime service in Africa. Mr. Duvall was not aware of a target area or an ordnance or explosives presence at the location of the former Borrego Hotel Site. He did, however, have knowledge of former military activity at other area locations (see document I-23).

5. SITE ELIGIBILITY

a. Confirmed Formerly Used Defense Site

(1) Former land usage of the Borrego Hotel site has been confirmed and summarized in the COE Findings and Determination of Eligibility (see document E-1). The Borrego Hotel Site, located near Borrego Springs, California, was used as a Naval Horizontal, Dive Bombing, and Strafing Range and an Emergency Landing Field.

(2) By 1956 all acreage that had been owned by the Department of the Navy was relinquished to the General Services Administration and further sold to one landowner. Today, no ownership of the former Borrego Hotel Site remains with the Department of Defense (DOD).

b. Potential Formerly Used Defense Site

(1) During the course of the site investigation of the subject range, it was determined that an insufficient impact and buffer area existed at this range due to the discovery of practice bomb debris beyond the eastern range boundary, possibly attributed to the placement of the main target south and east of property center. Based on this discovery, 16.10 acres of additional area have been included with FDE lands for report purposes and labeled Areas D and E. This additional acreage is sufficient in size to reasonably include all areas of contamination (see photos J-1, J-2, and J-5, documents F-5, I-7, I-5, L-1, and plates 3, 4, & 5).

(2) Two sites were discussed in the INPR (Borrego Springs, Site Number J09CA701300), Clarks Dry Lake and the Borrego (Military) Wash, but do not appear to currently exist as OE projects although included in the FDE. During the site inspection for this project, both of these areas were additionally visited and were found to possess a slight/moderate OE contamination presence, respectively. Recommend re-evaluation of both sites for further OE action.

6. VISUAL SITE INSPECTION

a. General Procedures and Safety

(1) During the period of 24 to 29 January 1997, members of the Assessment Team, Mr. Nick Iaiennaro and Mr. Chris Churney, accompanied by the Borrego Springs Fire Department Deputy Chief Steve Sawyer, visited the former Borrego Hotel site located in Borrego Springs, California. The primary task of the team was to assess potential OE presence and usage of the site as a Naval horizontal/dive bombing target. The site inspection was limited to non-intrusive methods; i.e. subsurface sampling was not authorized nor performed.

(2) Real estate rights-of-entry were not obtained by the team due to the willingness of estate representatives to allow the team to visit the property. Representatives were briefed on the non-intrusive nature of the inspection and the safety measures used by the inspection team.

(3) A site safety plan was developed and utilized by the assessment team to assure safety from injury during the site inspection of the area (reference B-4). Prior to the inspection, a briefing was conducted which stressed that OE should only be handled by military EOD personnel.

(4) Prior to the site visit, a thorough review of all available reports, historical documents, texts, and technical ordnance reference materials gathered during the historical

records search was made to ensure awareness of potential ordnance types and associated hazards.

b. Area A: Main Target Area

(1) This area consists of approximately 8.10 acres of flat and sparsely vegetated desert land, the majority lying within a dry lake bed.

(2) The sparse vegetation found in this area exists predominately in the form of three bush types, Brittle Bush, Creosote Bush, and Burrow Bush (see photos J-1 through J-11).

(3) Historical photos and documents display that the only military improvement added to this area was a bombing target, consisting of three concentric circles, 50 feet, 100 feet, and 200 feet in radius, with a 15 foot in diameter center circle (see documents K-1 and L-3).

(4) The only military improvement discovered in this area consisted of a bombing target, consisting of painted rock remnants of three concentric circles, 50 feet, 100 feet, and 200 feet in radius, with two approximately 15 foot in diameter circles located within the 50 foot radius circle, in a saddle-like configuration (see photos J-1, J-2, and J-8 through J-11).

(5) A considerable amount of surface OE debris was found in this area in the form of MK 65 500 pound practice bomb debris (one specimen), MK 15 and M38A2 100 pound practice bomb debris, MK 23 3 pound practice bomb debris, and one M95 20MM armor piercing projectile debris (see plate 6 and photos J-2 through J-7). One OE item of the numerous found, a MK23 3 pound practice bomb, still contained energetic material in the form of a MK4 smokeless powder and stabilized red phosphorous spotting charge. This item was destroyed by local bomb disposal officials. By the size of this target and type/condition of ordnance discovered on this target, it is believed that this target was used predominately as a medium to high altitude bombing target (see documents D-1 and D-2 and plates 3 and 5).

c. Area B: Secondary Target Area

(1) This area consists of approximately 1.00 acres of flat and sparsely vegetated desert land lying within a dry lake bed.

(2) The sparse types of vegetation found in this area is consistent with the types found/identified in area A.

(3) No historical documentation was located to specify military construction or improvement in this area.

(4) A 25' in diameter white painted rock target circle, with an approximate 5 foot in diameter white painted rock target center, was discovered in this area (see photo J-12).

(5) OE evidence in the form of surface .50 caliber bullet links, a .50 caliber cartridge case, and the remnants of one surface M38A2 100 pound practice bomb, devoid of spotting charge, were discovered in this area (see photos J-13 through J-15 and plate 6). Due to the size of this target (in relation to the target specified in Area A) and a limited and predominately small arms associated OE presence at this target, it is believed that this target was placed/constructed following initial range construction, to serve solely as a small arms ammunition strafing and/or dive bombing target. Due to the fact that this was a low altitude target, the error/miss ratio was greatly reduced, thereby requiring a much smaller buffer area as compared to Area A (see documents D-1 and D-2, plates 3 and 5, and photos J-12 through J-15).

d. Area C: Impact Zone

(1) This area consists of approximately 150.90 acres of flat and sparsely vegetated desert land, a portion of which lying within a dry lake bed.

(2) The sparse types of vegetation found in this area are consistent with the types found/identified in area A.

(3) Military structures or improvements documented or pictured to have been located in this area consisted of a North-South Dirt Runway, 2600 feet long by 250 feet wide, and a East-West Dirt Runway, 2500 feet long by 250 feet wide (see document G-6).

(4) Military structures or improvements discovered or remaining in this area consist of two directional arrows approximately 20 feet long, constructed of painted rock, one facing north and the other east (see photos J-17, J-18, and plate 6).

(5) Essentially, from an ordnance perspective, this area served as an error zone to preclude bombs, which unintentionally missed the targets, from entering lands not under military control.

(6) Evidence of OE in the form of surface M38A2 100 pound practice bomb debris was discovered in this area (see documents D-1 and D-2, photo J-16, and plates 3, 5 and 6).

d. Area D: Impact Zone (Additional Land)

(1) This area consists of approximately 30.65 acres of flat and sparsely vegetated desert land.

(2) The sparse types of vegetation found in this area are consistent with the types found/identified in area A.

(3) No military structures or improvements were documented or discovered in this area. This area is outside of the original boundary of lands acquired for Naval use, but due to a discovered OE presence, believed to be attributed to the irregular placement of the Main Target Area (southeast of property center), this area has been added to project acreage.

(4) Evidence of OE in the form of surface M38A2 100 pound practice bomb and MK 23 3 pound practice bomb debris was discovered in this area. (see photos J-19 through J-21, and plates 3, 5, and 6).

e. Area E: Buffer Zone

(1) This area consists of approximately 30.65 acres of flat and sparsely vegetated desert land.

(2) The sparse types of vegetation found in this area are consistent with the types found/identified in area A.

(3) No military structures, improvements, or OE were documented or discovered in this area. This area is outside of the original boundary of lands acquired for Naval use, but due to a discovered OE presence in Area D and the irregular placement of the Main Target Area (southeast of property center), this area has been added to reasonably include an additional error zone for OE, which unintentionally missed the target but was not discovered during the site inspection. This area extends approximately ½ mile from target center directly east and south, which is considered a reasonable distance to be "off target", evidenced by target placement in other similar WWII target areas (see plate 3).

7. EVALUATION OF ORDNANCE HAZARDS

a. General Procedures

(1) The site was evaluated to determine confirmed, potential, or uncontaminated ordnance presence.

(2) **Confirmed** ordnance contamination is based on verifiable historical record evidence or direct witness of OE items (with explosive components and/or inert debris/fragments) since site closure. Additional field data is not needed to identify a confirmed site. Verifiable historical record evidence is based on OE items actually seen on site since site closure and authenticated by: historical records (Archive Records, Preliminary Assessment Reports, Site Investigation Reports), local fire departments and law enforcement agencies/bomb squads, military Explosive Ordnance Disposal (EOD) Units, newspaper

articles, photographs, or maps. Direct witness of OE items consists of the site inspection team(s) and other credible witnesses as determined by the ASR Research Team Leader (landowners, on-site workers, soldiers who served there, etc.) verifying that they have seen OE presence on the surface or subsurface since site closure.

(2) **Potential** ordnance contamination is based on a lack of confirmed OE presence. Potential OE presence is inferred from records, present day site features, non-verifiable direct witness, or indirect witness. Additional field data is needed to confirm potential OE sites. Inference from historical records is based on no OE items located on site since site closure and would include documentation (records, aerial photographs, maps) indicating possible OE presence derived from common practice in production, storage, use, or disposal at that time and from records indicating known OE usage. Inference from present day site features would be the indication of possible OE presence from such obvious features as target circles, depressions, mounds/backstops, OB/OD areas/pits, etc. Indirect witness would be people who have stated that they have heard of OE presence on site (hear-say evidence).

(4) **Uncontaminated** ordnance sub-sites are based on a lack of confirmed or potential ordnance evidence. There is no reasonable evidence, either direct or inferred, to suggest present day ordnance contamination. Additional field data is not needed to assess uncontaminated ordnance sub-sites.

b. Area A: Target Area

(1) Area A is a **confirmed** area of contamination. The team performed a surface visual inspection of this area, to the greatest extent possible, revealing an ordnance presence. The majority of the items discovered were practice ordnance items which, although possibly delivered incorporating hazardous substances/components, were determined to be devoid of these items with one exception. A MK23 3 pound practice bomb was found to contain a MK 4 spotting charge, consisting of a small quantity of smokeless powder and stabilized red phosphorous. In addition, a 20MM MK95 armor piercing tracer (AP-T) projectile (tracer element expended) was discovered. The discovery of this singular projectile, at the location of a horizontal bombing target area devoid of strafing targets and other strafing evidence (belt links, etc.), with the presence of a substantial amount of other practice bomb debris still remaining, and with no incidents/accidents recorded in the area, would signify an isolated firing incident not warranting the consideration of high explosive 20mm utilization/presence at this target location.

(2) The major hazard(s) expected in this area may be present in the form(s) of M1 3 pound black powder spotting charges which were incorporated in the M38A2 100 pound practice bombs, MK4 smokeless powder/stabilized red phosphorous spotting charges which were incorporated in the MK23 3 pound and MK15 MOD4 100 pound practice bombs, MK6 2 pound black powder spotting charges which were incorporated in the MK65 500 pound practice bombs, and MK7 1 pound black powder spotting charges which were incorporated in the MK15 MOD3 100 pound practice bombs.

(3) All OE varieties may be found in subsurface practice bombs or in surface practice bombs (which escaped observation by the inspection team). No other types of ordnance are believed to be present in this area, which is supported by historical documentation, interview information, and overall site inspection.

c. Area B: Secondary Target Area

(1) Area B is a **confirmed** area of contamination. The team performed a surface visual inspection of this area, to the greatest extent possible, revealing a minimal ordnance presence consisting of .50 cal ammunition belt links, one .50 caliber cartridge case, and the debris from one M38A2 100 pound practice bomb.

(2) As in Area A, the major hazard(s) expected in this area may be present in the form(s) of M1 3 pound black powder spotting charges which were incorporated in the M38A2 100 pound practice bombs, MK4 smokeless powder/stabilized red phosphorous spotting charges which were incorporated in the MK23 3 pound and MK15 MOD4 100 pound practice bombs, MK6 2 pound black powder spotting charges which were incorporated in the MK 65 500 pound practice bombs, and MK7 1 pound black powder spotting charges which were incorporated in the MK15 MOD3 100 pound practice bombs.

(3) All OE varieties may be found in subsurface practice bombs or in surface practice bombs (which escaped observation by the inspection team). No other types of ordnance are believed to be present in this area, which is supported by historical documentation, interview information, and overall site inspection.

d. Area C: Impact Area (Additional Lands)

(1) Area C is a **confirmed** area of contamination. The team performed a surface visual inspection of this area, to the greatest extent possible, revealing a minimal ordnance presence consisting of M38A2 100 pound practice bomb debris. All items discovered were practice ordnance items which, although possibly delivered incorporating hazardous substances/components, were determined to be devoid of these items.

(2) As in Areas A and B, the major hazard(s) expected in this area may be present in the form(s) of M1 3 pound black powder spotting charges which were incorporated in the M38A2 100 pound practice bombs, MK4 smokeless powder/stabilized red phosphorous spotting charges which were incorporated in the MK23 3 pound and MK15 MOD4 100 pound practice bombs, MK6 2 pound black powder spotting charges which were incorporated in the MK65 500 pound practice bombs, and MK7 1 pound black powder spotting charges which were incorporated in the MK15 MOD3 100 pound practice bombs.

(3) All OE varieties may be found in subsurface practice bombs or in surface practice bombs (which escaped observation by the inspection team). No other types of ordnance are believed to be present in this area, which is supported by historical documentation, interview information, and overall site inspection.

e. Area D: Impact Area (Additional Lands)

(1) Area D is a **confirmed** area of contamination. The team performed a surface visual inspection of this area, to the greatest extent possible, revealing a minimal ordnance presence consisting of M38A2 100 pound practice bomb debris. All items discovered were practice ordnance items which, although possibly delivered incorporating hazardous substances/components, were determined to be devoid of these items.

(2) As in Areas A, B, and C, the major hazard(s) expected in this area may be present in the form(s) of M1 3 pound black powder spotting charges which were incorporated in the M38A2 100 pound practice bombs, MK4 smokeless powder/stabilized red phosphorous spotting charges which were incorporated in the MK23 3 pound and MK15 MOD4 100 pound practice bombs, MK6 2 pound black powder spotting charges which were incorporated in the MK 65 500 pound practice bombs, and MK7 1 pound black powder spotting charges which were incorporated in the MK15 MOD3 100 pound practice bombs.

(3) All OE varieties may be found in subsurface practice bombs or in surface practice bombs (which escaped observation by the inspection team). No other types of ordnance are believed to be present in this area, which is supported by historical documentation, interview information, and overall site inspection.

f. Area E: Buffer Zone

(1) Area E is a **potential** area of contamination. The team performed a surface visual inspection of this area, to the greatest extent possible, with no OE located. However, due to the proximity of this area to confirmed Areas A through D, the potential exists for a similar OE presence in this area. This area extends approximately ½ mile from target center directly east and south, which is considered a reasonable distance to be "off target", evidenced by target placement in other similar WWII target areas (see plate 3).

(2) As in Areas A through D, the major hazard(s) expected in this area may be present in the form(s) of M1 3 pound black powder spotting charges which were incorporated in the M38A2 100 pound practice bombs, MK4 smokeless powder/stabilized red phosphorous spotting charges which were incorporated in the MK 23 3 pound and MK15 MOD4 100 pound practice bombs, MK6 2 pound black powder spotting charges which were incorporated in the MK 65 500 pound practice bombs, and MK7 1 pound black powder spotting charges which were incorporated in the MK15 MOD3 100 pound practice bombs.

(3) All OE varieties may be found in subsurface practice bombs or in surface practice bombs (which escaped observation by the inspection team). No other types of ordnance are believed to be present in this area, which is supported by historical documentation, interview information, and overall site inspection.

8. SITE ORDNANCE TECHNICAL DATA

a. End Item Technical Data.

(1) Table 8-1 on the next page is a listing of ammunition and explosive fillers for items with a confirmed use on the Borrego Hotel site.

(2) Technical data and drawings relative to the end items listed in table 8-1 can be found in Appendix D.

TABLE 8-1
AMMUNITION USED AND EXPLOSIVE FILLER

NOMENCLATURE	FILLER/WEIGHT	AUTHORIZED FUZE (S)
Bomb, 3 to 4.5-lb Practice, AN-MK5, MK23, MK43 Signal, AN-MK4	Zinc, Cast Iron, Lead Antimony Smokeless Powder/ Red Phosphorus	N/A
Bomb, 100-lb Practice, MK15 MOD3 Spotting Charge, MK7	Sand/Water Filled Black Powder, 1-lb	N/A MK247 (Inert)
Bomb, 100-lb Practice, M38A2 Spotting Charge, M1	Sand Filled Black Powder, 3-lb	N/A
Bomb, 500-lb, Practice, MK25 Spotting Charge, MK6	Sand/Water Filled Black Powder, 2-lb	N/A MK247 (Inert)
Cartridge, 20MM AP-T M95 Propellant Tracer	Empty Cold Drawn Steel Body .07-lb Single or Double Base Powder Tracer Composition	N/A N/A
Small Arms Ammo .30 Cal Ball, M2 Propellant .30 Cal Tracer, M1	Lead Antimony with Gilding Metal Jacket 50 gr Single or Double Base Powder Tracer Composition	N/A N/A N/A
Small Arms Ammo .50 Cal Ball, M2 .50 Cal Tracer, M1 Propellant	Lead Antimony with Gilding Metal Jacket Tracer Composition 250 gr Single or Double Base Powder	N/A N/A N/A

b. Chemical Data of Ordnance Fillers

Table 8-2 on the next page has been developed to provide information on the explosive/chemical compounds used in the OE items cited in table 8-1.

TABLE 8-2 CHEMICAL DATA OF ORDNANCE FILLERS		
Filler	Synonym(s)	Chemical Formula
Black Powder 74% Potassium Nitrate 11% Sulfur 16% Charcoal	Saltpeter; Niter	KNO_3 S C
Double-base Powder 60% Nitrocellulose 39% Nitroglycerin 0.75% Diphenylamine	Ballistite Guncotton; Pyroxylin Stabilizer DPA	$[\text{C}_6\text{H}_8\text{O}_5(\text{NO}_2)_3]_n$ $\text{CH}_2\text{NO}_3\text{CHNO}_3$ CH_2NO_3 $(\text{C}_6\text{H}_5)_2\text{NH}$
E. C. Blank Powder 80.4% Nitrocellulose 8% Potassium Nitrate 8% Barium Nitrate 3% Starch 0.6% Diphenylamine	(single-based compound) Guncotton; Pyroxylin Saltpeter Stabilizer DPA	$[\text{C}_6\text{H}_8\text{O}_5(\text{NO}_2)_3]_n$ KNO_3 $\text{Ba}(\text{NO}_3)_2$ $(\text{C}_6\text{H}_5)_2\text{NH}$
Red Phosphorus		P
Tracer Compound 16% Polyvinyl Chloride 26% Magnesium Powder 52% Strontium Nitrate		Mg $\text{Sr}(\text{NO}_3)_2$

9. OTHER ENVIRONMENTAL HAZARDS

a. Hazardous, Toxic, and Radiological Waste

No information has been found to indicate that there are potential HTRW sites/sources.

b. Building Demolition/Debris Removal

There were no structures or debris of significant importance found during this site inspection to warrant any BD/DR projects.

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

APPENDIX A

REFERENCE SOURCES

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
FEDERAL AGENCIES			
DEPARTMENT OF DEFENSE			
(DLOD) Defense Library on Disk Pentagon Library, Room 1A518 Washington, DC 20301-6000	Computer Search	(703) 697-4658	No Information
(DDESB) Defense Explosive Safety Board USATCES, SIOAC-ESM Savanna, IL 61074-9639	Computer Search	(703) 325-8624	No Information
(DLSIE) Defense Logistic Studies Information Exchange US Army Logistics Management College, Ft. Lee, VA 23801	Computer Search	(804) 734-4007	No Information
(DTIC) Defense Technical Information Center Cameron Station Alexandria, VA 22304-6145	Computer Search	(202) 274-7633	No Information
Defense Mapping Agency Attn: PMSC 6001 McArthur Blvd Bethesda, MD 20816-5001	Mr. Jimmy Thompsen	(301) 227-2495	Topographical Maps
Center of Military History Attn: DAMH-RAS 1099 14th St. NW Washington, DC 20536	Contractor	(202) 504-5416	See Appendix B, Section II, Parts A & B

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
GOVERNMENT SOURCES			
FEDERAL AGENCIES			
DEPARTMENT OF DEFENSE (continued)			
AIR FORCE			
DMACSC, Philadelphia Depot 581 Tabor Avenue Philadelphia, CA 19120-5095	Staff	(301) 227-2495	Aeronautical Charts
Air Force Historical Research Agency 600 Chennault Circle Maxwell AFB, Al 36112-6424	IRIS System	(205) 953-2439	No Information
USAF Environmental Technical Applications Center 151 Patton Avenue, Room 120 Ashville, North Carolina	Ms. Janet Wall	(704) 271-4404	Climatological Data
ARMY			
70th Ord Det (EOD) Navy Sub Base, P.O. Box 6376 San Diego, CA 92166-0376	SFC Rodriguez	(619) 553-8500	See Interview I-2
Army Ordnance Museum Attn: ATSL-DOS-M APG, MD 21005	Mr. Roger Godin	(410) 278-3602	Source of Old Ordnance and Navy Publications
Center of Military History ATTN: DAMH-RAS 1099 14 th Street, NW Washington, DC 20536	Contractor	(202) 761-5416	See Appendix B, Section II, Parts A & B

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
FEDERAL AGENCIES			
DEPARTMENT OF DEFENSE (continued)			
ARMY (continued)			
IOC Historical Office AMSIO-EAH Building 390 Rock Island Arsenal Rock Island, IL 61299	Mr. Tom Slattery	(309) 794-1450	No Information
Rock Island Arsenal Museum Rock Island Arsenal Rock Island, IL 61299-6000	Ms. Kris Gayman Leinicke	(309) 794-3518	Technical Manuals
U.S Army Chemical School Fischer Library, Bldg. 1081 Ft. McClellan, AL 36205-5000	Mr. Dick Pastorett	(205) 848-4414	No Information
Army Technical Center for Explosives Safety Library ATTN: SIOAC-ESM Savanna, IL 61074-9639	Staff	(815) 273-8772	Reference Sources
U.S. Military History Institute Photo Archives Carlisle Barracks Carlisle, PA 17013	Mr. Mike Winey	(717) 245-3434	No Information
U.S. Military History Institute Branch Carlisle Barracks Carlisle, PA 17013	Mr. Richard Sommers	(717) 245-3601	No Information

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
FEDERAL AGENCIES			
DEPARTMENT OF DEFENSE (continued)			
ARMY (continued)			
U.S. Military History Library Carlisle Barracks, Bldg. 22 Carlisle, PA 17013	Mr. Dennis Vetock Mr. John Sloanaker	(717) 245-3611	No Information
US Army Chemical and Biological Command Aberdeen Proving Grounds, MD 21010	Ms. Kathy Ciolfi	(410) 679-4430	No Information
Corps of Engineers, Los Angeles District Real Estate Division 911 Wilshire Blvd. Los Angeles, CA 90017-3401	Ms. Dolores Henderson	(213) 452-3164	Real Estate Information
Corps of Engineers, Los Angeles District 911 Wilshire Blvd. Los Angeles, CA 90017-3401	Ms. Trudy Knutson Ms. Deborah Castens Mr. Jeff Armentrout	(213) 452-3990 (213) 452-3719 (213) 452-3719	Site Information and Assistance
Corps of Engineers, San Diego Project Office 10845 Rancho Bernardo Road, Suite 204 Rancho Bernardo, CA 92127	Mr. James B. Walker	(619) 674-6769	OE Site Information

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
FEDERAL AGENCIES			
DEPARTMENT OF DEFENSE (continued)			
ARMY (continued)			
Hqs, Corps of Engineers Office of History 7701 Telegraph Road Alexandria, Va 22310-3865	Dr. Martin Gordon	(703) 355-3558	See Appendix B, Section II, Parts A & B
NAVY			
Naval Construction Bn. Attn: Code 10H-NAVFAC Historian Port Hueneme, CA 93043	Dr. Vincent Transano	(805) 982-5913	Historical Information
Marine Corps Historical Center, Bldg 58 Washington Navy Yard Washington, DC 20374	Contractor	(202) 433-3483	See Appendix B, Section II, Parts A & B
Naval Historical Center Technical Library Washington Navy Yard Washington, DC 20374	Mr. Mark Wertheiner	(202) 433-3607	Obsolete Naval Publications
Naval Historical Center Bldg 57 Washington Navy Yard Washington, DC 20374	Contractor	(202) 433-3171	See Appendix B, Section II, Parts A & B

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
FEDERAL AGENCIES			
DEPARTMENT OF DEFENSE (continued)			
NAVY (continued)			
Naval Construction Bn. Center, Code 72 NAVFAC Engineering Service Center 1000 1023 rd Avenue Port Hueneme, CA 93403-4370	Ms. Josephine Walsh	(805) 982-9110	No Information
Naval Construction Battalion Center Code 1581B, Civil Engineer Spt. Ofc. 1000 1023 rd Avenue Port Hueneme, CA 93403-4370	Mr. Robert Brickey Mr. Cliff Ledderer	(805) 982-5593	Historical Information
MCRD Museum Building 26 San Diego, CA 92140	MAJ Bruce Norton (Ret)	(619) 524-6719	No Information
Miramar Naval Air Station Attn: Roger Hillhouse-RH187 45249 Miramar Way San Diego, CA 92145-5005	Mr. Roger Hillhouse	(619) 537-1102	No Information
NAS North Island Natural Resources Office San Diego, CA 92135	Mr. Andy Yatsko	(619) 545-1131	Referral
NAS North Island Staff Civil Engineer Office San Diego, CA 92135	Mr. Dave Brown	(619) 545-1111	No Information

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
FEDERAL AGENCIES			
DEPARTMENT OF DEFENSE (continued)			
NAVY (continued)			
COMEODGRU One Coronado Island San Diego, CA 92155	LTCMDR Peterson	(619) 437-0715	No Information
Command Museum Marine Corps Air Station, El Toro Santa Ana, CA	Mr. Fabian Jiroux	(714) 726-4380	No Information
JEODU Marine Corps Air Station Yuma, AZ 85639	CPT Peterlick	(520) 341-2788	UXO Information
Naval Engineering Facilities Command Code 14B, Room 10N59 200 Stovall Street Alexandria, VA 22332-2300	Mr. Charlie Cox Mr. Jack Kane	(703) 325-7342	No Information
Naval Engineering Facilities Command Southwest Division 1220 Pacific Highway, Building 127 San Diego, CA 92132	Mr. Lowell Martin Mr. Daniel Huey	(619) 532-2991	Historical/Cultural Information

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
FEDERAL AGENCIES			
DEPARTMENT OF DEFENSE (continued)			
NAVY (continued)			
Naval Engineering Facilities Command Southwest Division Environmental Ofc. 1220 Pacific Highway, Building 127 San Diego, CA 92132	Mr. Mike Gonzales	(619) 532-3178	Environmental Information and Referrals
Naval Engineering Facilities Command Southwest Division Cadastral Office 1220 Pacific Highway, Building 127 San Diego, CA 92132	Mr. Tom Phelps Ms. Chriss Maves	(619) 532-1169	Historical Maps
Naval Engineering Facilities Command Southwest Division Natural Resources Department 1220 Pacific Highway, Building 127 San Diego, CA 92132	Mr. Mike Stroud	(619) 532-2319	Aerial Photos and Referrals
Naval Engineering Facilities Command Southwest Division Natural Resources Department 1220 Pacific Highway, Building 127 San Diego, CA 92132	Mr. Bill Fisher	(619) 532-1488	Endangered Species Information
NAVEODTECHDIV Technical Library 2008 Stump Neck Road Indian Head, MD 20640-5070	Ms. Betty Arbogast Ms. Dawn Risko	(301) 743-6834	Obsolete Naval Publications

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
FEDERAL AGENCIES			
DEPARTMENT OF DEFENSE (continued)			
NAVY (continued)			
Navy Directive and Records Management CODE CNO NO 9B35 Washington Navy Yard, Building 166 901 M street SE Washington, DC 20374	Lt. Gilbert	(202) 433-4194	No Information
Naval Air Station Library, North Island P.O. Box 357801 San Diego, CA 92135-7081	Ms. Sharon Nelson	(619) 545-8230	Historical Publications and Documents
DEPARTMENT OF COMMERCE			
NGS, Information Services N/NGS 12, SSMC#, Station 9244 1315 E-W Highway Silver Spring, MD 20920-3282	Ms. Joan Rikon	(301) 443-8601	No Information
NOAA National Climatic Data Center, Federal Bldg Asheville, NC 28801	Ms. Yolanda Goosch Mr. Sam McCowan	(704) 271-4272	Climatic Data
DEPARTMENT OF THE INTERIOR			
US Geological Survey EROS Data Center Sioux Falls, SD 57198	Ms. Janet Wall	(704) 271-4404	No Information

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
FEDERAL AGENCIES			
DEPARTMENT OF THE INTERIOR (continued)			
US Geological Survey Branch of Distribution Box 25286, Bldg 810 Denver Federal Center Denver, Co. 80225	Customer Service	(303) 202-4700	Topographical Maps
US Geological Survey EROS Data Center Sioux Falls, SD 57198	Ms. Janet Wall	(704) 271-4404	No Information
US Geological Survey Earth Science Information Center (ESIC 1400 Independence Road Rolla, MO 65401	Customer Service	(573) 308-3500	Orthophoto Quads
US Geological Survey Reston, VA 22090	Mr. Dave Keys	(703) 648-5956	No Information
Bureau Of Land Management California Desert District 6221 Box Springs Boulevard Riverside, CA 92507-0714	Ms. Manuela Johnson	(909) 697-5220	Plat Maps
Bureau Of Land Management California Desert District 6221 Box Springs Boulevard Riverside, CA 92507-0714	Mr. John Key	(909) 697-5383	No Information

REFERENCE SOURCES			
The following organizations and personnel are acknowledged for their support			
Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
FEDERAL AGENCIES			
DEPARTMENT OF THE INTERIOR (continued)			
Bureau Of Land Management El Centro Resource Area 1661 South 4 th Street El Centro, CA 92243	Mr. Larry Cafey	(619) 337-4425	No Information
Bureau Of Land Management Palm Springs Resource Center 63500 Garnet Avenue North Palm Springs, CA 92258-2000	Mr. Mike Mitchell	(619) 251-4800	No Information
U.S. Fish and Wildlife Service 2730 Loker Avenue West Carlsbad, CA 92008	Mr. John Hanlon	(619) 431-9440	Endangered Wildlife Species Listing
NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)			
Library of Congress Washington, DC 20536	Contractor	(202) 707-5522	See Appendix B, Section II, Parts A & B
Smithsonian Institution Historical Research Division Washington, DC 20560	Contractor	(202) 357-3133	See Appendix B, Section II, Parts A & B
Archives I (Old Military) Pennsylvania Ave & 7th Washington, DC 20408	Contractor	(202) 501-5390	See Appendix B, Section II, Parts A & B

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
FEDERAL AGENCIES			
NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA) (continued)			
Archives II (Still Picture Branch) 8601 Adelphi Road College Park, Md 20740	Contractor	(301) 713-6660	See Appendix B, Section II, Parts A & B
Archives II (Textual Branch) 8601 Adelphi Road College Park, Md 20740	Contractor	(202) 501-5380	See Appendix B, Section II, Parts A & B
Suitland Branch (Civil/Military) 4205 Suitland Road Suitland, Md 20409	Contractor	(301) 763-7410	See Appendix B, Section II, Parts A & B
Federal Records Center-San Francisco 1000 Commodore Drive San Bruno, CA 94066	Ms. Barbara Beppler	(415) 876-9001	See Appendix B, Section III, Parts A & B
Federal Records Center-Los Angeles 24000 Avila Road Laguna Niguel, CA 92656	Mr. Greg Pearman	(714) 360-2626	See Appendix B, Section III, Parts A & B
Pacific Sierra Region 1000 Commodore Drive San Bruno, CA 94066	Ms. Lisa Miller	(415) 876-9009	See Appendix B, Section III, Parts A & B
Pacific Southwest Region 24000 Avila Road Laguna Niguel, CA 92656	Ms. Suzanne Dewberry	(714) 360-2641	See Appendix B, Section III, Parts A & B

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
FEDERAL AGENCIES			
NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA) (continued)			
Archives I (Modern Military) Pennsylvania Ave & 7th Washington, DC 20408	Contractor	(202) 501-5385	See Appendix B, Section II, Parts A & B
Archives I (Navy) Pennsylvania Ave & 7th Washington, DC 20408	Contractor	(202) 501-5671	See Appendix B, Section II, Parts A & B
Archives II (Cartographic/ Architectural) 8601 Adelphi Road College Park, Md 20740	Contractor	(301) 713-7040	See Appendix B, Section II, Parts A & B
Archives II (Civil Reference Branch) 8601 Adelphi Road College Park, Md 20740	Contractor	(301) 713-7250	See Appendix B, Section II, Parts A & B
Archives II (Motion Picture Branch) 8601 Adelphi Road College Park, Md 20740	Contractor	(202) 713-7060	See Appendix B, Section II, Parts A & B
National Personnel Records Center 9700 Page Avenue St Louis, MO 63132	Mr. Bill Siebert Mr. Wilson Sullivan	(314) 538-4085	See Appendix B, Section III, Parts A & B

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
FEDERAL AGENCIES			
DEPARTMENT OF AGRICULTURE			
Consolidated Farm Service Agency 45-691 Monroe, Suite 4 Indio, CA 92201	Mr. Remu Khilnani Mr. Teja Salman	(619) 347-3675	Aerial Photographs
Aerial Photography Field Office P.O. Box 30010 2222 West 2300 South Salt Lake City, UT 84131	Ms. Sherrie Holyoak	(801) 975-3503	Aerial Photographs
Natural Resources Conservation Service 332 South Juniper, Suite 110 Escindido, CA 92025	Ms. Becky Watts Mr. Jason Jackson	(619) 745-2061	Provided Soil Survey and Aerial Photographs
STATE/LOCAL			
Anza-Borrego Desert State Park 200 Palm Canyon Drive Borrego Springs, CA 92004	Mr. Fred Jee Mr. Mark Jorgenson Mr. Manfred Knack Mr. Jim Meiers	(619) 767-5311	See Interview I-7 See Interview I-8 See Interview I-10 See Interview I-13
California State Archives 1020 O Street Sacramento, CA 95814	Mr. Tony Hoffman	(916) 653-2246	No Information
California State Library 914 Capital Mall, Library and Courts Building Sacramento, CA 94237-0001	Mr. John Gonzales	(916) 654-0176	No Information

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
STATE/LOCAL (continued)			
San Diego State University Special Collections 5300 Campanile Drive San Diego, CA 92182-0511	Mr. Bill Payne	(619) 594-6791	No Information
San Diego State University Government Documents/Maps Section 5300 Campanile Drive San Diego, CA 92182-0511	Mr. Bruce harley	(619) 594-5832	No Information
San Diego State University Reference Branch 5300 Campanile Drive San Diego, CA 92182-0511	Ms. Karen Sharp	(619) 594-6724	Newspaper Articles
South Coastal Info Center (SHPO) Social Sciences Research Lab San Diego State University San Diego, CA 92182-0511	Ms. Jan Culbert	(619) 594-5682	Archaeological and Historical Site Information
University of California P.O. Box 19557 Irvine, CA 92110	Reference Desk	(714) 824-6836	No Information
University of California Government Documents Department P.O. Box 19557 Irvine, CA 92110	Mr. Jeff Schneidewind Ms. Kay Collins	(714) 824-7234	No Information

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
STATE/LOCAL (continued)			
University of California Archives P.O. Box 19557 Irvine, CA 92110	Ms. Mary Ellen Goddard	(714) 824-7193	Referrals
Borrego Springs Fire Department 2324 Stirrup Road Borrego Springs, CA 92004	Investigator Steve Sawyer	(619) 767-5436	See Interview I-3
San Diego County Assessor 1600 Pacific Highway Room 203 San Diego, CA 92101	Mr. Steve Berggren Mr. Ron Graham	(619) 531-6468	Real Estate Information
San Diego County Library Borrego Springs Branch 652 Palm Canyon Drive Borrego Springs, CA 92004-0297	Ms.. Kathy Raske	(619) 767-5761	Site Information
San Diego County Planning and Land Use Department 5201 Ruffin Road, Suite D San Diego, CA 92101	Mr. Gary Stockton	(619) 694-3871	Aerial Photos/Historical Maps
San Diego County Recorder and Clerk 1600 Pacific Highway Room 260 San Diego, CA 92101	Records Information	(619) 237-0502	San Diego County Deeds

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
STATE/LOCAL (continued)			
San Diego Public Library California Room 820 East Street San Diego, CA 92101-6478	Ms. Blair Odinis	(619) 236-5834	Newspaper Articles
San Diego Public Library 820 East Street San Diego, CA 92101-6478	Librarian	(619) 236-5820	Referrals
University of San Diego Helen K. and James Copley Library Alcala Park San Diego, California	Librarian	(619) 260-4799	No Information
San Diego County Sheriff's Dept. 5255 Mt. Etna Drive San Diego, CA 92117	SGT Conrad Grayson	(619) 467-4579	See Interview I-1
San Diego County Sheriff's Dept. Rural Enforcement Division 610 Palm Canyon Drive Borrego Springs, CA 92004	Deputy Charles Hahn Deputy Jim McKenna	(619) 767-5656	See Interview I-4 See Interview I-15
Ocotillo State Off Road Park 5172 Highway 78 Ocotillo Wells, CA 92004	Mr. Al McLeary	(619) 767-5391	See Interview I-21

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>GOVERNMENT SOURCES</u>			
STATE/LOCAL (continued)			
San Diego Public Library California Room 820 East Street San Diego, CA 92101-6478	Ms. Blair Odinis	(619) 236-5834	Newspaper Articles
San Diego Public Library 820 East Street San Diego, CA 92101-6478	Librarian	(619) 236-5820	Referrals
University of San Diego Helen K. and James Copley Library Alcala Park San Diego, California	Librarian	(619) 260-4799	No Information
San Diego County Sheriff's Dept. 5255 Mt. Etna Drive San Diego, CA 92117	SGT Conrad Grayson	(619) 467-4579	See Interview I-1
San Diego County Sheriff's Dept. Rural Enforcement Division 610 Palm Canyon Drive Borrego Springs, CA 92004	Deputy Charles Hahn Deputy Jim McKenna	(619) 767-5656	See Interview I-4 See Interview I-15
Ocotillo State Off Road Park 5172 Highway 78 Ocotillo Wells, CA 92004	Mr. Al McLeary	(619) 767-5391	See Interview I-21

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
NON-GOVERNMENT SOURCES			
NATIONAL			
Northern Illinois Library System (NILS) 4034 East State Street Rockford, Il 61108	Computer Search	(815) 229-0330	No Information
Council on America's Past 518 Why Worry Lane Phoenix, AZ 85021	Heliogram Publication	(800) 396-4693	No Information
On-line Computer Library Center 6565 Franz Road Dublin, OH 43017-3395	Computer Search	(800) 848-5873	No Information
Scientific & Technical Information Library 689 Discovery Drive Huntsville, Al 35806	Computer Search	(205) 922-9822	Geological Information
STATE/LOCAL			
Imperial Valley Historical Society Pioneers Museum 323 East Aten Road Imperial, CA 92251	Ms. Lynn Bogdan Mr. Steve Bogdan	(619) 352-1165	No Information
San Diego Historical Society Archives 1649 El Prado, Balboa Park San Diego, CA 92138	Ms. Sally West	(619) 232-6203	No Information

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
NON-GOVERNMENT SOURCES			
STATE/LOCAL (continued)			
San Diego County Farm Bureau 1670 East Valley Parkway Escondido, CA 92027	Mr. David Owen	(619) 745-3023	No Information
SITE RELATED PERSONNEL			
Longtime Local Resident 411 West D Street Brawley, CA 92227	Mr. Leon Lesicka	(619) 344-2793	No Information
Military Historian 6016 Stanton Avenue Highland, CA 92346	Mr. Bruce Rebenstorf	(909) 864-4302	No Information
Estate Attorney 1321 East Adobe Way Palm Springs, CA 92262	Ms. Elizabeth Baker	(619) 320-3556	See Interview I-5
Lifetime Local Resident 601 Anchor Drive Borrego Springs, CA 92004	Ms. Nancy Ellis	(619) 767-3010	See Interview I-6
Former Park Ranger P.O. Box 252 Borrego Springs, CA 92004	Mr. Kenneth Smith	(619) 767-3303	See Interview I-9
Local Resident P.O. Box 143 Borrego Springs, CA 92004	Mr. David Ragsdill	(619) 767-0304	See Interview I-11

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
<u>NON GOVERNMENT SOURCES</u>			
SITE RELATED PERSONNEL (continued)			
Local Landowner P.O. Box 1113 Borrego Springs, CA 92004	Mrs. Florence Leedy	(619) 767-3781	See Interview I-12
Retired Explosive Ordnance Disposal Technician 8786 Betelgeufe Way San Diego, CA 92126	Mr. Bruce Tinknell	(619) 578-9901	See Interview I-14
Former Area Resident 1317 North V Street Lampoc, CA 93436	Mr. David Rock	(805) 735-4864	See Interview I-16
Former Head Park Ranger P.O. Box 1620 Borrego Springs, CA 92004	Mr. Homer Townsend	(619) 767-3986	See Interview I-17
Archaeologist 1010 Palm Canyon Drive P.O. Box 1306 Borrego Springs, CA 92004	Mr. Bob Begole	(619) 767-5070	See Interview I-18
Local Landowner 31603 Scenic Drive Laguna Beach, CA	Mr. Bernard Bares	(714) 499-2412	See Interview I-19
Longtime Local Resident 769 Diamond Bay Road Borrego Springs, CA 92004	Mr. Willard Henry	(619) 767-5506	See Interview I-20

REFERENCE SOURCES

The following organizations and personnel are acknowledged for their support

Organization	Name	Telephone	Nature of Support
--------------	------	-----------	-------------------

NON GOVERNMENT SOURCES**SITE RELATED PERSONNEL** (continued)

Lifetime Local Resident

Mr. Sam Fortiner

(619) 767-5539 See Interview I-22

P.O. Box 67

Borrego Springs, CA 92004

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

APPENDIX B

REFERENCES AND ABSTRACTS

APPENDIX B

SECTION I: BIBLIOGRAPHY

- B-1. U.S. Army Corps of Engineers, Huntsville Division, "Management Plan for Ordnance and Explosive Waste (OEW) Mandatory Center of Expertise (MCX) and Design Center", CEHND 1105-3-9, November 1994.
- B-2. U.S. Army Corps of Engineers, Rock Island District, "Defense Environmental Restoration Program for Formerly Used Defense Sites, Ordnance and Explosive Waste, Archives Search Report Manual", Version 2.2, 17 April 1995.
- B-3. Department of the Army, Environmental Protection and Enhancement, AR 200-1, 23 April 1990.
- B-4. U.S. Army Corps of Engineers, Rock Island District, "Site Safety Plan for OEW Investigations, 15 June 1992", with Appendix A-171, 15 September 1996.
- B-5. Department of Agriculture, Soil Conservation Service, Soil Survey of San Diego County, California, August 1990.
- B-6. National Oceanic and Atmospheric Administration, "Local Climatological Data, San Diego, California", 1993.
- B-7. National Oceanic and Atmospheric Administration, "Climate of California", June 1982.
- B-8. State of California, Department of Water Resources, "Borrego Valley Water Management Plan", June 1994.
- B-9. California Department of Parks and Recreation, "Ocotillo Wells East Acquisition, Final Environmental Impact Report", July 1986.
- B-10. M.L. Shettle, JR., Naval Air Stations of WWII, Schaertel Publishing Co., 1995.
- B-11. Paolo E. Coletta, United States Navy and Marine Corps Bases, Domestic, Greenwood Press, 1985.
- B-12. Smithsonian Institution, Americas Pursuit of Precision Bombing, 1910-1945, 1995.
- B-13. Departments of the Army, Navy, and Air Force, Bombs and Bomb Components, TM 9-1325-200, April 1966 (D-1).
- B-14. Department of the Army, U.S. Explosive Ordnance, TM 60A-2-1-11, 28 May 1947 (D-1).

B-15. Departments of the Army and Air Force, Ammunition for Aircraft Guns, TM 9-1901-1, December 1957 (D-2).

B-16. U.S. Army Corps of Engineers Los Angeles District, "DERP-FUDES INPR (Site No. J09CA701100)", 6 July 1994 (E-1).

B-17. Report, 11th Naval District, Public Works Officer, "Appraisal Report of Borrego Hotel Site Landing Field, 160 Acres", 14 May 1941.

B-18. Report, General Services Administration, "Appraisal Report of Borrego Emergency Landing Field, San Diego County, California", 2 July 1956, NARA, Pacific Sierra Region, RG 121, Accession 9NSS-121-85-007, Box 18.

B-19. Report, State of California, Department of Fish and Game, "Federal and State Rare and Endangered Species in San Diego County", 2 July 1996 (E-2).

B-20. Report, South Coastal Information Center, San Diego State University, "Cultural Resources Present on former Borrego Hotel Lands", 10 October 1996 (E-3).

B-21. Memorandum, Chief of Naval Operations, 7 September 1940, subject: Acquisition of Auxiliary Landing Fields in the Vicinity of San Diego, California, NARA, Archives II, RG 71, Entry 1001, Box 112 (F-1).

B-22. Memorandum, U.S. Naval Air Station, San Diego, California, 27 January 1941, subject: Long Range Development of Outlying Fields, NARA, Pacific Southwest, RG 181, Box 38 (F-2).

B-23. Memorandum, U.S. Naval Air Station, San Diego, California, 13 March 1941, subject: Navy Operating Areas in Borrego and Imperial Valleys, NARA, Pacific Southwest, RG 181, Box 38 (F-3)

B-24. Chart, Department of Commerce, Civil Aeronautics Administration, Airport Division, 1 December 1942, subject: Civil and Military Airports, NARA, Archives II, RG 18, Entry 294, Box 869 (F-4).

B-25. Letter, Deputy Commander, 11th Naval District, San Diego, California, 24 August 1944, subject: Aircraft Southern California Sector, Western Sea Frontier, Circular Letter Number 20-44 (F-5).

B-26. Memorandum, Commander, 11th Naval District, San Diego, California, 23 April 1945, subject: Land and Water Targets, Numbering Of, NAB-11th N.D. Order NO. 4 (F-6).

B-27. Declaration of Taking, The District Court of the United States in and For the Southern District of California Southern Division, 10 July 1941, subject: United States of America Versus 160 Acres of Land, More or Less, in San Diego County, California; Elmo Roland Livingston, et al (G-1).

B-28. Standard Form 118, Navy Department, Washington, D.C., 31 October 1955, subject: Report of Excess Real Property, Emergency Landing Field and Target #63 at the Borrego Hotel Site (G-2).

B-29. Letter, Department of the Navy, Bureau of Yards and Docks, 20 December 1955, subject: Declaration of Surplus of the Emergency Landing Field and Target 63 at the Borrego Hotel Site (G-3).

B-30. Form, General services Administration, 25 January 1956, subject: Declaration of Surplus of the Borrego Emergency Landing Field, San Diego County, California (G-4).

B-31. Deed, United States of America, Administrator of General Services, 6 September 1956, subject: Release of Borrego Emergency Landing Field Lands to Ray Formost (G-5).

B-32. Naval Shore Activity Summary, Naval Bureau of Aeronautics, Circa 1956, subject: Borrego Outlying Field/Target #63 (G-6).

B-33. The San Diego Union, "Government Surplus Sale", 23 July 1956 (H-1).

B-34. Aerial Photo of Borrego Hotel Target Area and Emergency Landing Field , 23 March 1944, NARA, Archives II, Still Pictures Branch, RG 80 (K-1).

B-35. Map, General Services Administration, "Plat Survey of Borrego Hotel Site Landing Field", Circa 1940 (L-1).

B-36. Map, 11th Naval District, "Location Map of Naval Reservations in San Diego, Imperial, and Portions of Orange and Riverside Counties, California", 30 June 1942 (L-2).

B-37. Map, 11th Naval District, "Location Map of San Felipe Bombing Target", Circa 1944 (L-3).

SECTION II
NATIONAL CAPITAL REGION ARCHIVES FINDINGS
PART A
POSITIVE FINDINGS

BORREGO HOTEL, CA
A/K/A
DRY LAKE, CA

***LIBRARY OF CONGRESS - GEOGRAPHY AND MAP DIVISION
WASHINGTON, DC***

United States Department of the Interior

Geological Survey, Superstition Mountain Quadrangle, 1956
Geological Survey Map of Superstition Mountain

***NARA - ARCHIVES II - TEXTUAL BRANCH
COLLEGE PARK, MD***

RG 18 (Records of the Army Air Corps)

Entry 294: Air Adjutant General's Security Classified Decimal File, October
1942 - 1944
Box 869

Extract, Civil and Military Airports, Department of Commerce, Civil
Aeronautics Administration, 1 December 1942

RG 71 (Records of the Bureau of Yards and Docks)

Entry 1001: Naval Property Case Files, 1941 - 1958
Box 111

Rolled Map, Leased San Diego Naval Air Station Auxiliary Landing
Fields, Borrego Hotel. 30 June 1939

Entry 1001: Naval Property Case Files, 1941 - 1958
Box 112

Correspondence and Chart Relative to Real Estate Acquisition, Auxiliary
Landing Field, Borrego Hotel. 15 August - 7 September 1940

Entry 1001: Naval Property Case Files, 1941 - 1958

Box 114

Report Relative to Real Property Disposal in Connection with Emergency
Landing Field, Borrego Hotel, 29 March 1954

RG 291 (Records of the Federal Property Resources Service)

Entry 5: Real Property Case Files, 1962

Box 26

Correspondence, Reports, and Legal Instruments Relative to Real Property
Disposal, Borrego Hotel, 20 October 1955 - 5 August 1957

Entry 5: Real Property Case Files, 1962

Box 26

Appraisal Report, Borrego Emergency Landing Field, San Diego County,
California (N-Cal-544), Including Photographs and Map, Borrego Hotel,
16 July 1956

***NARA - ARCHIVES II - STILL PICTURES BRANCH
COLLEGE PARK, MD***

RG 80 - G (General Records of the Department of the Navy, 1798 - 1947)

Aerial View, Borrego Hotel Outlying Field. Looking Northwest, Alt. 4,000'

SECTION II
NATIONAL CAPITAL REGION ARCHIVES FINDINGS
PART B
NEGATIVE FINDINGS

BORREGO HOTEL, CA
A/K/A
DRY LAKE, CA

***LIBRARY OF CONGRESS - STILL PHOTOS DIVISION
WASHINGTON, DC***

Pertinent Collections

***MARINE CORPS HISTORICAL CENTER
WASHINGTON, DC***

Pertinent Collections

***NARA - ARCHIVES I
WASHINGTON, DC***

RG 80 (General Records of the Department of the Navy, 1798 - 1947)
Entry: General Correspondence, 1926 - 1942

***NARA - ARCHIVES II - TEXTUAL BRANCH
COLLEGE PARK, MD***

RG 16 (Records of the Department of Agriculture)
Entry 17: General Correspondence of the Office of the Secretary of Agriculture,
1906 - 1975

RG 38 (Records of the Chief of Naval Operations)
Entry: General Correspondence. July 1944 - June 1946

RG 30 (Records of the Bureau of Public Roads)
Entry 54: Highway Traffic Advisory Committee to the War Department.
1941 - 1945

RG 48 (Records of the Office of the Secretary of the Interior)
Entry 749B: Central Classified Files. 1939 - 1953

- RG 52 (Records of the Bureau of Medicine and Surgery)
Entry: Subject Files, 1941 - 1953
- RG 57 (Records of US Geological Survey)
Entry 27: Correspondence and Related Records, 1906 - 1948
- RG 72 (Records of the Bureau of Aeronautics)
Entry 1001: "Unclassified" General Correspondence, 1948 - 1959
Entry 1021: Records Relating to Inactive Air Stations
- RG 74 (Records of the Bureau of Ordnance)
Entry 25: General Correspondence, 1942 - 1944
Entry 1001: General Correspondence, 1907 - 1946
Entry 1002A: Construction and Procurement Subject Files, 1945
Entry 1002B: Construction and Procurement Subject Files, 1946
Entry 1002C: Construction and Procurement Subject Files, 1947
- RG 80 (General Records of the Department of the Navy, 1798 - 1947)
Entry 1318: General Correspondence, 1941 - 1945
- RG 96 (Records of the Farmers Home Administration)
Entry 3: Correspondence Relating to Participation in the Defense Program, 1940 - 1942
- RG 115 (Records of the Bureau of Reclamation)
Entry 7: General Administrative and Program Files, 1919 - 1945
- RG 121 (Records of the Public Buildings Service)
Entry 13: Records Concerning Federal Real Estate Inventory, 1936 - 1940
- RG 127 (Records of the United States Marine Corps)
Entry: Office of the Commandant, General Correspondence, January 1939 - June 1950
- RG 165 (Records of the War Department General and Special Staffs)
Entry 484D: Federal Works Agency Project Files, 1940 - 1946
Entry 484E: Security Classified Federal Works Agency Project Files, 1942 - 1945
- RG 218 (Records of the U.S. Joint Chiefs of Staff)
Entry: Series, 1942 - 1959 (Geographic File)
- RG 250 (Records of the Office of War Mobilization and Reconversion)
Entry 46: Surplus Property Disposal Records

RG 269 (Records of the General Services Administration)
Entry 5: Real property Disposal Case Files Transferred from the Farm Credit
Administration, 1945 - 1953

RG 270 (Records of the War Assets Administration)
Entry 3: Office of Information, Subject Files, 1946 - 1959

RG 428 (Records of the Department of the Navy, 1947-)
Entry 4: Records of the Secretary of the Navy, General Records, Formerly
Security Classified DCNO 05 (Air) Chronological Files, January 1949 -
June 1950

***NARA - ARCHIVES II - CARTOGRAPHIC BRANCH
COLLEGE PARK, MD***

Pertinent Record Groups

***NARA - ARCHIVES II - MOTION PICTURE, SOUND AND VIDEO
BRANCH
COLLEGE PARK, MD***

Pertinent Record Groups

***NATIONAL GEOGRAPHIC SOCIETY
WASHINGTON, DC***

Pertinent Collections

***NAVAL HISTORICAL YARDS - NAVAL AVIATION HISTORY
OFFICE
WASHINGTON, DC***

Pertinent Collections

***NAVAL HISTORICAL YARDS - OPERATIONAL ARCHIVES
WASHINGTON, DC***

Pertinent Collections

NAVAL HISTORICAL YARDS - NAVY DEPARTMENT LIBRARY

Pertinent Collections

***SMITHSONIAN NATIONAL AIR AND SPACE MUSEUM
WASHINGTON, DC***

Pertinent Collections

SECTION III
REGIONAL NATIONAL ARCHIVES FINDINGS
PART A
POSITIVE FINDINGS

BORREGO HOTEL
AKA
HALFHILL DRY LAKE
TARGET #63

NARA, PACIFIC SIERRA REGION
SAN BRUNO, CA

RG 121, Records of the Public Buildings Service

Accession #9NSS-121-85-007

Box #18

Paper, Appraisal Report for Borrego Emergency Landing Field,
San Diego County, California (N-Cal-544)

Memo, From Regional Controller, GSA to Regional Counsel,
GSA, Re: Borrego Emergency Landing Field, N-Cal-544, San
Diego County, California

Paper, Quitclaim Deed, Borrego Emergency Landing Field,
N-Cal-544, San Diego County, California, 16 November 1956

Paper, Certificate of Recordation, 26 November 1956

Paper, Real Property Transaction Advice, Borrego Emergency
Landing Field, San Diego County, California, 9/18/56

Newspaper Ad, Government Surplus Sale, The San Diego Union,
July 23, 1956

Paper, Surplus Real Property Classification, Borrego
Emergency Landing Field, San Diego County, California,
12/20/55

Memo, Re: Emergency Landing Field, Target 63, Borrego Hotel
Site, San Diego County, Calif.-GSA #N-Calif-544, December
20, 1955

Paper, Report of Excess Real Property, Emergency Landing
Field, Target 63 (Borrego Hotel Site), Oct 31, 1955

Paper, Certificate of Title, Southern Title & Trust Company,
26 April 1943

Paper, No. 113 Civil Decree on Declaration of Taking, Jul 10
1941

Dwg, Plat of Survey, Borego Hotel Site Landing Field

NARA, PACIFIC SOUTHWEST REGION
LAGUNA NIGUEL, CA

RG 181, Records of the Naval Districts and Shore Establishments
Box #38

Report, 11th Naval District, Re: 15,000 Plane Program,
October 11, 1941

Memo, Subj: Gunnery and Bombing Areas with Encl A, Nov 28
1941

Memo, Navy Operating Areas in Borrego and Imperial Valleys,
March 13 1941

Memo, To Civil Aeronautics Administration From NAS San
Diego, Re: Danger Areas, June 4, 1941

Memo, Subj: Firing at Camp Callan, November 21, 1941

Paper, Outlying Auxiliary Landing Fields, Eleventh Naval
District, San Diego, Calif, Undated

Box #200

Paper, Listing of Bombing Targets

Box #250

Map, Blackburns Map of San Diego County

Map Drawer 101-3

Map, Army, Navy, and Military Facilities Southern California
Area

Map, N.A.S. San Diego, Calif, Status of Targets, June 30,
1950

Box #420

Map, Aviation Shore Facilities United States Navy, March 15,
1943

SECTION III
REGIONAL NATIONAL ARCHIVES FINDINGS
PART B
NEGATIVE FINDINGS

BORREGO HOTEL
AKA
HALFHILL DRY LAKE
TARGET #63

***NARA, FEDERAL RECORDS CENTER
LAGUNA NIGUEL, CA***

RG 77, Records of the Office the Chief of Engineers
All Entries
Nothing Found

***NARA, PACIFIC SOUTHWEST REGION
LAGUNA NIGUEL, CA***

RG 30, Records of the Bureau of Public Roads
All Entries
Nothing Found

RG 49, Records of the Bureau of Land Management
All Entries
Nothing Found

RG 71, Records of the Bureau of Yards and Docks
All Entries
Nothing Found

RG 77, Records of the Office the Chief of Engineers
All Entries
Nothing Found

RG 92, Records of the Quartermaster General
All Entries
Nothing Found

RG 156, Records of the Chief of Ordnance

All Entries

Nothing Found

RG 219, Records of the Office of Defense Transportation

All Entries

Nothing Found

RG 269, General Records of the General Services Administration

All Entries

Nothing Found

RG 270, Records of the War Assets Administration

All Entries

Nothing Found

RG 336, Records of the Office of the Chief of Transportation

All Entries

Nothing Found

**NARA, NATIONAL PERSONNEL RECORDS CENTER
ST LOUIS, MO**

All Accessions

Nothing Found

**NARA, FEDERAL RECORDS CENTER
SAN BRUNO, CA**

RG 77, Records of the Office the Chief of Engineers

Accession #077-76L1483

Boxes #115-130,132-134,136-148

Nothing of Value to This ASR Found

RG 121, Records of the Public Building Service

Accession #121-77-0003

Boxes #1,3-8,10-17,1a-5a

Nothing Of Value to This ASR Found

RG 269, General Records of the General Services Administration

All Entries

Nothing Found

RG 291, Records of the Federal Property Resources Service
All Entries
Nothing Found

NARA, PACIFIC SIERRA REGION
SAN BRUNO, CA

RG 30, Records of the Bureau of Public Roads
All Entries
Nothing Found

RG 49, Records of the Bureau of Land Management
All Entries
Nothing Found

RG 77, Records of the Office the Chief of Engineers
Accession #077-83-004
Boxes #5-9,16-18
Nothing of Value to This ASR Found

RG 92, Records of the Office of the Quartermaster General
All Entries
Nothing Found

RG 121, Records of the Public Buildings Service
Accession #9NSS-121-85-008
Box #1
Nothing of Value to This ASR Found

Box #3
Nothing of Value to This ASR Found

RG 127, Records of the U.S. Marine Corps
All Entries
Nothing Found

RG 156, Records of the Office of the Chief of Ordnance
All Entries
Nothing Found

RG 175, Records of the Chemical Warfare Service
Box #1
Nothing of Value to This ASR Found

RG 181, Records of the Naval Districts and Shore Establishments
All Entries
Nothing Found

RG 211, Records of the War Manpower Commission
All Entries
Nothing Found

RG 219, Records of the Office of Defense Transportation
All Entries
Nothing Found

RG 269, General Records of the General Services Administration
All Entries
Nothing Found

RG 270, Records of the War Assets Administration
All Entries
Nothing Found

RG 291, Records of the Federal Property Resources Service
All Entries
Nothing Found

RG 313, Records of the Naval Operating Forces
All Entries
Nothing Found

RG 406, Records of the Federal Highway Administration
Accession #72A1388
Boxes #7,10-12,14,17
Nothing of Value to This ASR Found

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

APPENDIX C

GLOSSARY

APPENDIX C

GLOSSARY

AAF	Army Air Field
ASR	Archives Search Report
BD/DR	Building Demolition/Debris Removal
CEHNC	Corps of Engineers, Huntsville Center
CENCR	Corps of Engineers, North Central, Rock Island
CESPL	Corps of Engineers, Los Angeles District
CWM	Chemical Warfare Material
DA	Department of the Army
DERP	Defense Environmental Restoration Program
DOD	Department of Defense
DOI	Department of Interior
EE/CA	Engineering Estimate and Cost Analysis
EPA	Environmental Protection Agency
EOD	Explosive Ordnance Disposal
FDE	Findings and Determination of Eligibility
FUDS	Formerly Used Defense Site(s)
GSA	General Services Administration
HTRW	Hazardous, Toxic and Radiological Waste
INPR	Inventory Project Report
IRA	Interim Removal Action
LT	Lieutenant
M	Model
MAJ	Major
MK/MOD	Mark/Model
MSGT	Master Sergeant
NARA	National Archives Records Administration
NAS	Naval Air Station
NOAA	National Oceanic and Atmospheric Administration
OE	Ordnance and Explosives
PA	Preliminary Assessment
PBR	Practice Bombing Range
PN	Project Number
RAC	Risk Assessment Code
RG	Record Group
SCS	Soil Conservation Service
SI	Site Inspection
SFC	Sergeant First Class
SGM	Sergeant Major
SGT	Sergeant
SPC	Specialist
SSG	Staff Sergeant
TCRA	Time Critical Removal Action
USACE	U.S. Army Corps of Engineers
USADACS	U.S. Army Defense Ammunition Center and School
USATCES	U.S. Army Technical Center for Explosives Safety
UXO	Unexploded Ordnance
WAA	War Assets Administration
WD	War Department

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

APPENDIX D

TEXTS/MANUALS

APPENDIX D

TEXT/MANUALS

Table of Contents

D-1. Text/Illustration of Practice Bomb Types with Associated Spotting Charges (B-13 and B-14).

D-2. Text/Illustration of Ammunition for Aircraft Guns (B-15).

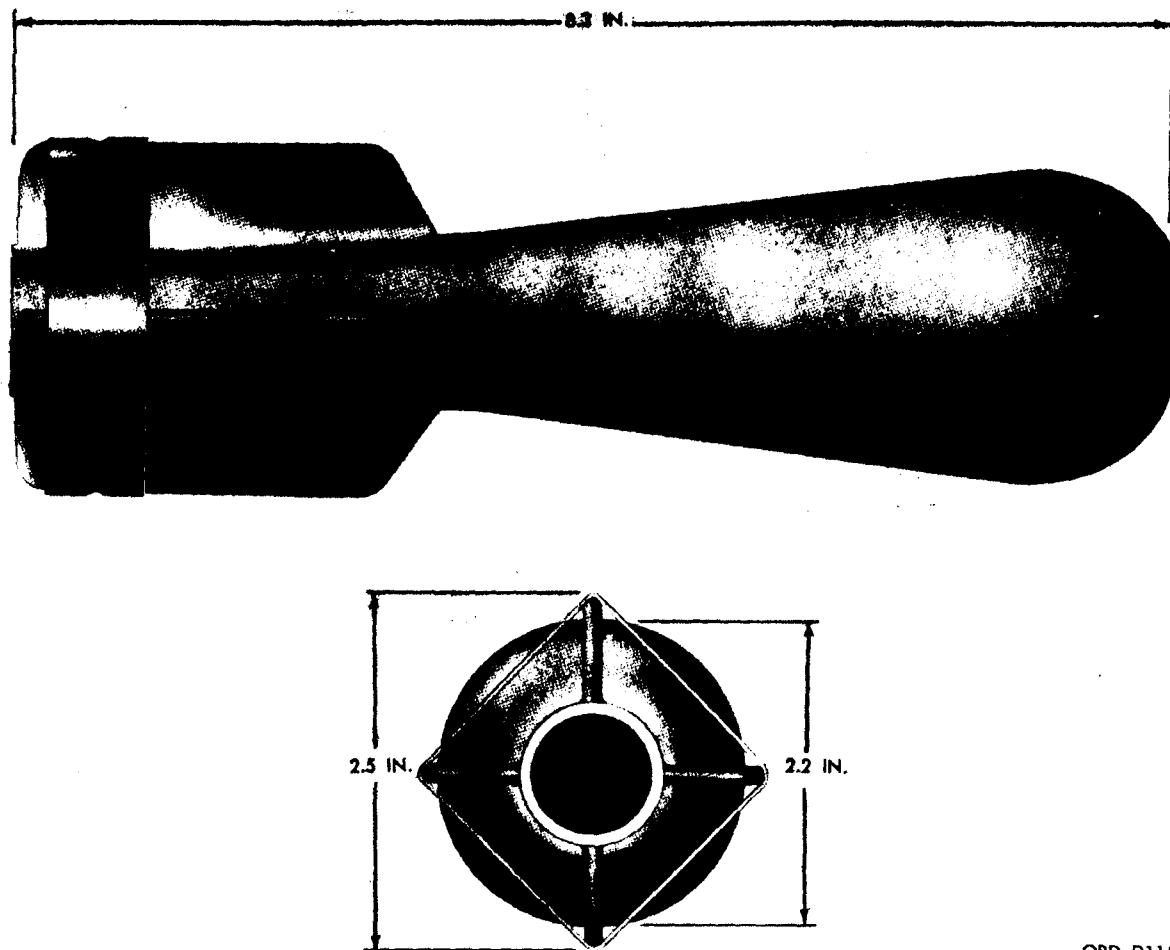
Section IX. PRACTICE BOMBS

2-47. Practice Bombs

Practice bombs are used for target practice and the training of bombing crews, and are designed to simulate service bombs. Practice bombs have various methods of spotting their points of impact. One type provides a colored target on snow covered ranges. Others function so that the firing pin detonates a blank .38 caliber cartridge on impact, causing the signal to fire. The ex-

plosion of the signal produces a flash and a large puff of smoke, permitting observation of bombing accuracy. Under freezing conditions, practice bombs that are filled with water or with a mixture of water and sand, have antifreeze added to prevent bursting of the bomb case caused by freezing of the filler.

2-48. Bomb, Practice: Miniature, 3-Pound, MK5 Mods 2 and 3



ORD D1159

Figure 2-55. Bomb, practice: miniature, 3-pound, AN-MK 23, Mod 1.

2-73 / 2-74

Table 2-46. Bomb, Practice: Miniature, 3-lb, MK5 Mods 2 and 3;
Bomb, Practice: Miniature, 3-lb, AN-MK23 Mod 1;
Bomb, Practice: Miniature, 3-lb, MK43 Mod 1.

Mark Mod	MK 5 2 and 3	AN-MK 23 1	'MK 43 1
Length of Assembled Bomb (in.).....	8.3.....	8.3.....	8.3
Diameter of Body (in.).....	2.2.....	2.2.....	2.2
Fin Span (in.).....	2.5.....	2.5.....	2.5
Weight:			
Without Signal (lb).....	2.56.....	2.87.....	4.31
With MK4 Signal (lb).....	2.68.....	3.00.....	4.43
With MK5 Signal (lb).....	2.62.....	2.94.....	4.37
Firing-Pin Assembly.....	MK1 Mod 0..	MK1 Mod 0..	MK1 Mod 0
Signal.....	MK4 Mods... or MK5 Mod 0..	MK4 Mods... or MK5 Mod 0..	MK4 Mods or MK5 Mod 0

a. *Description.* Miniature practice bombs (MPB) MK5 Mods 2 and 3 (figs. 2-55 and 2-56, and table 2-46), the MPB AN-MK23 Mod 1, and MPB MK43 Mod 1 are similar in physical appearance, but differ basically in the metal used to cast the body. Bomb MK5 is manufactured from zinc alloy and weighs the least of the three bombs.

Bomb AN-MK23 is made of cast iron. Bomb MK43 is manufactured from cast lead and is the heaviest of the three bombs. The cast body has a bore throughout its transverse axis which houses a signal and firing-pin assembly. Four fins are cast integrally with the bomb body.



Figure 2-56. Bomb, practice: miniature, 3-pound, AN-MK23 Mod 1, cutaway view.

b. Use. Miniature practice bomb MK5 is used for bombing practice on armored-deck target boats. Bomb AN-MK23 is authorized for all bombing practice except that involving armored-deck target boats. MPB MK43 is used for low altitude, horizontal or dive bombing and on armored-deck target boats. Bombs MK5, AN-MK23, and MK43 are used with the MK4 signal. These bombs also are

used with the MK5 signal which contains a fluorescein dye and is actuated by impact on water. When the MK5 signal is installed, the firing pin assembly is not used. Special containers are utilized by aircraft to carry and release these bombs.

c. Functioning. The firing pin assembly fires the signal which expels a large puff of smoke rearward through the base of the bomb.

2-52. Bomb, Practice: 100-Pound, MK15 Mods 2, 3 and 4

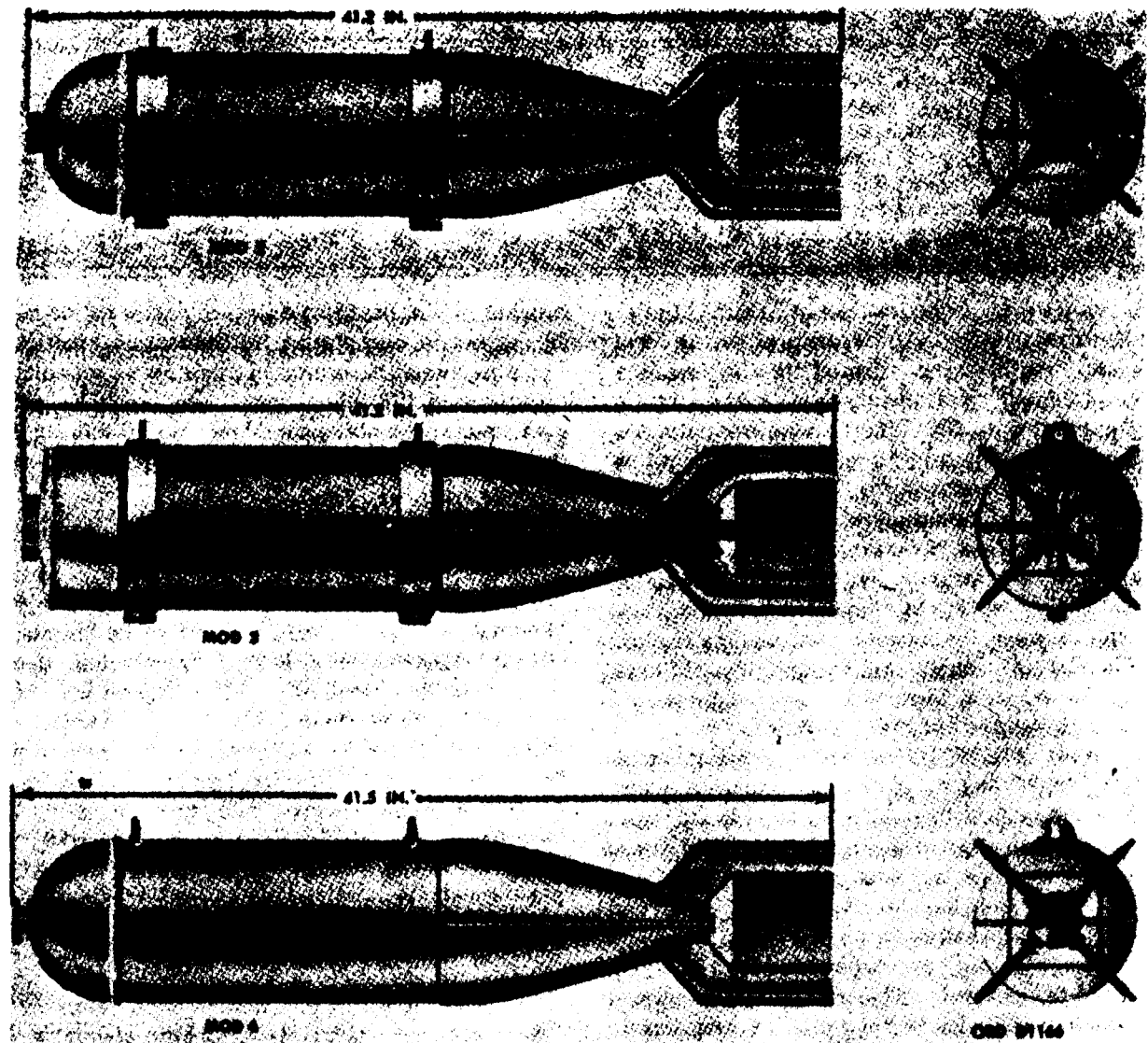


Figure 2-62. Bomb, practice: 100-pound, MK15 Mods 2, 3, and 4.

Table 2-50. Bomb, Practice: 100 Pound, MK15 Mods 2, 3, and 4

Mark	15	15	15
Mod	2	3	4
Length of Assembled Bomb (in.)	41.2	41.2	41.5
Diameter of Body (in.)	8.0	8.0	8.0
Fin Span (in.)	11.24	11.24	11.24
Weight of Assembled Bomb (lb):			
Loaded with Wet Sand	100.0	100.0	97.0
Loaded with Water	56.0	67.0	60.0

Table 2-50. Bomb, Practice: 100 Pound MK15 Mods 2, 3, and 4—Continued

Mark Mod	15 2	15 3	15 4
Wet Sand Filler (lb).....	76.0.....	77.4.....	76.0.....
Water Filler (lb).....	39.0.....	40.0.....	39.0.....
Water Filler (gal).....	4.6.....	4.7.....	4.6.....
Signal.....	None.....	MK7 Mod 0.....	MK4 Mods 0, 1, 2, 3, 4
Fuze.....	None.....	MK247 Mod 0.....	None
Firing-Pin Assembly.....	None.....	None.....	MK1 Mod 0
Arming-Wire Assembly.....	MK1 or AN-M6A2.....	MK 1 or AN-M6A2.....	No Arming Wire

a. Description. Practice bomb MK15 Mod 2 (fig. 2-62 and table 2-50) is identical to the Mod 3 except that it is not adapted for the use of a fuze and signal. It is filled with water or a mixture of sand and water (fig. 2-63) for spotting purposes. For training purposes, a small washer may be soldered to the nose of the bomb to simulate a fuze. The end of an arming wire (which is normally inserted in the fuze of service type bombs) is then secured to the washer. For armed releases, the washer is torn free of the bomb by the arming wire; for safe releases, the arming wire remains secured to the washer. When used against armored-deck target boats, it is filled with water and released from an altitude of less than 7,000 feet.

b. Bomb, Practice: MK15 Mod 3. Practice bomb MK15 Mod 3 has a light-cased, cylindrical body with a threaded filling hole in its rounded nose. A box-fin assembly consisting of four metal vanes attached to a cone is welded to the aft end of the body. The bomb has two metal suspension band assemblies (each consisting of a circular clamp, a suspension lug, and two cap screws) for tightening the band to the bomb. The bands may be adjusted for double suspension of the bomb by orienting to suit the rack or shackle to which the bomb is to be attached. A flat nose attachment that reduces

ricochet of the bomb at entrance angles as low as 90 degrees is used during antisubmarine practice. The attachment is secured in place by a cap which threads onto the filling hose. The bomb is used with practice bomb signal MK7 Mod 0 and inert fuze MK247 Mod 0 both of which are secured to the aft end of the bomb.

c. Bomb, Practice, 100-Pound: MK15 Mod. 4. The practice bomb MK15 Mod 4 is a light-cased, cylindrical bomb with a round nose and an integral box fin and cone. A flash tube, extending throughout its transverse axis, houses a pyrotechnic signal and firing-pin assembly. Two suspension lugs are welded to the bomb body 14 inches apart. A filling hole is located off center on the bomb nose and is sealed by a filler cap similar to those used on automobile gas tanks. The firing-pin assembly consists of two shallow metal cups, separated by a spacer which houses the firing pin. A cotter pin through the nose end of the flash tube and two recesses in the lip of the forward cup locks the firing-pin assembly and signal in place.

d. Functioning. Upon impact of the bomb with the target, the signal is detonated, producing a flash and a large puff of smoke, which permits observation of the bombing accuracy.

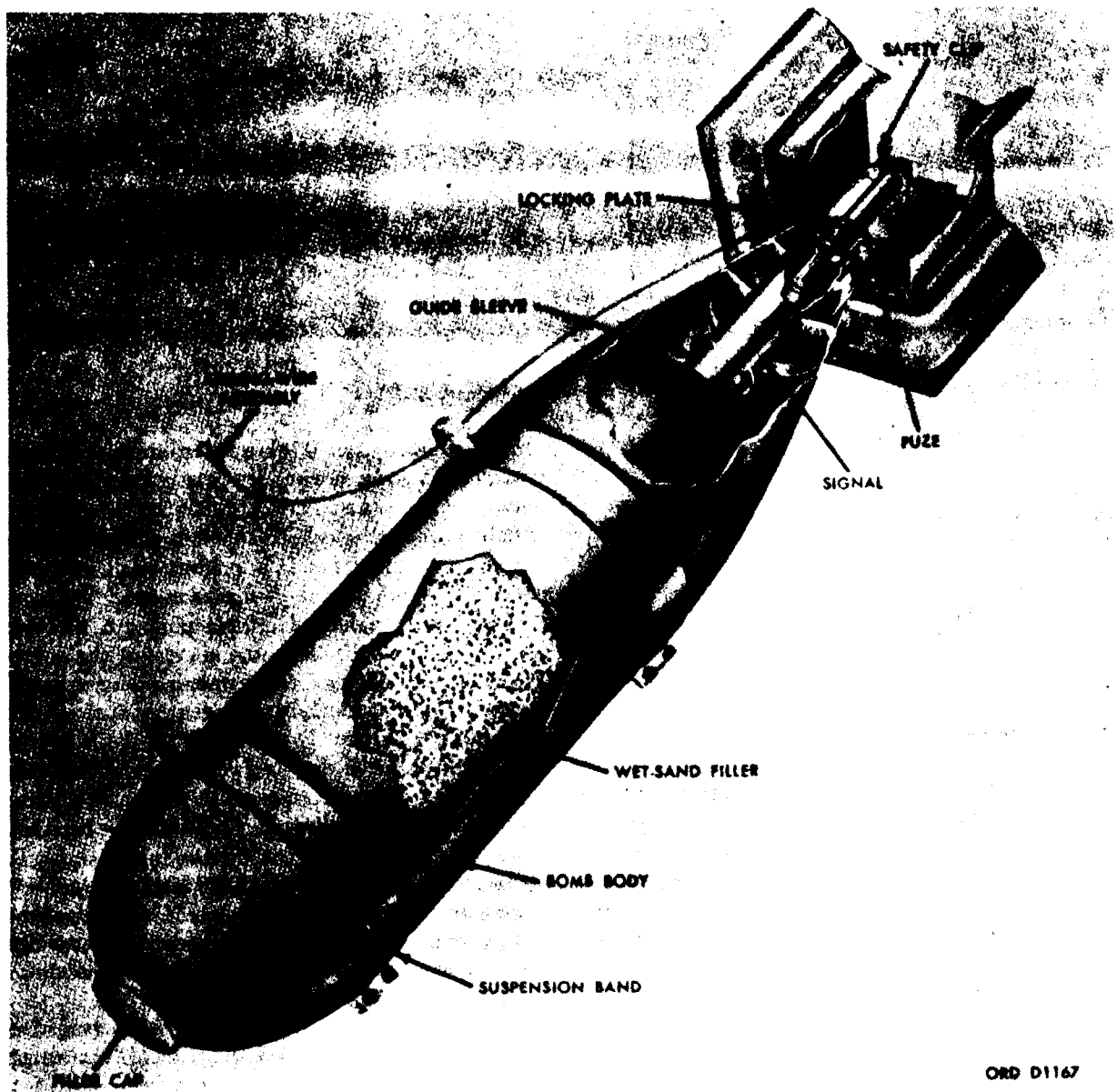
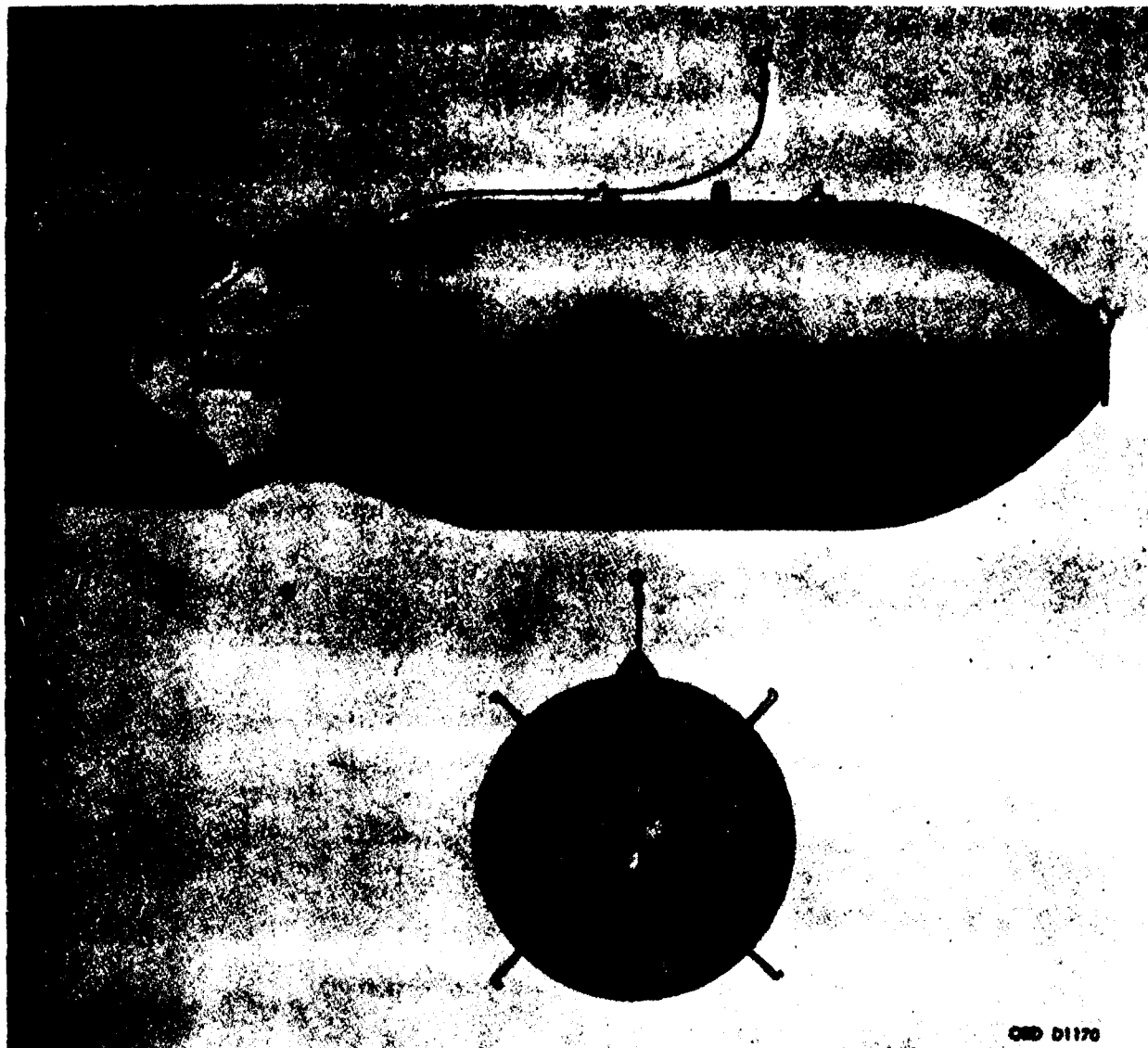


Figure 2-63. Bomb, practice: 100-pound, MK15, Mods 2, 3 and 4, cutaway.

2-54. Bomb, Practice: 500-Pound, MK65 Mod 0



OSD D1170

Figure 2-66. Typical practice bomb of MK65 series.

Table 2-52. Bomb, Practice: 500-Pound, MK65 Mod 0

Mark.....	65
Mod.....	0
Length of Assembled Bomb (in.).....	56.61
Diameter of Body (in.).....	14.0
Fin Span (in.).....	18.94
Weight of Assembled Bomb (lb):	
Loaded with Wet Sand.....	443.2
Loaded with Water.....	248.8
Wet Sand Filler (lb).....	395.0

Table 2-52. Bomb, Practice: 500-Pound, MK65 Mod 0
—Continued

Water Filler (lb).....	200.6
Water Filler (gal).....	20.0
Signal.....	MK6 Mod 0
Fuze.....	MK247 Mod 0
Arming-Wire Assembly.....	MK1, AN-M6A2
a. Description. Practice bomb MK65 Mod 0 (fig. 2-66 and table 2-52) has a light-cased, cylindrical body and is constructed of welded sheet-steel	



Figure 2-67. Typical practice bomb of MK65 series, cutaway.

sections. It has an ogival nose and a tapered aft end to which a box-fin assembly is bolted. A threaded filling hole (fig. 2-67) is located in the nose of the bomb and is sealed by a nose plug and gasket. The nose plug is wired to a small bracket

welded to the nose. Two suspension lugs 14 inches apart are welded to the bomb body and seven threaded recesses are located on the periphery of the bomb at the approximate center of gravity. One or two hoisting lugs, screwed into these recesses,

5-30. Signal, Practice Bomb: Mk4 Mods 3 and 4

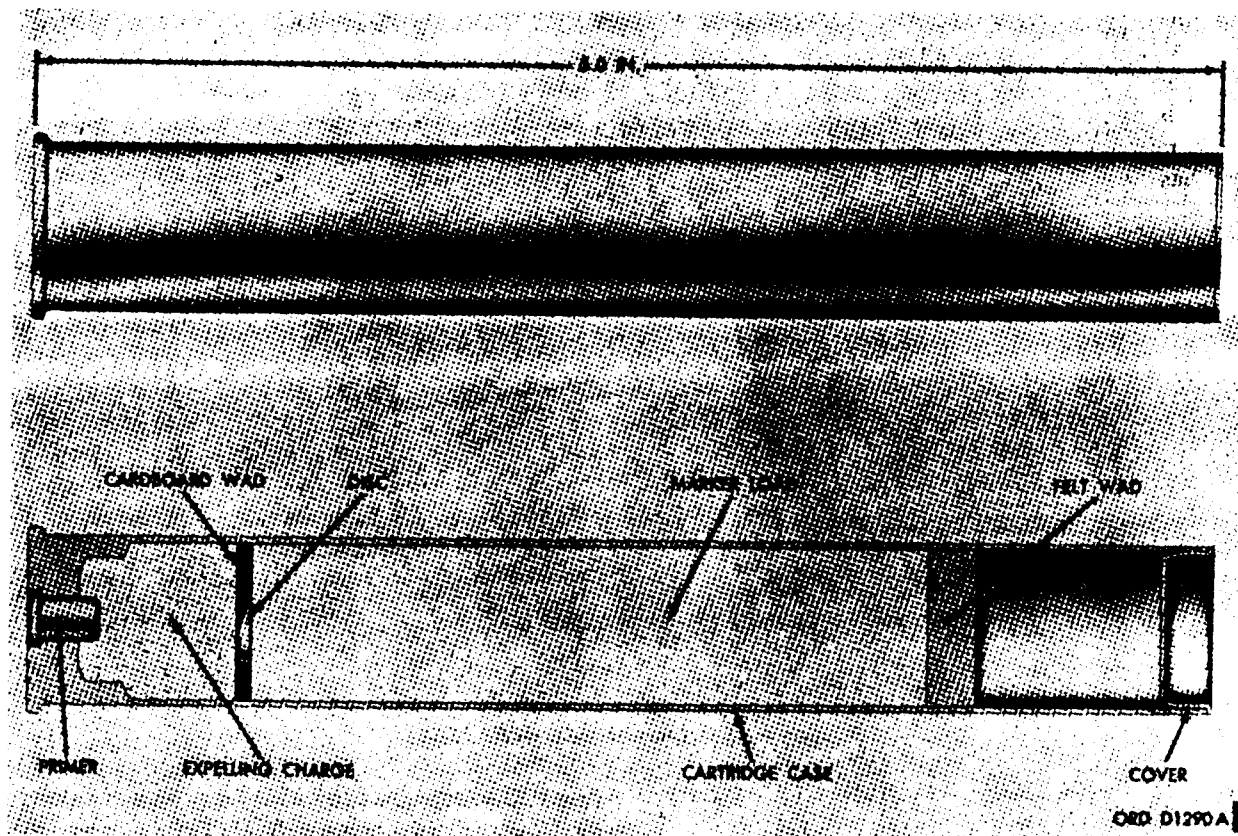


Figure 5-23. Signal, practice bomb: Mk4 Mods 3 and 4.

Table 5-24. Signal, Practice Bomb: Mk4 Mods 3 and 4

Mark	4	4
Mod	3	4
Length of Assembly (in.) .	5.0	5.0
Diameter of Body (in.) ...	0.85	0.85
Weight of Assembly (lb) .	0.16	0.16
Case Material	Aluminum	Aluminum
Expelling Charge	Smokeless Powder.	Smokeless Powder.
Marker Load	Stabilized Red Phosphorous.	Zinc Oxide

a. *Description.* Practice bomb signals Mk4 Mods 3 and 4 (fig. 5-23 and table 5-24) are essentially 10-gauge shotgun shells. They contain an expelling charge of smokeless powder and are primed with a commercial primer. A pyrotechnic or inert marker load is separated from the expelling charge by a disc and cardboard gun wad. The end of the shell is closed by felt gun wads which are cemented to the cover.

b. *Use.* The signals are used in either the min-

iature or the larger practice bombs. However, installed in the miniature practice bombs, the signals do not consistently produce a visible signal when dropped from an altitude of 10,000 feet or higher. Released from that height, the bomb enters the water or earth so quickly that the signal frequently does not have time to function.

c. *Functioning.* When the practice bomb in which the signal is installed strikes water or the earth, impact causes the firing pin in the nose of the bomb to impinge upon the primer of the signal. The primer ignites the expelling charge, forcing the marker load out through an opening in the bomb. The resulting flash and puff of white smoke permit observation of bombing accuracy.

d. *Differences Between Mods.* Signal Mk4 Mod 0 was the first of this type developed. Mods 1 and 2 were procured later for issue to activities limited by environment to performing practice bombing in the vicinity of flammable areas. These signals

permit hoisting of the bomb by either one or two cables. The bomb is filled with either water or wet sand.

b. Use. This bomb is authorized for many types of service usage, including catapult and jet-assisted takeoffs and arrested landings. It is used with the MK6 signal and inert fuze MK247 Mod 0. The signal is seated in a recess in the tail of the bomb body and is secured to the fin assembly by a clamp provided with the signal. The bomb should not be carried externally on jet aircraft.

c. Functioning. Upon impact of the bomb, the fuze firing pin initiates a blank .38-caliber cartridge which, in turn, explodes the signal to produce a flash and a large puff of gray smoke.

2-55. Bomb, Practice: 1,000-Pound, MK66 Mod 0

Table 2-53. Bomb, Practice: 1,000-Pound, MK66 Mod 0

Mark.....	66
Mod.....	0
Length of Assembled Bomb (in.)	67.0
Diameter of Body (in.).....	18.6
Fin Span (in.).....	25.4
Weight of Assembled Bomb (lb):	
Loaded with Wet Sand.....	883.5
Loaded with Water.....	480.5
Wet Sand Filler (lb).....	788.3
Water Filler (lb).....	385.3
Water Filler (gal).....	45.0
Signal.....	MK6 Mod 0

Table 2-53. Bomb, Practice: 1,000-Pound, MK66 Mod 0
—Continued

Fuze.....	MK247 Mod 0
Arming-Wire Assembly.....	MK1, AN-M6A2

a. Description. Practice bomb MK66 Mod 0 (figs. 2-64 and 2-67, and table 2-53) has a light-cased, cylindrical body constructed from welded sheet-steel sections. It has an ogival nose and a tapered aft end, to which a box-fin assembly is bolted. A threaded filling hole is located in the nose plug and gasket. The nose plug is wired to a small bracket welded to the nose. A second filler hole, located on the side of the bomb, is capped with a circular plate and gasket, secured to the bomb with hex-head bolts. Two suspension lugs 14 inches apart are welded to the bomb body and seven threaded recesses are located on the periphery of the bomb at the approximate center of gravity. One or two hoisting lugs, screwed into these recesses, permit hoisting of the bomb by either one or two cables. The bomb is filled with either water or wet sand.

b. Use. This bomb is authorized for all types of service usage, including catapult and jet-assisted takeoffs and arrested landings. It is used with the MK6 signal and inert fuze MK247 Mod 0. The signal is seated in a recess in the tail end of the bomb body and is secured to the fin assembly by a clamp provided with the signal.

c. Functioning. Upon impact of the bomb, the signal produces a flash and a large puff of gray smoke

contain inert materials which produce very little flash and are markedly inferior to the Mod 0. Signal MK4 Mod 3 is similar to the MK4 Mod 0 but differs in that the cartridge case of the MK4 Mod 3 is extruded aluminum instead of paper; a primer mixture with improved storage characteristics has been used, and a new pyrotechnic load

(which produces about the same flash, but with a superior smoke puff) has been incorporated. The MK4 Mod 4 signal is similar to the MK4 Mod 3 with the exception of an inert marker load of zinc oxide. In both Mods, the cover and cartridge case are cemented together; in Mod 3 the assembly also is staked in four equally-spaced places.

5-31, Signal, Practice Bomb: MK5 Mod 0

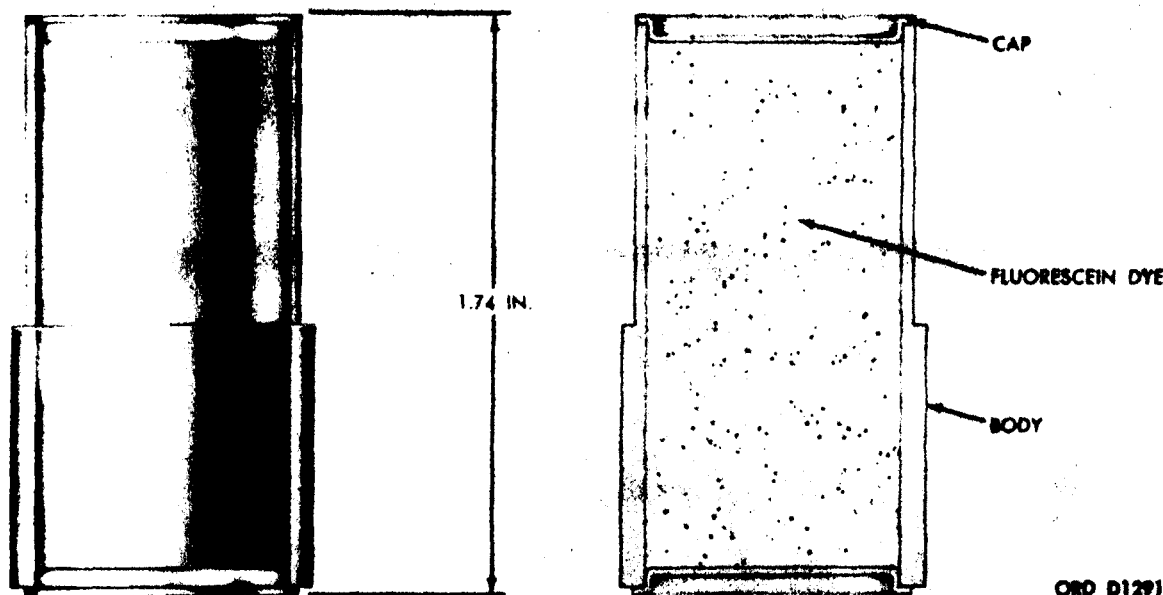


Figure 5-24. Signal, practice bomb: MK5 Mod 0.

Table 5-25. Signal, Practice Bomb: MK5 Mod 0

Mark.....	5
Mod.....	0
Length of Assembly (in.).....	1.74
Diameter of Body (in.).....	0.93
Weight (oz).....	0.5
Cylinder Material.....	Plastic
Dye Filler.....	Flourescein
Dye Color:	
Dry.....	Brick Red
Dissolved in Water.....	Bright Green

a. *Description.* Practice bomb signal MK5 Mod 0 (fig. 5-24 and table 5-25) is approximately the size of a 10-gauge shotgun shell. A shoulder, which increases the diameter of one end, serves to locate the signal in the bomb. The signal consists of a plastic cylinder containing 10 grams of fluorescein

dye, a highly-soluble salt, brick red in color, which turns bright green when dissolved in water.

b. *Use.* The signal, for use in dive-bombing practice, can be used in any miniature practice tice bomb in which signal MK4 can be used. It is dropped only on water targets during daylight. When a wind is blowing, the smoke from the MK4 signal often blows away before the pilot can get into position to view the results of his attack. The slick from the MK5 signal can be seen from an altitude of 15,000 feet.

c. *Functioning.* Upon impact, water enters the nose of the bomb, breaks the weak ends of the plastic container, and forces the dye out through the tail of the bomb.

5-32. Signal, Practice Bomb: MK6 Mod 0

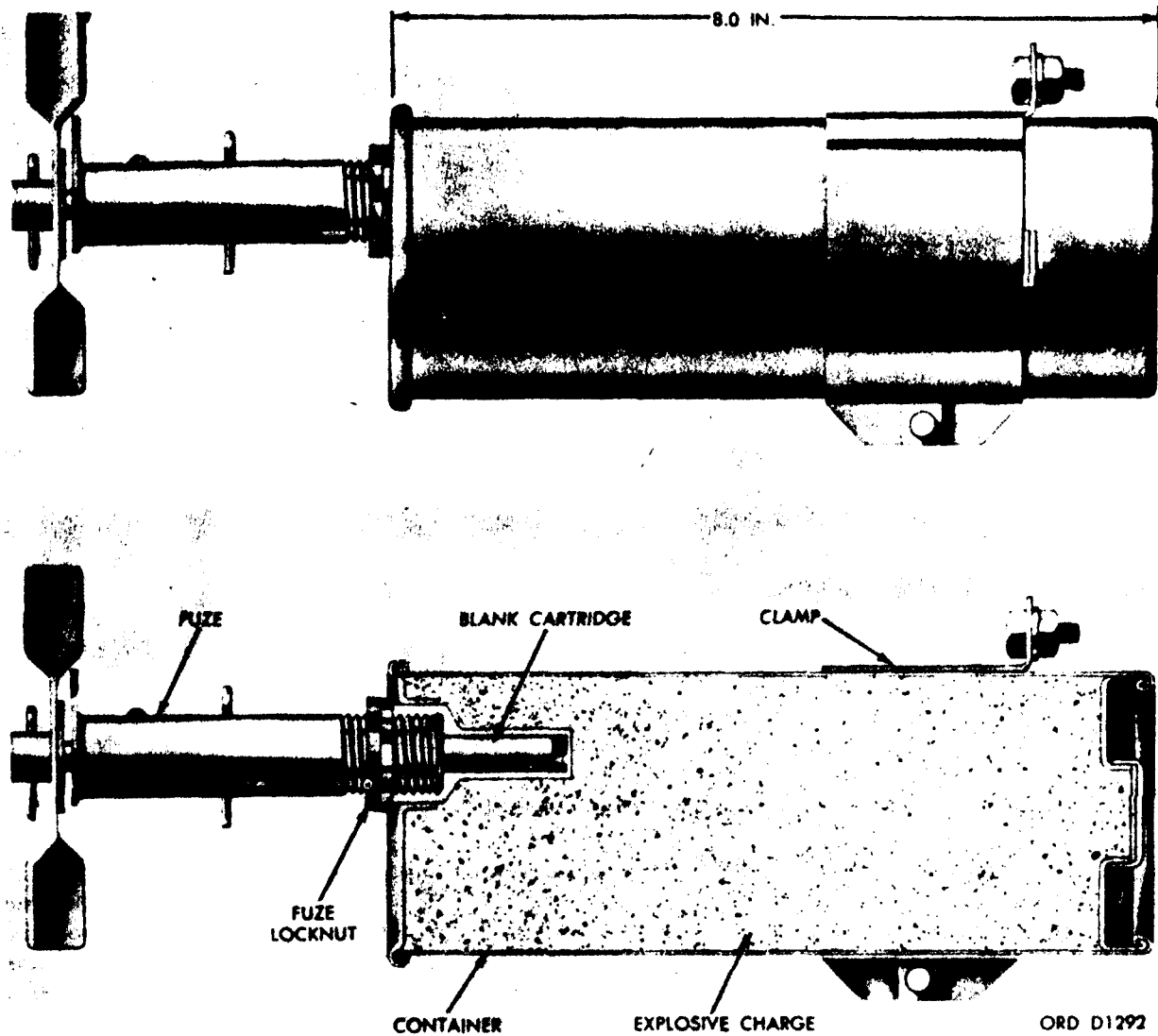


Figure 5-25. Signal, practice bomb, MK6 Mod 0 w/fuze.

Table 5-26. Signal, Practice Bomb: MK6 Mod 0

Mark.....	6
Mod.....	0
Length of Assembly (in.).....	8.0
Diameter of Body (in.).....	3.0
Weight of Assembled Signal (lb).	3.7
Container Material.....	Steel
Explosive Charge.....	Black Powder
Weight (lb).....	2.0

a. *Description.* Practice bomb signal MK6 Mod 0 (fig. 5-25 and table 5-26) consists of a can of black powder fitted with inert fuze AN-MK247 Mod 0 and a blank .38-caliber cartridge used as a detonator.

Signal MK6 is used with practice bombs for observation of bombing accuracy.

b. *Functioning.* Upon release of the bomb from the aircraft, the arming wire is withdrawn, permitting the fuze arming vane to rotate and arm the signal. Upon impact, the firing pin in the fuze overcomes a creep spring and impinges upon the primer of the blank cartridge, which, in turn, ignites the black-powder charge. The resulting explosion produces a flash of light and a large puff of gray smoke.

c. *Differences Between MK6 and MK7.* Refer to paragraph 5-33.

5-33. Signal, Practice Bomb: MK7 Mod 0

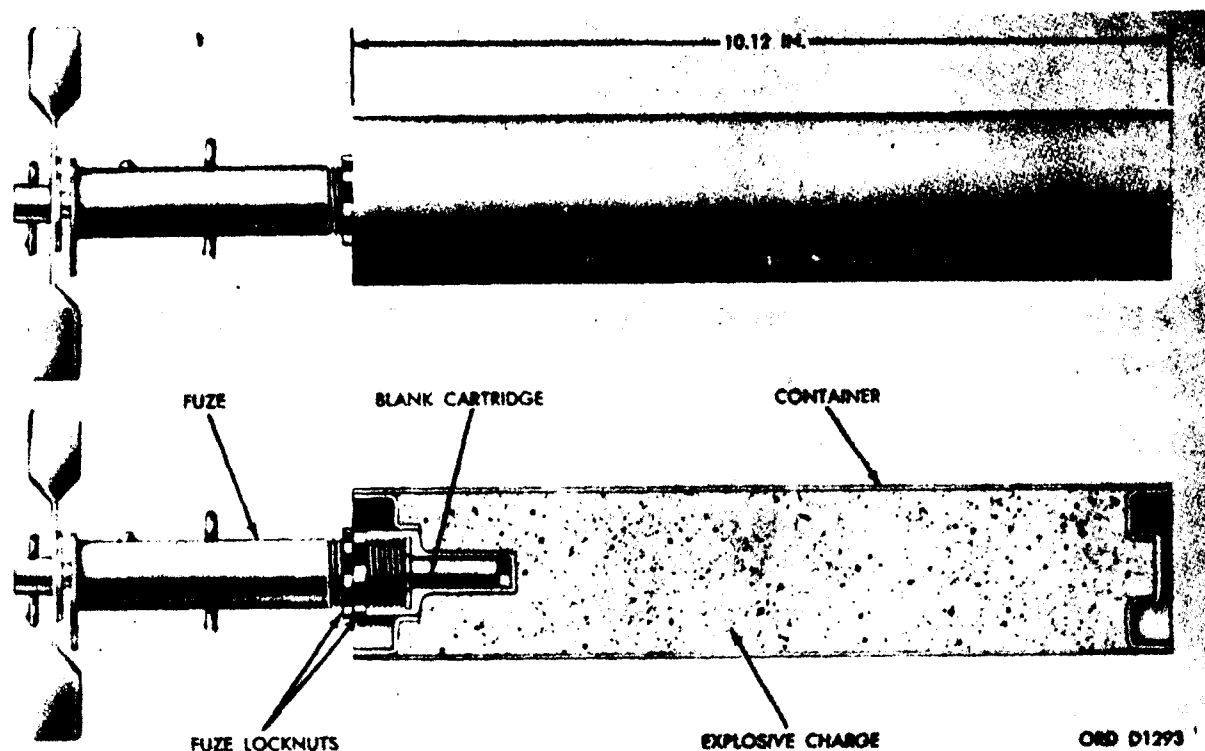


Figure 5-26. Signal, practice bomb: MK7 Mod 0 w/fuze.

Table 5-27. Signal, Practice Bomb: MK7 Mod 0

Mark.....	7
Mod.....	0
Length of Assembly (in.).....	10.12
Diameter of Body (in.).....	2.0
Weight of Assembled Signal (lb).....	2.5
Container Material.....	Steel
Explosive Charge.....	Black Powder
Weight (lb).....	1.0

a. Description. Practice bomb signal MK7 Mod 0 (fig. 5-26 and table 5-27) consists of a can of black powder fitted with inert fuze AN-MK247 Mod 0 and a blank .38-caliber cartridge which is used as a detonator. Signal MK7 is used with practice bombs for observation of bombing accuracy.

b. Functioning. Upon release of the bomb from the aircraft, the arming wire is withdrawn, per-

mitting the fuze arming vane to rotate and arm the signal. Upon impact, the firing pin in the fuze overcomes a creep spring and impinges upon the primer of the blank cartridge which, in turn, ignites the black-powder charge. The resulting explosion produces a flash of light and a large puff of gray smoke.

c. Differences. The MK7 is generally the same as the MK6 except that the fuze is mounted off-center in the MK6 and its black-powder filling weighs about 1 pound more.

5-34. Spotting Charges

Spotting charges function in the same manner and for the same purpose as the signal cartridges; however, they consist of relatively larger amounts of filler.

ARMY PRACTICE BOMBS

3-pound AN-Mk 5 Mod 1

See Navy practice bombs.

20-pound M48

This is a dummy of the 20-pound Fragmentation Bomb AN-M41. It has a two-ounce black-powder charge and uses the Fuze M110 or AN-M110A1 in the nose. It is 21.8-inches long; weighs 19.7 pounds. It is issued in practice bomb clusters M2 and M2A1.

23-pound M71 and M71A1

These are parachute-type practice fragmentation bombs for clustering. They do not have a fuze or spotting charge, because of the presence of the parachute. The parachute assembly is the M3, modified from the M4 by removal of the suspension assembly, hand assembly, and pull wire container. M71 is 26.8 inches long; weighs 21 pounds. M71A1 differs by the addition of the shoulder to the bomb nose.

100-pound M38A2

Over-all length, inches.....	47.5
Diameter, inches.....	8.13
Weight, empty, pounds.....	15.7
Weight, sand-loaded and spotting charge, pounds.....	100

This bomb simulates a G.P. bomb of the same size. The spotting charge is assembled in a sleeve at the base of the bomb, within the fin box. Authorized spotting charges are M1A1, M3, and M4.

100-pound M75

Length, inches.....	47.0
Diameter, inches.....	8.0
Filler, hematite, pounds.....	72
Total weight, pounds.....	101.3

This bomb is designed to provide a target reference for practice bombing over snow-covered ranges. Resembling the chemical bomb of the same size, it consists of a light, sheet-metal case; a charge of red iron ore (hematite); a Burster M4; and a Fuze M108 in the nose.

100-pound M85

This model is a reinforced concrete design ordered to relieve a temporary shortage of the Practice Bomb M38A2 during the war.

Spotting Charges (Army)

M1A1

Over-all length, inches.....	11.18
Diameter, inches.....	3.43
Weight, pounds.....	4.25
Black-powder charge, pounds.....	3.0
Bomb used in.....	M38A2
Fuze.....	Integral inertia-type

This type of spotting charge fits in the after end of the 100-pound Practice Bomb M38A2. It produces a flash of flame and white smoke for observation of bombing accuracy. When assembled in the bomb, the can of the charge protrudes two to three inches out of the bomb body.

The fuze is an integral part of the spotting charge assembly. When the arming wire is pulled, the spring-loaded arming pin jumps out, leaving the inertia weight supported only by the combination firing pin and creep spring. On impact, the inertia weight drives this firing pin into the shotgun-type primer, which, in turn, ignites the black powder.

M3: The Spotting charge M3 has a 2¼-pound dark smoke filling and a black-powder igniter. It is ⅝ inch longer than the Spotting Charge M1A1, but otherwise is like it. The M3, with

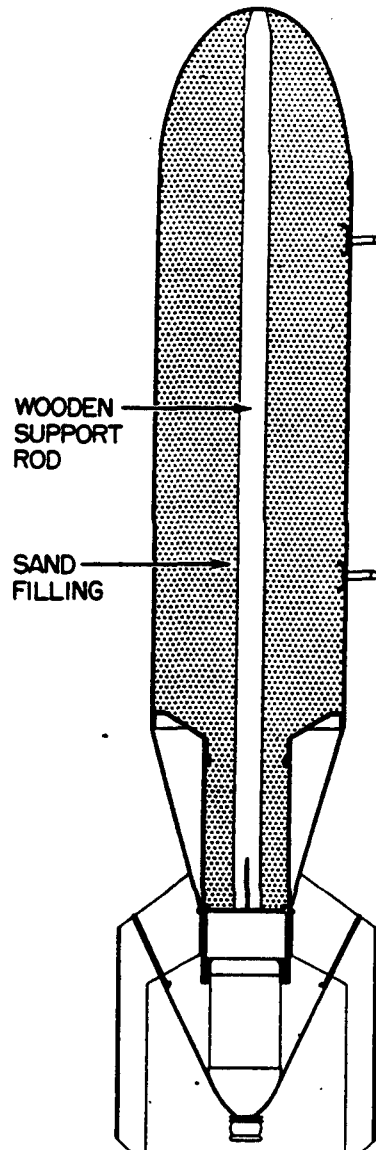


Figure 314. 100-pound Practice Bomb M38A2

its dark smoke filler, is well adapted for bombing practice over snow-covered terrain. The black-powder igniter charge contains approximately 425 grains. It is used in the Practice Bomb M38A2.

M5
Over-all length, inches.....7.37
Diameter, inches.....2.95

MaterialGlass
FS filler, fluid ounces.....14.4

The Spotting Charge M5 consists of a glass bottle filled with FS smoke mixture. An ordinary bottle cap seals the mixture. The bottle is held to the Practice Bomb M38A2 by a wire twisted around the neck of the bottle and attached to the tail vanes. The charge assembly weighs 2.54 pounds.

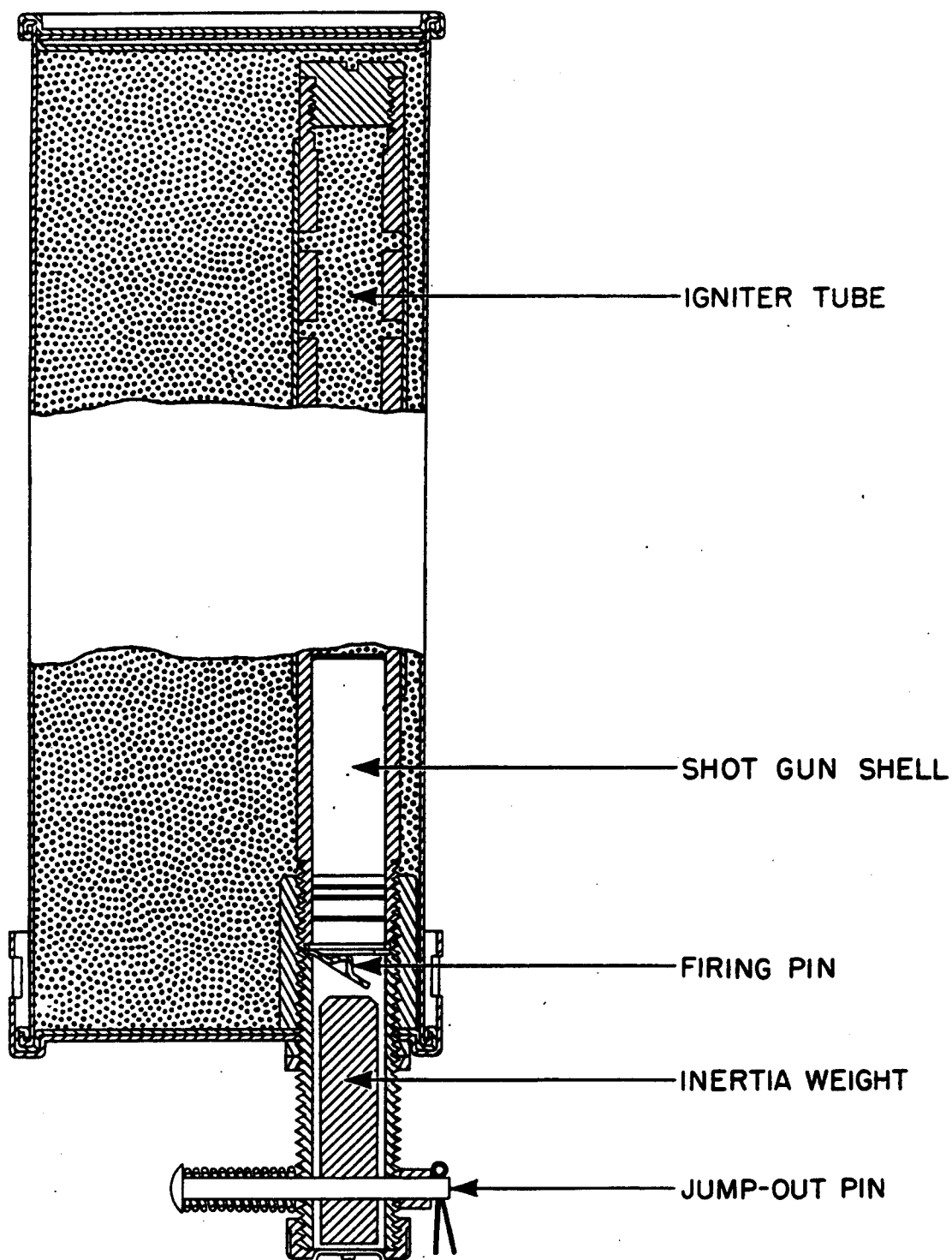


Figure 315. Spotting Charge M1A1

UNCLASSIFIED

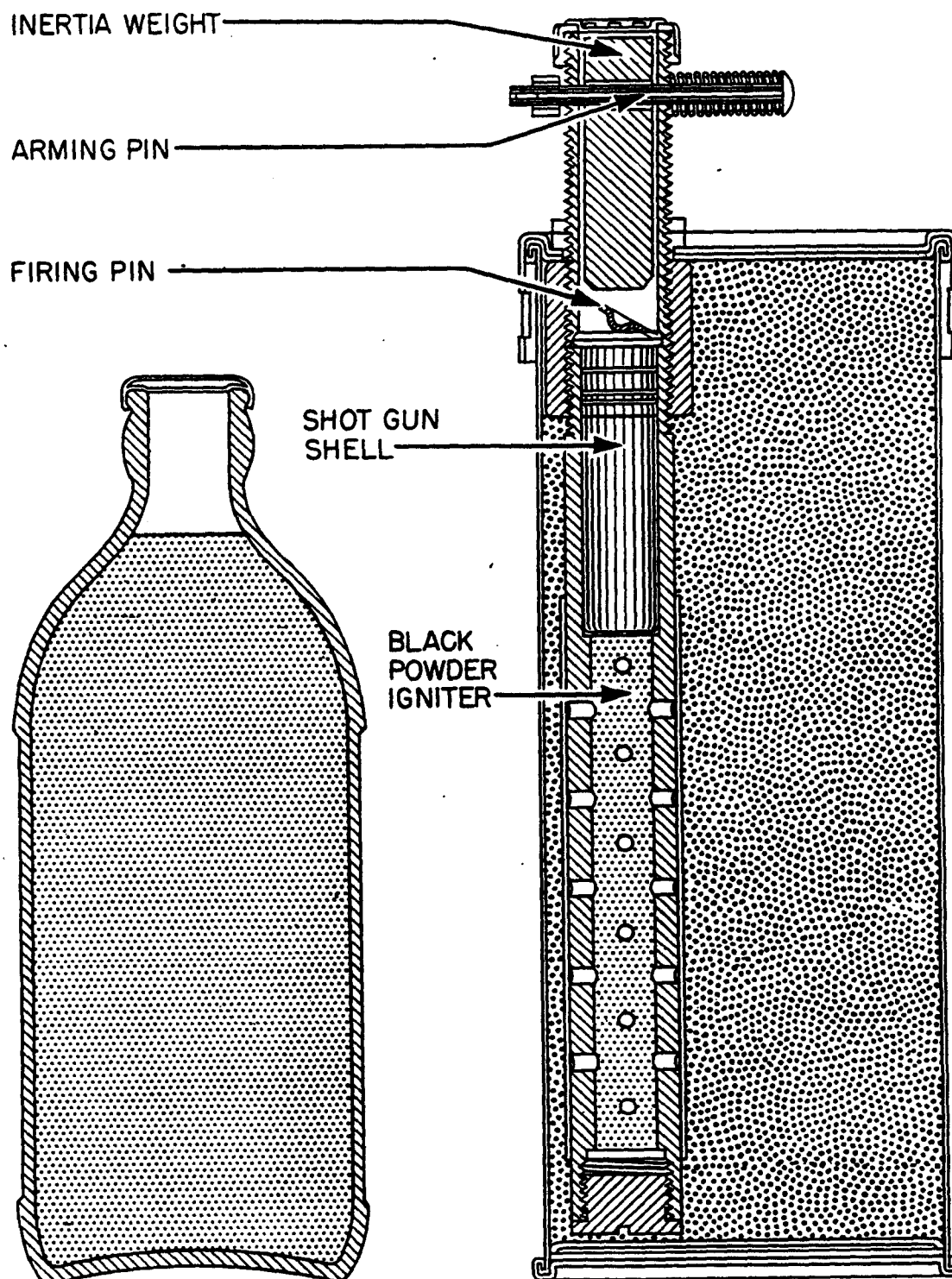


Figure 316. Spotting Charges M3 (right) and M5 (left)

CHAPTER 2

CARTRIDGES

Section I. CARTRIDGES FOR CALIBER .50 AIRCRAFT GUNS

14. General

a. General Discussion. A round of caliber .50 ammunition (fig. 3) consists of a bullet, a propelling charge, a primer, and a cartridge case, all assembled into a unit assembly (table II).

Table II. *Weights of Caliber .50 Ammunition*
(In grains; maxima permitted in manufacture)

Cartridge	Complete (approx.)	Cartridge case	Propelling charge (approx.)	Primer	Bullet				
					Complete	Jacket	Core (slug)	Point filler	Base filler
AP, M2.....	1,822 or 1,812 ¹	850	235	19.06	718 or 708 ¹	253	410 or 400 ¹	56.5	-----
API, M8.....	1,739 or 1,726 ¹	850	233	19.06	622 or 649 ¹	-----	-----	-----	-----
API, T49.....	1,591	850	252	19.06	501	-----	-----	-----	-----
API-T, M20 (T28).	1,698 or 1,686 ¹	850	230	19.06	624 or 612 ¹	-----	-----	-----	Tracer and igniter Comp-14.
Ball, M33.....	1,768	850	237	19.06	661.5	253	400	56.5	-----
Incendiary, M1.	1,703	850	240	19.06	628.5	-----	-----	-----	-----
Incendiary, M23 (T48).	1,581	850	237	19.06	512	-----	-----	-----	-----
Tracer, M1: w/gilding metal jacket.	1,789	850	240	19.06	681	408	207	-----	Tracer and igniter Comp-70.
Tracer, M1: w/clad steel jacket.	1,750	850	240	19.06	641	368	207	-----	-----

See footnotes at end of table

Table II. Weights of Caliber .50 Ammunition
(In grains; maxima permitted in manufacture)—continued

Cartridge	Complete (approx.)	Cartridge case	Propelling charge (approx.)	Primer	Bullet				
					Complete	Jacket	Core (slug)	Point filler	Base filler
Tracer, M10	1,750	850	240	19.06	641	368	207	-----	Tracer and igniter Comp-70.
Tracer, M17 (T9).	1,742	850	225	19.06	648	368	207	-----	Tracer and igniter Comp-77.
Tracer, head- light, M21 (T1E1):									
w/gilding- metal jacket.	1,779	850	240	19.06	704	408	207	-----	Tracer and igniter Comp-93.
w/clad steel jacket.	1,739	850	240	19.06	664	368	207	-----	-----
Blank, M1 (T40).	891	850	46	19.06	-----	-----	-----	(Wad, 1.5)	-----
Dummy, M2:									
w/steel bullet.	1,214	850 ²	-----	-----	364	364	(³)	(³)	-----
w/gilding- metal bullet.	1,254	850 ²	-----	-----	404	404	(³)	(³)	-----
HPT, M1---	2,108	850	240	19.06	999	263	Front 325 Rear 411	-----	-----

¹ Weight with alternative manganese-molybdenum steel core.

² Steel cartridge case which may be used weighs 750 grains.

³ After 1 January 1943, no bullet core, slug, or filler was used in manufacture of dummy cartridges M2.

b. Bullet. Bullets for service use have a metal core or slug, which is covered with a gilding-metal or gilding-metal-clad steel jacket. Tracer bullets have a lead alloy core or slug, whereas all other bullet types have steel cores. Ball, M2; Ball, M33; Incendiary, M1 and some lots of Incendiary, M23 bullets have soft steel cores which are not intended for armor penetration; all armor-piercing type bullets have hardened steel alloy cores. Armor-piercing bullets have a point filler of antimony-lead between the jacket and the core. Ball M33 bullets have a point filler consisting of inert material such as sodium carbonate, monohydrate. Incendiary composition is the point filler for armor-piercing-incendiary, armor-piercing-incendiary-tracer, and incendiary bullets. Armor-piercing-incendiary-tracer and tracer bullets have a base filler of igniter and

tracer compositions in the base of the core. Armor-piercing-incendiary bullets have a base filler of lead. Bullets have a cylindrical or conically tapered base. The cylindrical base is called "square" and the tapered base is called "boattailed." A cannellure or annular knurled groove is rolled or cut into the jacket to provide a recess into which the cartridge case is crimped. A second cannellure or knurl may be present on some bullet types, such as the incendiary bullet, as a means of identification during manufacture.

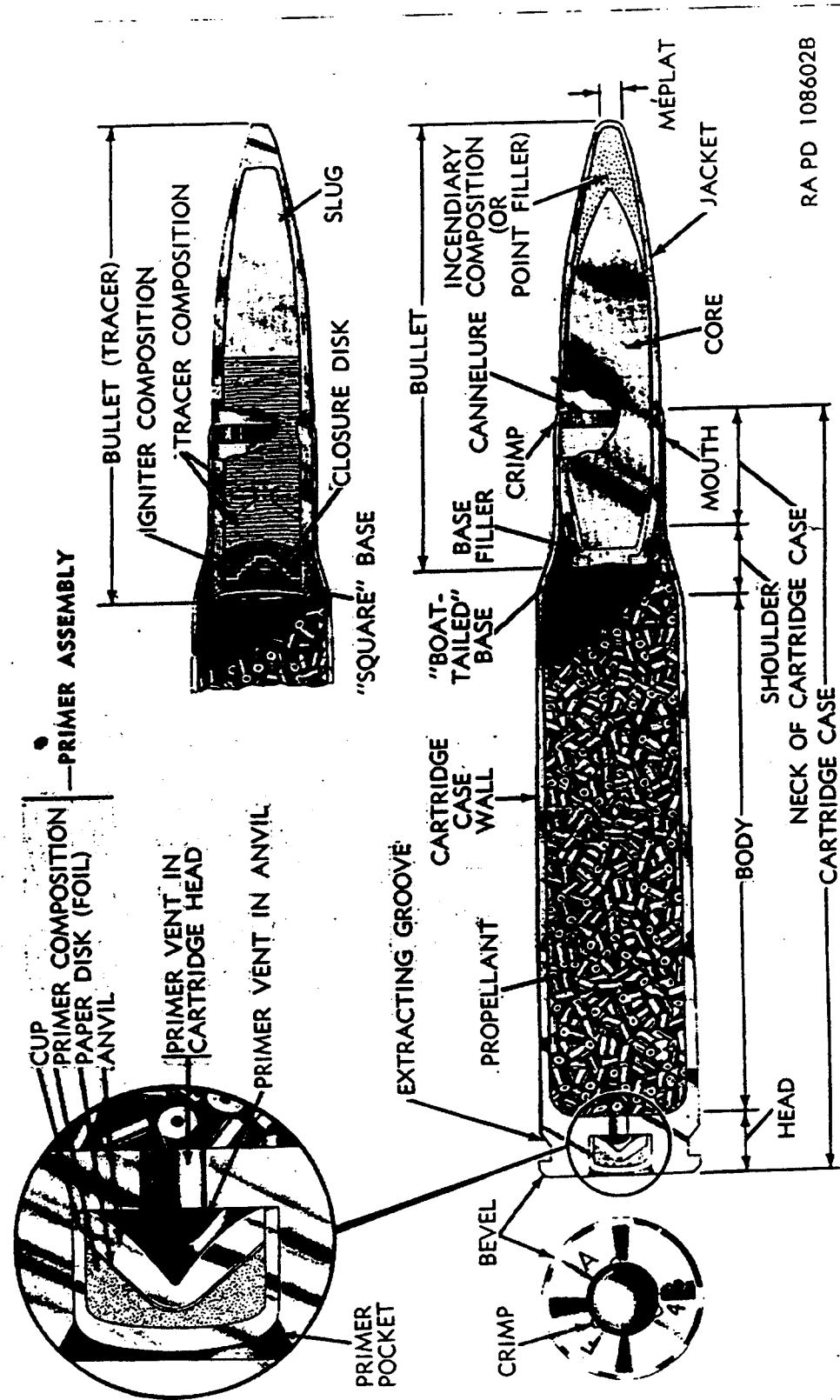
c. Propellant Charge. Ammunition for aircraft guns of current manufacture may contain either single base (nitrocellulose) or double base (nitrocellulose-nitroglycerin) types of propellant. Caliber .50 ammunition of World War II production contained only single base propellant charges. Dependent upon the desired characteristics, each type of propellant may be of flake, tubular, spherical, or a modified spherical shape. Propellant charges for each cartridge type may vary slightly in daily production to counterbalance slight differences in burning characteristics and residual moisture content. Granulations of the propellant and weights of the cartridge charges are established in accordance with specification requirements of velocity and pressure for each type of cartridge. See paragraph 69 for more detailed information.

d. Primer. The primer consists of a brass or gilding-metal cup which contains a primer-composition pellet of sensitive explosive, a paper disk, and a brass anvil. See paragraph 74 for description of these primers.

e. Cartridge Case. The cartridge case is made of drawn brass. The cartridge case for the dummy cartridge M2 may be made of drawn steel. It serves as a means whereby the other components (primer, propelling charge, and bullet) are assembled into a unit, the cartridge. Another of its functions is to expand and seal the chamber against the escape of gases to the rear when the cartridge is fired. This action is known as obturation. To make the cartridge waterproof and to keep the propelling charge dry, the primer is sealed in the primer seat and the bullet is sealed in the neck of the cartridge case by a thin film of lacquer or varnish at the time of manufacture. An extractor groove, turned in the head of the cartridge case, provides a means of removing the case from the chamber of the weapon.

f. Identification.

- (1) The type, caliber, model, and ammunition lot number, including the symbol of the manufacturer, are necessary for complete identification of caliber .50 ammunition.
- (2) From the cartridge itself, the ammunition may be identified, except for lot number, by—
 - (a) The appearance of the cartridge and the color of the painted bullet tip (see fig. 4 and table I).
 - (b) The stamping on the base of the cartridge case. Because of its small size, the marking on small-arms ammunition is the



RA PD 108602B

Figure 8. Cartridge terminology.

stamping of the manufacturer's initials and year of manufacture on the base of the cartridge case. For example, "FA 53" means the lot was loaded at Frankford Arsenal in 1953.

- (3) From packings and containers, and markings thereon, the ammunition can generally be completely identified by—
 - (a) Markings on the original packing boxes and cartons.
 - (b) A functional reference data card inserted in each packing box containing functional lots of ammunition when component lots of the functional lot have not been marked on the outer packing box. Formerly, an identification card, usually $6\frac{1}{2} \times 15$, was sealed inside the metal liner on top of ammunition in each box.

g. Packaging.

- (1) The containers and methods for packing caliber .50 ammunition are given in the drawings, specifications, and Department of the Army Supply Manual 9-5-1305/United States Air Force Stock List 1300. Containers presently being manufactured have been designed to withstand all conditions commonly encountered in handling, storing, and transporting the ammunition.
- (2) With few exceptions, caliber .50 ammunition is issued in metal containers packed for shipment in wooden boxes. There are two types of metal containers: Hermetically sealed can opened by means of a key and tear strip and metal boxes having hinged covers sealed by means of a rubber gasket.
- (3) Packing materials used by Field Service for caliber .50 ammunition which are classed as containers, packaging, and packing supplies are listed in Department of the Army supply manuals and United States Air Force stock lists covering FCS group 81. These include boxes and cartons and certain box components. Box components which are classed as hardware, such as wingnuts and screwhooks, are listed in Department of the Army supply manuals and United States Air Force stock lists covering FCS group 53. Cartridge clips and cartridge links are classed as ammunition components and are listed in Department of the Army Supply Manual 9-5-1305/United States Air Force Stock List 1300.

15. Ballistics

The trajectories of caliber .50 service bullets, except those in the incendiary M23 and API T49 cartridges, for aircraft use match at 1,000 yards. The time of flight does not differ by more than 1/10 second under specified conditions. The bullets of incendiary M23 and API T49 cartridges are lighter than other service bullets weighing approximately 500 grains and have a muzzle velocity of 3,450 feet per second. They also have matched ballistics.

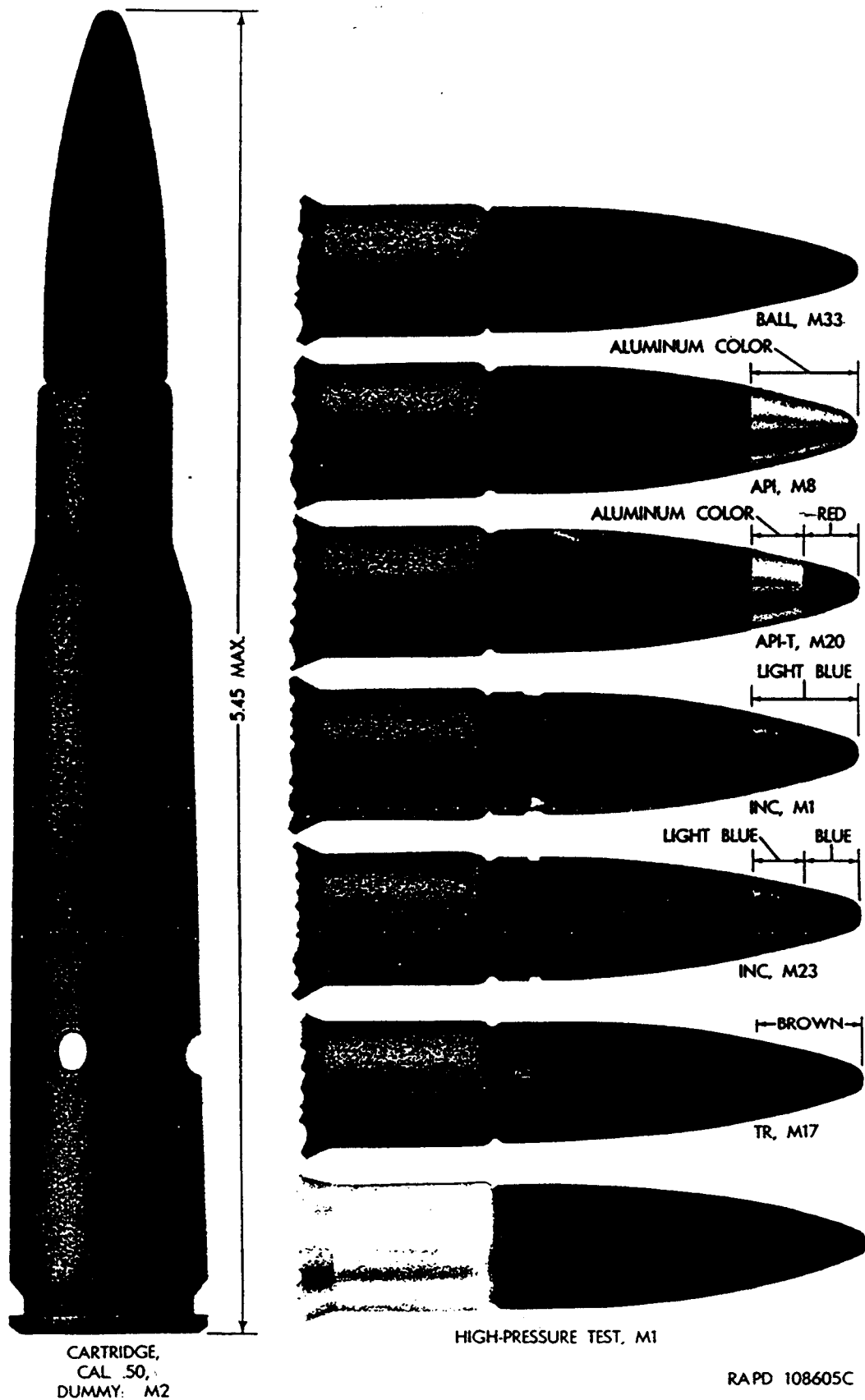


Figure 4. Caliber .50 cartridges.

16. Cartridge, Caliber .50: Armor-Piercing, M2

a. Cartridge. This cartridge is designed for use against armored aircraft, armored vehicles, concrete shelters, and similar bullet-resisting targets. The cartridge is 5.45 inches long. It may be identified by the black bullet tip.

b. Bullet. The bullet consists of three parts: A gilding-metal jacket, a hardened core of tungsten-chrome or manganese molybdenum steel, and a point filler of an antimony-lead alloy. The overall length of the bullet is 2.31 inches. The base has a 9-degree taper beginning 0.386 inch from the base.

17. Cartridge, Caliber .50: Armor-Piercing-Incendiary, M8

a. Cartridge. This cartridge is a round for caliber .50 machine guns. It replaces the incendiary cartridge M1 and armor-piercing cartridge M2 for manufacture and issue. This cartridge is 5.45 inches long. It is identified by the aluminum color bullet tip.

b. Bullet. The bullet contains the same core as the armor-piercing bullet, caliber .50, M2, but the point filler is replaced by an incendiary composition and the bullet also contains a lead alloy base filler seal. The length of the bullet is 2.31 inches.

18. Cartridge, Caliber .50: Armor-Piercing-Incendiary, T49

a. Cartridge. This cartridge is for use only in caliber .50 aircraft machine guns. It has a higher velocity than the API cartridge, caliber .50, M8 and is intended for use with the incendiary cartridge, caliber .50, M23 (T48), since it has similar exterior ballistics. This cartridge is 5.45 inches in length. It may be identified by the bullet tip, which is painted medium blue with an aluminum color annulus to the rear.

b. Bullet. The bullet consists of three parts: A gilding-metal jacket, a hardened manganese-molybdenum steel core, and a point filler of an antimony-lead alloy. The bullet has a square base and is shorter, being 1.935 inches in length, than API bullet, caliber .50, M8.

19. Cartridge, Caliber .50: Armor-Piercing-Incendiary-Tracer, M20

a. Cartridge. This cartridge is for caliber .50 machine guns. It is similar to the armor-piercing-incendiary caliber .50, M8 cartridge, with the addition of a tracer element. As this bullet has its own tracer, the use of tracer cartridges for the production of traces is unnecessary in machine gun belts. The cartridge is 5.45 inches long. It is identified by the tip of the bullet, which is painted red with an aluminum annulus to its rear.

b. Bullet. The bullet is similar to the armor-piercing-incendiary bullet, caliber .50, M8, but it differs in having a trace. Visible trace begins at approximately 100 yards from muzzle and continues to at least 1,600 yards.

20. Cartridge, Caliber .50: Ball, M33

a. Cartridge. This cartridge was designed to replace the ball cartridge M2 as an item of issue and to duplicate ballistics of an inert caliber .50 API cartridge M8. It is designed for general use where tracer, incendiary, or armor penetration characteristics are not important considerations. The cartridge is 5.45 inches long and does not have any bullet point identification coloring. As its visual appearance is the same as the ball cartridge M2, this cartridge will be identified by markings on the packing containers. Headstamp markings are a further means of identifying ball M2 and ball M33 cartridges; the last lot of ball cartridges M2 was produced in 1950, whereas the first lot of ball cartridge M33 was manufactured in 1951.

b. Bullet. The bullet consists of three parts: A jacket of gilding metal or gilding metal clad steel, a soft steel core, and an inert point filler. The overall length of the bullet is (tapered) 2.31 inches. It has a boat-tailed base.

21. Cartridge, Caliber .50: Incendiary, M1

a. Cartridge. This cartridge is an item of issue for use in caliber .50 machine guns. The cartridge is 5.45 inches long. It may be identified by the bullet tip, which is painted light blue, and by a second, knurled cannellure rolled into the bullet jacket.

b. Bullet. The bullet consists of a gilding-metal jacket, a hollow, cylindrical, steel body, a lead-antimony base slug, and a core and point filler of incendiary composition. The bullet is 2.09 inches long and has a square (cylindrical) base.

22. Cartridge, Caliber .50: Incendiary, M23

a. Cartridge. This cartridge is an item of issue for use only in caliber .50 aircraft machine guns. It has a higher velocity than the incendiary cartridge M1 and is more effective as an incendiary against aviation kerosene. The cartridge is 5.45 inches long. It may be identified by the bullet tip, which is painted medium blue with a light blue annulus to the rear.

b. Bullet. The bullet is similar in external appearance to the incendiary bullet M1. The bullet M23 consists of a gilding-metal jacket, a clad steel container, a lead-antimony base slug, and an incendiary composition. The weight of incendiary composition is greater than that in the incendiary bullet M1. The bullet is 2.290 inches long and has a square (cylindrical) base.

23. Cartridge, Caliber .50: Tracer, M1

a. Cartridge. This cartridge is an item for observation of fire in caliber .50 machine guns. It is limited to use for training purposes only. It is replaced for combat use by the CARTRIDGE, CALIBER .50: tracer,

M17. Care must be exercised when using this cartridge to prevent it from igniting dry vegetation on the range. This cartridge is 5.45 inches long. It is identified by the tip of the bullet, which is painted red.

b. Bullet. The bullet consists of three parts: A gilding-metal or a gilding-metal clad steel jacket, an antimony-lead alloy slug, which fills the forward end of the jacket, and tracer and igniter compositions which fill the balance. Unlike the bullets for armor-piercing and ball cartridges, this bullet is cylindrical to the base which is open to permit the propelling charge to ignite the tracer composition. The overall length of the bullet is 2.40 inches. The trace begins at a distance not greater than 250 feet from the weapon; the range of the trace is about 1,600 to 1,800 yards.

24. Cartridge, Caliber .50: Tracer, M10

a. Cartridge. This cartridge is for observation of fire in all caliber .50 aircraft machine guns. It serves the same purposes as the tracer cartridge M1. The cartridge is 5.45 inches long. It may be identified by the bullet tip, which is painted orange.

b. Bullet. The description and exterior ballistics for the tracer bullet M1 with gilding-metal clad steel jacket are applicable to the tracer bullet M10, except that the M10 has a dim trace for the first 225 yards of flight followed by a bright trace to 1,600 to 1,900 yards.

25. Cartridge, Caliber .50: Tracer, M17

a. Cartridge. This cartridge can be used as a substitute for the API-T cartridge, caliber .50, M20 except that penetration is not so great. It replaces the tracer cartridge M1 for use in caliber .50 aircraft machine guns. The cartridge is 5.45 inches long. It may be identified by the bullet tip, which is painted brown. The tips of bullets manufactured prior to 1952 were painted maroon.

b. Bullet. The description and exterior ballistics for the tracer bullet M1 with gilding-metal clad steel jacket are applicable to the tracer bullet M17, except that the M17 has a bright trace to approximately 2,450 yards of flight. Trace begins at a point not greater than 250 yards from the weapon. Tracer cartridges M17 manufactured since 1950 contain a gilding-metal cup or a vinylite disk, designated as a bullet base closure seal, in the base of the bullet. This seal is intended to prevent chemical action between the bullet tracer composition and the residual moisture in the propellant and, accordingly, to prolong the shelf life of this cartridge.

26. Cartridge, Caliber .50: Tracer, Headlight, M21

a. Cartridge. This cartridge is for caliber .50 aircraft machine guns for use in combat against other aircraft. When viewed from the front, its trace, due to the use of certain igniter composition instead of tracer composition such as is used in tracer bullet M1, is three times as brilliant as the trace of the tracer bullet M1. The tracer M21 has some incendiary effect at 150 and 350 yards, but is negligible at 600 yards. The cartridge

is 5.45 inches long. It may be identified by the bullet tip, which is painted red.

b. *Bullet.* The description and exterior ballistics of the tracer bullet M1 are applicable to the tracer bullet M21, except that the M21 has a very bright trace to approximately 550 yards.

27. Cartridge, Caliber .50 Blank: M1

This blank cartridge is for use in aircraft caliber .50 machine guns when these weapons are fitted with blank firing attachments for training operations. The cartridge is 3.910 inches long. It is identified by the absence of the bullet. The cartridge case has a slight annular groove about $\frac{1}{4}$ inch from the mouth; this serves as the seat for the wad. The wad is a disk punched out of strawboard sheet $\frac{1}{16}$ inch thick; it is lacquered on both sides before insertion into the mouth of the case. After loading, a heavy coat of vermillion lacquer is applied to the wad and the mouth is crimped.

28. Cartridge, Caliber .50 Dummy: M2

a. *Cartridge.* This cartridge is for use in all caliber .50 machine guns for training purposes. It may also be used for testing the mechanism of the gun. The cartridge is 5.45 inches long. Some cases of current manufacture may be of steel instead of brass.

b. *Bullet.* The dummy cartridge has a gilding-metal or gilding-metal clad steel jacket. The bullet is 2.40 inches long and has a square (cylindrical) base.

29. Cartridge, Caliber .50: Test, High-Pressure, M1

a. *Cartridge.* This cartridge is used for proof-firing of caliber .50 machine guns at the place of manufacture or rebuild. The cartridge is loaded with a propellant charge sufficient to develop a breech pressure from 60,000 to 65,000 p.s.i. Due to this excessive pressure and the danger involved in firing, the guns under test are fired from a fixed rest under a hood by means of a mechanical firing device. This cartridge should be fired only by authorized personnel. The cartridge is 5.45 inches long. It is distinguished from other caliber .50 cartridges by the tinned cartridge case.

b. *Bullet.* The bullet consists of a gilding-metal jacket and a core made up of two antimony-lead alloy slugs, a front slug and a rear slug. The length of the bullet is 2.42 inches. The bullet has a square base.

30. Cartridges With Deteriorated Tracer Elements

Armor-piercing-incendiary-tracer and tracer-types of caliber .50 cartridges with deteriorated tracer elements, as listed in Department of the Army Supply Manual 9-5-1305/United States Air Force Stock List 1300, may be substituted for ball ammunition for training requirements within the continental United States.

Section II. CARTRIDGES FOR 20-MM GUN M3

31. General

a. *General Discussion.* The 20-mm gun M3 is a link disintegrating, belt-fed (fig. 5), automatic aircraft cannon for use against aircraft and ground or sea-borne targets. At present, the M3 is the only 20-mm gun that fires percussion-primed ammunition. Percussion-primed ammunition manufactured in the United States, that is to be used jointly by the British, must be proof-fired in British guns to determine whether the lot develops sufficiently low chamber pressure for acceptance for firing in British weapons. If the ammunition is accepted by both United States and British services, the words COMMON AMM are marked or printed on the packing boxes. All ammunition for this gun is issued in the form of fixed complete rounds known as "cartridges." The shape, length, and weight of these cartridges are approximately the same. The trajectories of the projectiles cross at 1,000 yards, at which range the time of flight for each projectile is approximately 1.66 seconds when fired from a stationary weapon with a muzzle velocity of 2,730 feet per second.

Warning: Electric-primed ammunition CANNOT be fired in the gun M3.

b. *Identification.* The color scheme for the painting and marking of these cartridges for purposes of identification is indicated in table I (par. 9). It should be noted that painting and marking of the high-explosive-incendiary and incendiary cartridges differ from the basic color scheme prescribed in TM 9-1900/TO 11A-1-20, but all essential information is provided.

c. *Projectile.* Dependent upon type of projectile, ammunition for this gun is classified as high-explosive-incendiary (HEI), armor-piercing with tracer (AP-T), incendiary, target-practice (TP), or dummy.

d. *Fuze.* The PD fuze M505 (T196E4) is used with the HEI cartridges, replacing the PD fuze M75 which may be found on cartridges of earlier manufacture. Both of these fuzes are single-action, impact-type, percussion fuzes. The PD fuze M505 is relatively boresafe. See paragraphs 65 and 66 for description of these fuzes.

e. *Cartridge Case.* The cartridge cases M21A1 (brass) and M21A1B1 (steel) are used with these cartridges. The weight of the cartridge case M21A1 is 0.214 pound; the cartridge case M21A1B1 is approximately 0.025 pound lighter and has a deeper extracting groove machined in the head. A single vent is provided in both cartridge cases.

f. *Propelling Charge.* The cartridge contains 0.07 pound of single-base (nitrocellulose) propellant. See paragraph 69 for more detailed information.

g. *Primer.* The percussion primer M36A1, containing a 2.1-grain charge of primer mixture, is used with these cartridges. See paragraph 70 for description of this primer.

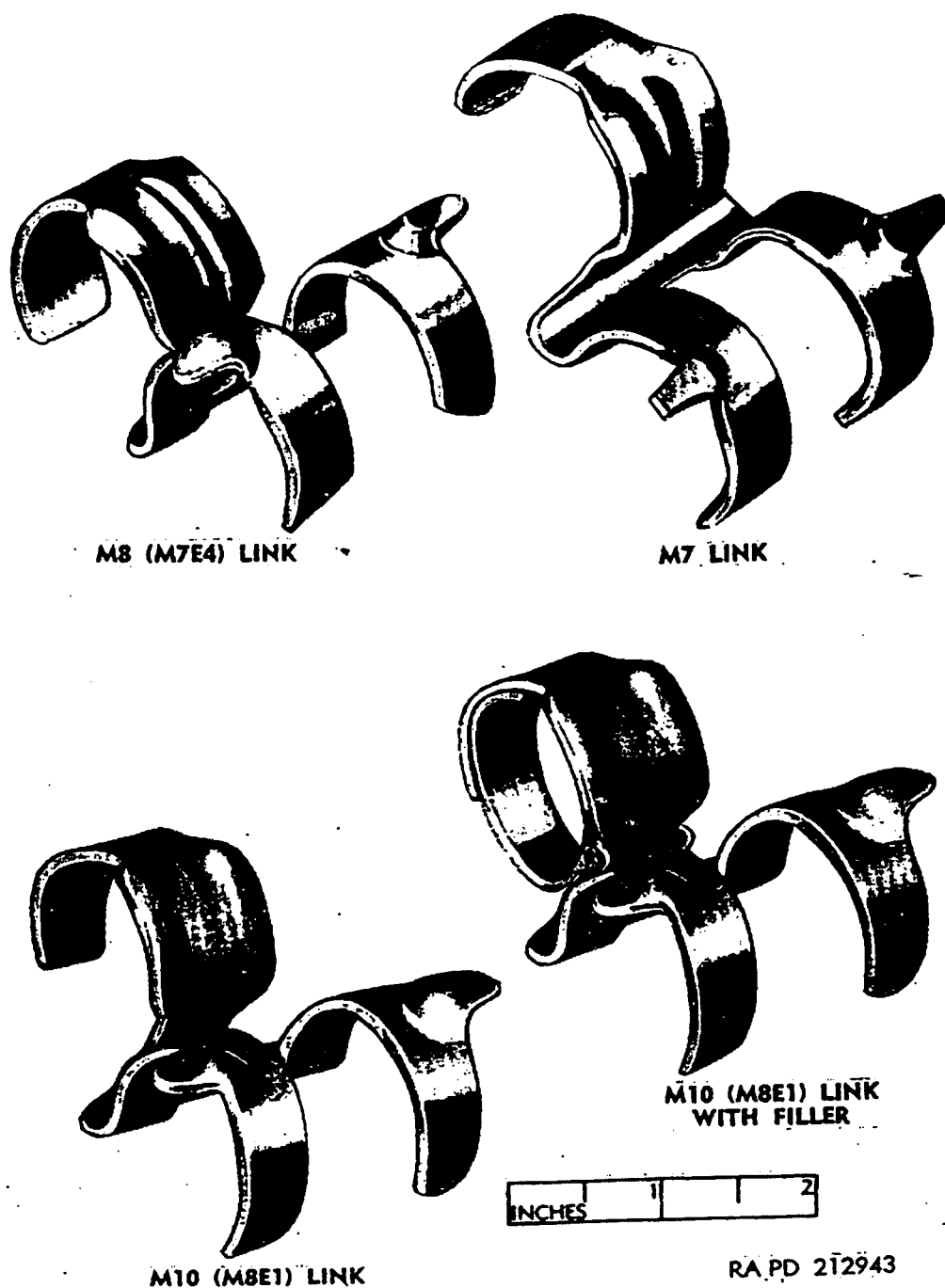


Figure 5. Cartridge links and cartridge link filler for ammunition for 20-mm gun M3.

h. Disintegrating Belt Cartridge Links. These links and filler (fig. 5) are considered as ammunition components. They are listed in Department of the Army Supply Manual 9-5-1305/United States Air Force Stock List 1300. Metallic belt link M7, M8, or M10 (M8E1) can be used to make up belts for either right or left hand 20-mm feed mechanism M3 or AN-M2; however, only one type of link may be used in the same belt. Their nomenclature and piece marks are as follows:

LINK FILLER, CARTRIDGE: 20-mm A7305535
 LINK, CARTRIDGE: disintegrating belt, 20-mm, M10 (M8E1)
 7238242
 LINK, CARTRIDGE: disintegrating belt, 20-mm, M8 7230430
 LINK, CARTRIDGE, disintegrating belt, 20-mm M7 7225949

The link M8 is an improvement in design over the link M7. The link M10 (M8E1) differs from the link M8 in finish, heat treatment, and contour design. It can be distinguished from the M8 by the comparatively greater taper on the outside of the single loop. This increases flexibility of the belt and prevents holdups in the ammunition chute. A cartridge link filler (fig. 5) is used with the link M10 (M8E1) when it is desired to load belts for double-loop left hand feed.

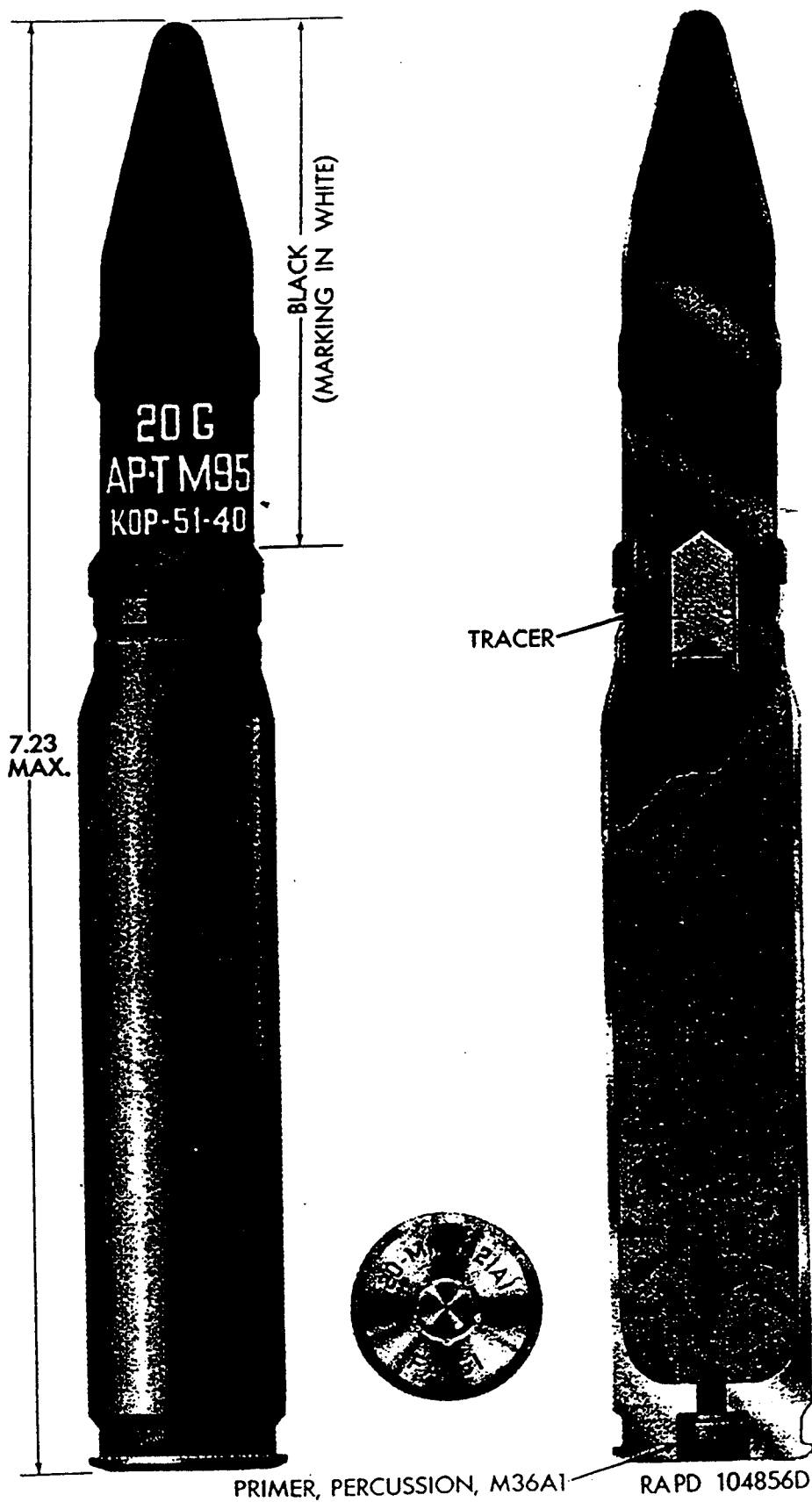
i. Packing and Shipping Data. Cartridges for 20-mm gun M3 are contained in both bulk and functional-type packing. Primary bulk packs vary from 10 rounds in a cardboard carton to 55 rounds per steel can; these containers are overpacked (in varying quantities) into metal cans or wooden boxes for shipment and storage. Functional packings are made up of one type, more than one type, or several types, or ratio pack of cartridges in a 40-round link belt which is packed into metal can M21, and overpacked (in varying quantities) into either metal cans or wooden boxes. The belts are either linked for right hand feed or linked for left hand feed. For additional information on packing of 20-mm ammunition, see Department of the Army Supply Manual 9-5-1305/United States Air Force Stock List 1300.

32. Cartridge, 20 Millimeter: AP-T, M95

a. General. This cartridge (fig. 6) is for use against armored targets. The projectile is a solid shot made from bar or forged steel. A drawn steel windshield is crimped into annular grooves in the projectile body, the portion of the windshield over the crimping acting as the bourrelet of the projectile. The base of the projectile contains a red tracer composition, sealed in by means of a metal closing cup. The tracer burns for about 2.25 seconds, equivalent to a range of about 1,400 yards. Minimum burning time of tracer is 2.0 seconds, equivalent to a range of 1,270 yards.

b. Data.

Weight of complete round.....	0.57 lb.
Length of complete round.....	7.23 in.
Length of projectile.....	3.27 in.
Length of cartridge case.....	4.34 in.
Width of rotating band.....	0.203 in.
Type of base.....	square
Radius of ogive.....	2.3 cal.
Muzzle velocity.....	2,730 fps.
Maximum range.....	5,900 yd.



D-2

Figure 6. Cartridge, 20 millimeter: AP-T, M95.

33. Cartridge, 20 Millimeter: AP-T, M95, Steel Case

This cartridge is the same as the item in paragraph 32, except that the steel cartridge case M21A1B1 is substituted for the M21A1.

34. Cartridge, 20 Millimeter: HEI, M58 (T241), W/Fuze, PD, M505

a. General. This cartridge (fig. 7), which replaces the M97A1, differs from the M97A1 (par. 36) principally in the interior design and loading of the projectile. It provides an adequate ballistic match with the M97A1. The M58 is an improvement over the M97A1 in blast, fragmentation, and incendiary effect. The weight of the incendiary charge (MOX-2B) is 0.026 pound. The weight of explosive is 0.03 pound, composed of 0.026 pound of MOX-2B and 0.004 pound of RDX. Upon impact, the charge is functioned with a combined detonative and incendiary effect. A base cover is welded to the base of the projectile for additional safety. The PD fuze M505 is an instantaneous percussion fuze of the impact-type. See paragraph 66 for description of this fuze.

b. Data.

Weight of complete round.....	0.55 lb.
Length of complete round.....	7.25 in. (max.)
Length of fuze projectile.....	3.31 in.
Length of cartridge case.....	4.34 in.
Type of base.....	square

35. Cartridge, 20 Millimeter: HEI, M97, W/Fuze, PD, M75

This cartridge, which is replaced by the M97A1, differs from the M97A1 (par. 36) principally in the fuze. The fuze M75, which is described in paragraph 65, has no interrupter or other special devices for boresafety. In this respect, it differs from the fuze M505.

36. Cartridge, 20 Millimeter: HEI, M97A1, W/Fuze, PD, M505

a. General. This cartridge is for use against aircraft and light materiel targets, functioning with both explosive and incendiary effect. The high-explosive is tetryl and is located in the nose portion of the projectile, while the incendiary mixture is located in the base. The combined weight of the high-explosive-incendiary filler is 0.017 pound composed of 0.005 pound of incendiary mixture and 0.012 pound of tetryl. Upon impact, its filler is detonated, the shell shattered, and the incendiary composition ignited. Its fuze is an instantaneous percussion fuze of the impact-type. The thickness of the base is approximately 0.2 inch, and a base cover is welded thereon for additional protection.

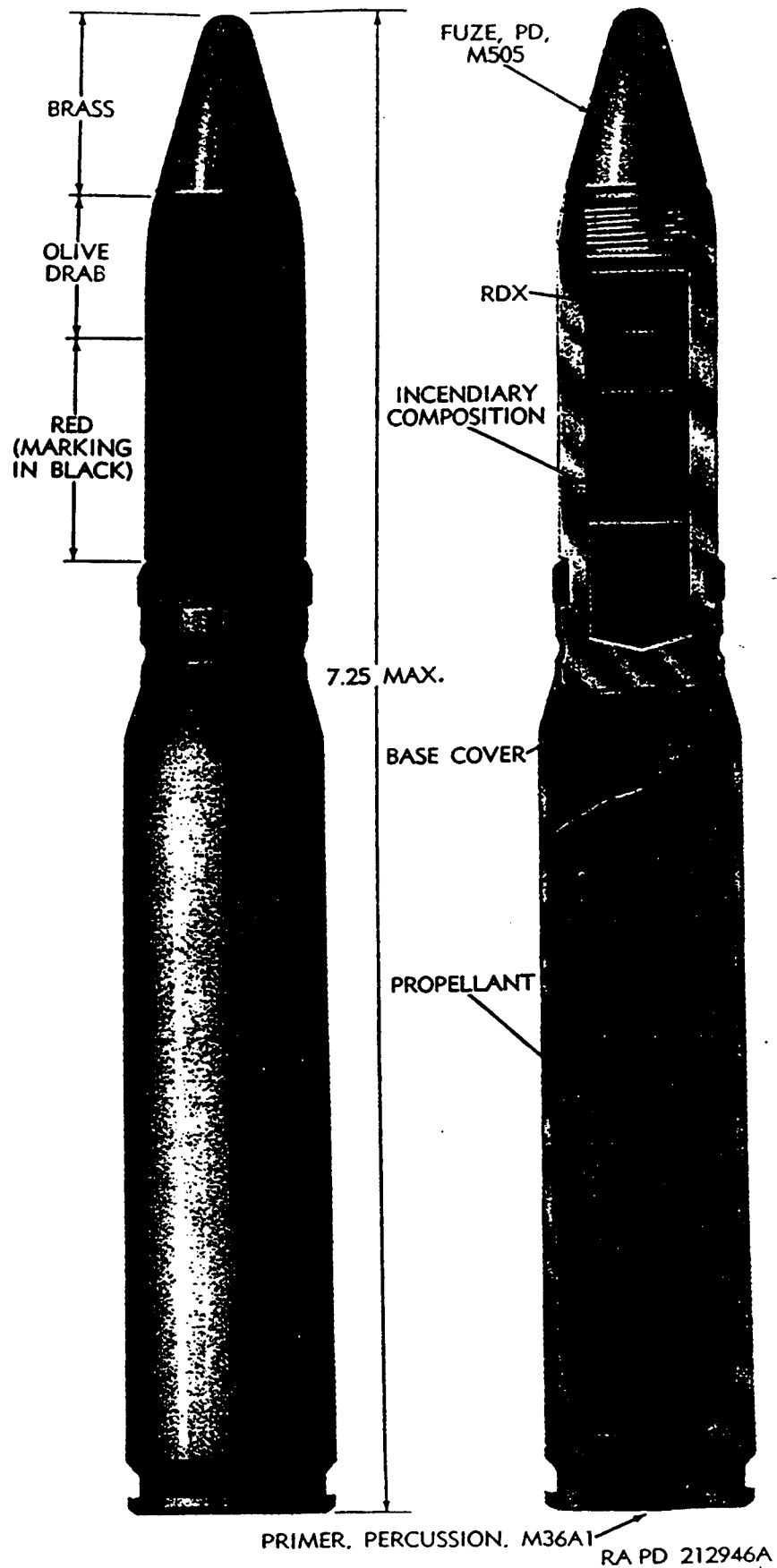


Figure 7. Cartridge, 20 millimeter: HEI, M58 (T241), w/fuze, PD, M505.

b. Data.

Weight of complete round.....	0.57 lb.
Length of complete round.....	7.23 in.
Length of fuzeed projectile.....	3.28 in.
Length of cartridge case.....	4.34 in.
Width of rotating band.....	0.203 in.
Type of base.....	square
Radius of ogive.....	2.55 cal. (to 0.7 dia., then conical ogive)
Muzzle velocity.....	2,730 fps.
Maximum range.....	5,750 yd.

**37. Cartridge, 20 Millimeter: HEI, M97A1,
Steel Case, W/Fuze, PD, M505**

This cartridge is the same as the item in paragraph 36, except that the steel cartridge case M21A1B1 is substituted for the M21A1.

38. Cartridge, 20 Millimeter: Incendiary, M96

a. General. This cartridge is for use against aircraft, functioning with incendiary effect. The body of the projectile is made of cold-drawn steel. The nose, threaded to screw into the body, is made of a die-cast zinc alloy; it is painted light blue for identification. Both the body and nose are filled with incendiary composition. This projectile does not require a fuze, as functioning is initiated by impact of nose upon target.

b. Data.

Weight of complete round.....	0.55 lb.
Length of complete round.....	7.18 in.
Length of projectile.....	3.23 in.
Length of cartridge case.....	4.34 in.
Width of rotating band.....	0.203 in.
Type of base.....	square
Radius of ogive.....	2.55 cal. (to 0.7 dia., then conical ogive)
Muzzle velocity.....	2,730 fps.
Maximum range.....	5,700 yd.

39. Cartridge, 20 Millimeter: Incendiary, M96, Steel Case

This cartridge is the same as the item in paragraph 38, except that the steel cartridge case M21A1B1 is substituted for the M21A1.

40. Cartridge, 20 Millimeter, Dummy: M18A3

This cartridge is a completely inert assembly, which is intended to provide a cartridge for drill purposes and for testing the feed mechanism of the weapon. The service projectile and cartridge case are simulated by a one-piece zinc- or cadmium-coated casing made of steel, cold-drawn to size, shape, and weight of the service round. A steel base plug, formed to provide an extractor groove like that on service ammunition, is soldered into the recessed base. Some rounds of earlier manufacture have a

threaded base and base plug. Alternative manufacturing designs for this drill cartridge have a steel body plug secured in the nose of the cartridge. Weight is 0.57 pound; length is 7.22 (max.) inches.

41. Cartridge, 20 Millimeter: TP, M99

a. General. This cartridge (fig. 8) is for practice firing. The projectile is similar in shape and ballistic properties to the incendiary shell M96 but is hollow and contains no explosive. The nose consists of a zinc-die casting as in the M96 incendiary but its weight is adjusted to give the projectile a weight of 2,000 grains (0.29 lb.). The projectile body is made of cold-drawn steel.

b. Data.

Weight of complete round.....	0.57 lb.
Length of complete round.....	7.23 in.
Length of projectile.....	3.27 in.
Length of cartridge case.....	4.34 in.
Width of rotating band.....	0.203 in.
Type of base.....	square
Radius of ogive.....	2.54 cal. (to 0.7 dia., then conical ogive)
Muzzle velocity.....	2,730 fps.
Maximum range.....	5,750 yd.

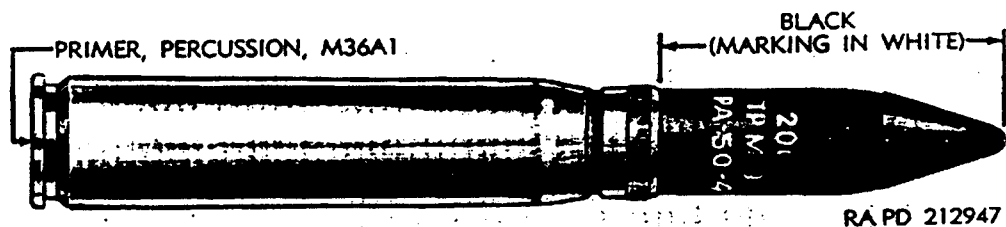


Figure 8. Cartridge, 20 millimeter; TP, M99.

Section III. CARTRIDGES FOR 20-MM GUN M24A1

42. General

a. General Discussion. The 20-mm gun M24A1 is an automatic aircraft cannon for use against aircraft and ground or sea-borne targets. It is a combination blowback and gas-operated, air-cooled, belt-fed gun. It can be adapted for belt feeding from either the right or left hand side. The gun is designed to fire electric-primed ammunition only. All ammunition for this gun is issued in the form of fixed complete rounds. The cartridges are linked into disintegrating belts by use of cartridge link M10 (*h* below). The cartridges for this gun are the same as those fired in the 20-mm gun M3, except that the electric primer M52A3 replaces the percussion primer M36A1. Although the model designations are the same for both the electric-primed and percussion-primed cartridges, in the

nomenclature of the former, the word "electric" is inserted before the type designation. The trajectories of the projectiles cross at 1,000 yards, at which range the time of flight for each projectile is approximately 1.66 seconds when fired from a stationary weapon with a muzzle velocity of 2,730 feet per second.

Warning: Percussion-primed ammunition CANNOT be fired in the M24A1 gun.

b. *Identification.* Painting and marking of these cartridges for purposes of identification is the same as that of cartridges for the 20-mm gun M3, except for the designation ELEC, which is stenciled on the head of the cartridge case with black ink. Some rounds of earlier manufacture have a purple annulus about the primer at the head of the cartridge case, caused by the dye in the waterproofing compound that was used.

c. *Projectile.* Dependent upon the type of projectile, ammunition for these guns is classified as high-explosive-incendiary (HEI), armor-piercing with tracer (AP-T), armor-piercing (AP) (with or without tracer cavity plug), incendiary, target-practice (TP), or dummy.

d. *Fuze.* The PD fuze M505 (T196E4) is used with the HEI cartridges; HEI cartridges fuzed with the PD fuze M75 are no longer issued. The PD fuze M505 is a single-action, impact-type, percussion fuze which is relatively boresafe. See paragraph 66 for a description of this fuze.

e. *Cartridge Case.* The cartridge cases M21A1 (brass) and M21A1B1 (steel), used with these cartridges, are identical with those used with cartridges for the 20-mm gun M3 (par. 31e).

f. *Propelling Charge.* The cartridges contain the same propelling charge as the ammunition for the 20-mm gun M3. See paragraph 69 for more detailed information.

g. *Primer.* The electric primer M52A3, containing a 2.75 (max.) grain charge of primer mixture is used with these cartridges. The electric primer M52A2, which differs from the M52A3 in the primer charge, may be found assembled to cartridges of earlier manufacture. The insulator of the primer M52A2 is colored black, while that of the M52A3 is red. See paragraph 71 for description of the primer M52A3.

h. *Disintegrating Belt Cartridge Links.* Belts for 20-mm feed mechanism M2E5 or M2E7 of the gun M24A1 are made up of cartridge link M10 (M8E1). The feed mechanism M2E5 and the feed mechanism M2E7 consist of two distinct feed mechanisms for each model—a right hand feed mechanism and a left hand feed mechanism. Although the same cartridge link is used to form belts for right hand feed and belts for left hand feed, the method of loading the belts is different. Belts for either right or left hand feed may also be loaded with single-loop leading or with double-loop leading. For double-loop leading, a cartridge filler link is used to close the single loop at the end of the belt. For methods of loading the four types of belts, see TM 9-2024. For complete nomen-

clature, piece mark, and brief description of the link and filler, see paragraph 31h.

i. *Packing and Shipping Data.* Cartridges for 20-mm gun M24A1 are contained in the same types of bulk and functional packing as those described for the cartridges used in 20-mm gun M3 (par. 31i). For additional information on packing of 20-mm ammunition, see Department of the Army Supply Manual 9-5-1305/United States Air Force Stock List 1300.

**43. Cartridge, 20 Millimeter: Electric,
AP, M95, W/Tracer Cavity Plugged**

This cartridge (fig. 9) is identical with the item in paragraph 44, except that the tracer composition is omitted and the tracer cavity is closed by a plug.

44. Cartridge, 20 Millimeter: Electric, AP-T, M95

This cartridge is identical with the cartridge described in paragraph 32, except that the electric primer M52A3 replaces the percussion primer M36A1.

**45. Cartridge, 20 Millimeter: Electric,
HEI, M58 (T241), W/Fuze, PD, M505**

This cartridge is identical with the cartridge described in paragraph 34, except that the electric primer M52A3 replaces the percussion primer M36A1.

**46. Cartridge, 20 Millimeter: Electric,
HEI, M97A1, W/Fuze, PD, M505**

This cartridge is identical with the cartridge described in paragraph 36, except that the electric primer M52A3 replaces the percussion primer M36A1.

**47. Cartridge, 20 Millimeter: Electric, HEI,
M97A1, Steel Case, W/Fuze, PD, M505**

This cartridge is identical with the item in paragraph 46, except that the steel cartridge case M21A1B1 is substituted for the M21A1.

48. Cartridge, 20 Millimeter: Electric, Incendiary, M96

This cartridge is identical with the cartridge described in paragraph 38, except that the electric primer M52A3 replaces the percussion primer M36A1.

**49. Cartridge, 20 Millimeter: Electric,
Incendiary, M96, Steel Case**

This cartridge is identical with the item in paragraph 48, except that the steel cartridge case M21A1B1 is substituted for the M21A1.

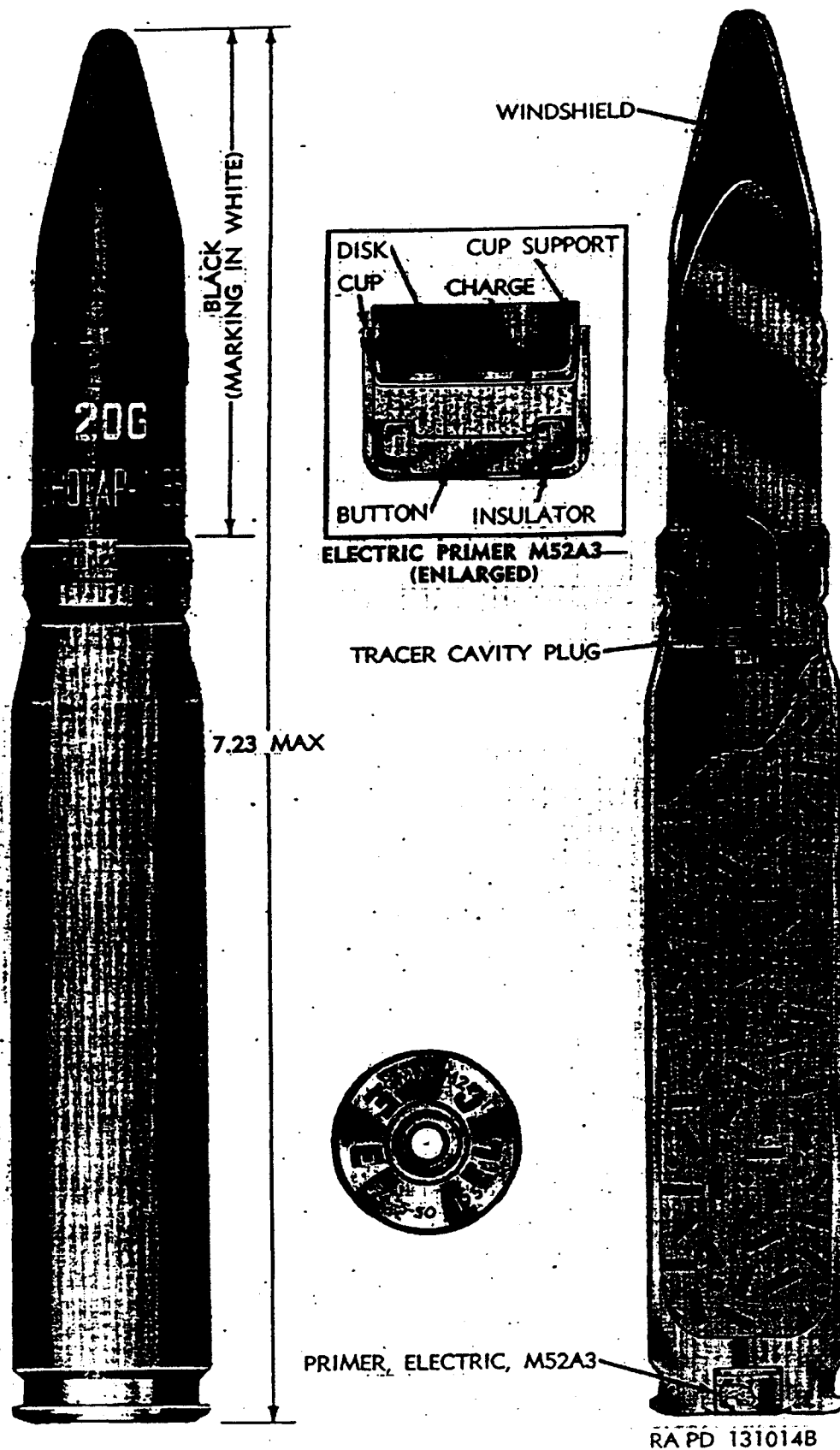


Figure 9. Cartridge, 20 millimeter: electric, AP, M95, w/tracer cavity plugged.

D-2

50. Cartridge, 20 Millimeter, Dummy: M18A3

This cartridge is identical with the cartridge described in paragraph 40.

51. Cartridge, 20 Millimeter: Electric, TP, M99

This cartridge is identical with the cartridge described in paragraph 41, except that the electric primer M52A3 replaces the percussion primer M36A1.

52. Cartridge, 20 Millimeter: Electric, TP, M99, Steel Case

This cartridge is identical with the item in paragraph 51, except that the steel cartridge case M21A1B1 is substituted for the M21A1.

Section IV. CARTRIDGES FOR 20-MM GUNS M39, M39A1, AND M61 (T171E3)

53. General

a. General Discussion.

- (1) *Ammunition for 20-mm guns M39 and M39A1.* The 20-mm guns M39 and M39A1 are automatic aircraft cannon for use against aircraft and ground or sea-borne targets. These guns are gas-operated, belt-fed, electrically fired weapons having a high rate of fire. The M8 (T13) and M8A1 chargers used in these guns utilize the caliber .30 carbine grenade cartridge M6 to develop the necessary gas pressure to start the functioning of the weapon. Both guns M39 and M39A1 fire the same ammunition. All ammunition for these guns is issued in the form of fixed complete rounds known as "cartridges." The cartridges are electric-primed. Before firing, the cartridges are loaded in ammunition belts of the disintegrating belt type, made up from cartridge link T61E3 (fig. 10). The shape, length, and weight of the several types of cartridges for the guns M39 series are approximately the same. These cartridges are approximately 0.6 inch shorter in overall length and approximately 0.19 inch wider at the base of the cartridge case than the cartridges used for the 20-mm guns M3 and M24A1. The cartridges used for the guns M39 series are also used for the 20-mm gun M61. When linked for the gun M61, however, the cartridge link T76 is used. These links are not interchangeable. Muzzle velocity of the API, ball, and HEI rounds fired from the gun M39 or M39A1 is 3,300 feet per second.
- (2) *Ammunition for 20-mm gun M61 (T171E3).* The 20-mm gun M61 (T171E3) is an automatic aircraft cannon for use against aircraft and ground or sea-borne targets. The gun is an electrically or hydraulically powered, belt-fed, electrically fired

weapon having a higher rate of fire than the 20-mm guns M39 and M39A1. When electrically powered, the electric drive M7 is used. It is a rotating, six-barrel gun. A round of ammunition is fired through each barrel, as the barrels rotate *once* around the longitudinal axis. All ammunition for this gun is issued in the form of fixed complete rounds known as "cartridges." These cartridges are electric-primed and are identical with the cartridges used for the 20-mm guns M39 and M39A1. Before firing, the cartridges are loaded in ammunition belts of the disintegrating type, made up from cartridge link T76 (fig. 11). The muzzle velocity of the API, ball, and HEI rounds is established at 3,300 feet per second in the 20-mm gun M39 with a resulting velocity of approximately 3,430 feet per second in the 20-mm gun M61.

Warning: Ammunition for the gun M39, M39A1, or M61 CANNOT be fired in either the 20-mm gun M3 or M24A1. Ammunition for either the gun M3 or M24A1 CANNOT be fired in the gun M39, M39A1, or M61. Ammunition linked for the guns M39 and M39A1 CANNOT be fired in the gun M61. Ammunition linked for the gun M61 CANNOT be fired in the guns M39 and M39A1.

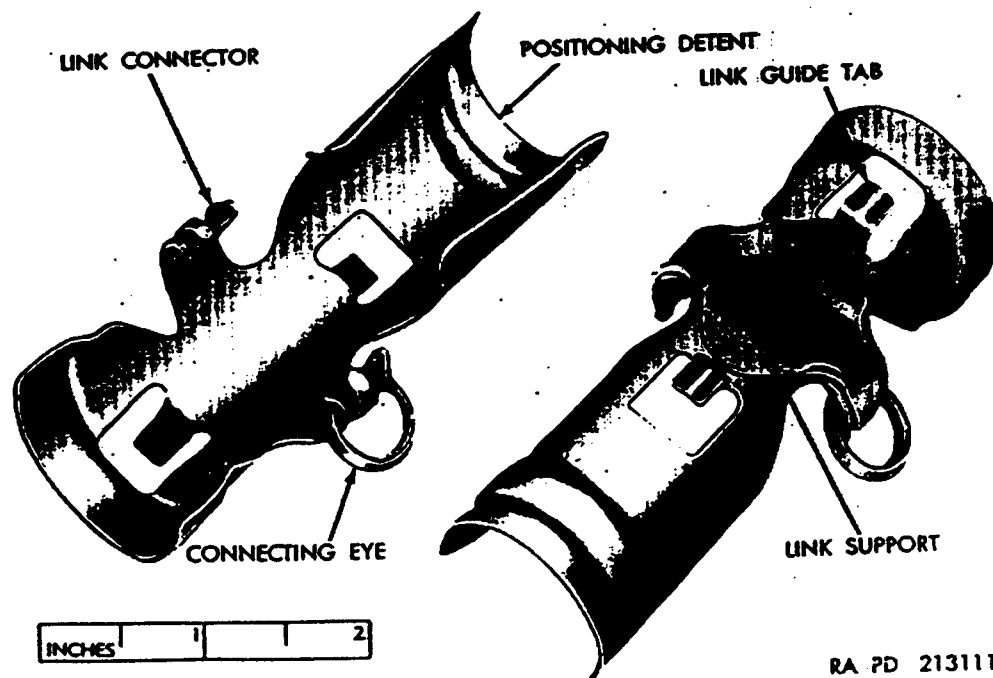


Figure 10. Cartridge link T61E3 for 20-mm guns M39 and M39A1.

b. *Identification.* The color scheme for the painting and marking of these cartridges for purposes of identification is indicated in table I (par.

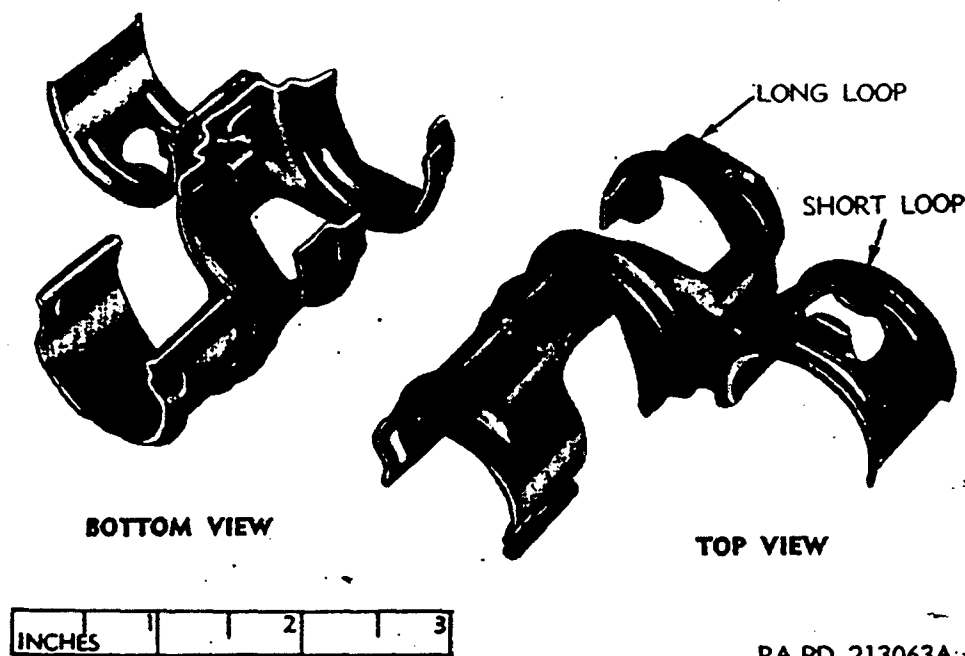


Figure 11. Cartridge link T76 for 20-mm gun M61.

9). It should be noted that painting and marking of the armor-piercing-incendiary, high-explosive-incendiary, and incendiary cartridges differ from the basic color scheme prescribed in TM 9-1900/TO 11A-1-20, but all essential information is provided.

c. Projectile. Dependent upon type of projectile, ammunition for these guns is classified as armor-piercing-incendiary (API), ball, high-explosive-incendiary (HEI) dummy, and high-pressure-test (HPT). The dummy cartridge consists of the cartridge case M103 (dummy) assembled to the ball projectile. Prior to standardization, the ball cartridge M55 was designed as the target practice cartridge T199. The nomenclature has been changed to "ball" in order to have the designation conform to the small-arms system.

d. Fuze. The PD fuze M505 (T196E4) is the fuze which has been used with the HEI cartridge. This fuze is classified as a single-action, impact-type, percussion fuze and it incorporates features which make it relatively boresafe. In 1957, all production of the fuze M505 was converted to the fuze M505E1. The latter is a modification which was designed for the purpose of replacing the fuze M505 for use with HEI cartridges for the 20-mm guns M39, M39A1, and M61. The two fuzes are described in paragraphs 66 and 67.

e. Cartridge Case. Cartridge cases M103 (brass), M103B1 (steel), and M103 (dummy) (brass) are used as components of these cartridges. The weight of the cartridge case M103 is 0.26 pound approximately. The weight of the cartridge case M103B is 0.25 pound approximately. The cartridge case M103 (dummy), which is used only with the dummy

cartridge, weighs approximately the same as the cartridge case M103. A single vent is provided in the cartridge cases M103 and M103B1. In more recent production using the primer M52A3B1, a cellulose case vent seal is used to seal the vent before the primer is inserted. The cartridge case M103 (dummy) has no primer recess or vent.

f. Propelling Charge. The cartridge cases contain 0.08 pound approximately of single-base (nitrocellulose) or of double-base (nitrocellulose-nitroglycerin) propellant of the modified spherical type commonly referred to as Western Ball propellant. See paragraph 69 for more detailed information.

g. Primer. The electric primer M52A3B1 is used with the service cartridges. The electric primer M52A3 or the M52A5 is used with the HPT cartridge. See paragraphs 71 through 73 for more detailed information.

h. Disintegrating Belt Cartridge Links.

(1) *General.* Cartridge links for the 20-mm aircraft guns are considered as ammunition components and shall be listed in Department of the Army Supply Manual 9-5-1305/United States Air Force Stock List 1300.

(2) *For ammunition for 20-mm guns M39 and M39A1.* Belts for either the right or left hand feeder assemblies utilized for either the gun M39 or M39A1 are made up of the cartridge link T61E3 (fig. 10). The nomenclature is as follows:

LINK, CARTRIDGE: disintegrating belt, 20-mm, T61E3. The belting procedure for right or left hand feed is the same, except that, in belting for right hand feed, the connecting eye is removed from the link of the first round. For belting procedure, see TM 9-2310/TO 11W1-12-3-11.

(3) *For ammunition for 20-mm gun M61.* Belts for the gun feeder M1 (T8E1) utilized with the gun M61 are made up of the cartridge link T76 (fig. 11). The nomenclature is as follows:

LINK, CARTRIDGE: disintegrating belt, 20-mm, T76.

i. Packing and Shipping Data. The cartridges for the 20-mm guns M39, M39A1, and M61 are packed in both bulk and functional-type packing. The primary bulk pack is 50 rounds in a can with two cans overpacked into a wooden box. The functional pack of cartridges for the guns M39 and M39A1 contains 28 rounds in a disintegrating belt made up of cartridge links T61E3, packed into a metal can. These cans are overpacked in a wooden box. The functional pack of cartridges for the gun M61 contains 27 rounds in a disintegrating belt made up of cartridge links T76, packed into a metal can. These cans are overpacked in a wooden box. Packing and shipping data appear in Department of the Army Supply Manual 9-5-1305/United States Air Force Stock List 1300. Packing and marking for shipment is described in paragraph 12.

54. Cartridge, 20 Millimeter: Electric, Armor-Piercing-Incendiary, T221E3

a. General. This cartridge is for use against armored targets, functioning with a combined incendiary and penetration effect. The body of the projectile is solid shot made from bar alloy steel. The nose, which is made of aluminum alloy, is charged with three separately pressed increments of incendiary composition weighing a total of 80 grains. The nose is sealed with a closure disk. A steel adapter is crimped into the annular grooves in the projectile body; the adapter receives the base portion of the nose and is crimped so as to allow the conical base of the closure disk to seat on the tip of the projectile body. This cartridge does not require a fuze, as functioning is initiated by impact of nose upon target. The cartridge case M103 and the electric primer M52A3B1 are used in this cartridge. A cellulose case vent seal is assembled in the primer recess between the vent and the primer.

b. Data.

Weight of complete round	0.57 lb.
Weight of projectile, as fired	0.22 lb.
Length of complete round	6.615 in. (max.)
Length of projectile	2.98 in.
Length of cartridge case	4.015 in.
Width of rotating band	0.203 in.
Type of base	square

55. Cartridge, 20 Millimeter: Electric, Armor- Piercing-Incendiary, T221E3, Steel Case

This cartridge is identical with the cartridge described in paragraph 54, except that this round is assembled with the cartridge case M103B1 (steel) instead of the cartridge case M103 (brass). The steel cartridge case is approximately 0.01 pound lighter than the brass case.

56. Cartridge, 20 Millimeter: Electric, Ball, M55

This cartridge is replaced by the cartridge M55A1 (pars. 57 and 58) for use in practice firing. The projectile of this cartridge is used in the 20-mm dummy cartridge M51 (par. 62). The cartridge was developed as the target practice cartridge T199; upon being standardized, the designation was changed to "ball." The projectile of this cartridge differs from the projectile of the cartridge M55A1 of current manufacture (par. 57) in material, inner contour, and rotating band seat. The body is steel but of a different composition than that of the body in the M55A1. The cavity in the body is in the form of a cylinder as shown in figure 14. The shape of the rotating band seat and the design of the nose, which is secured to the body by swaging, do not insure that the metal parts are as securely fastened together as in the current cartridge M55A1. In some projectiles for the cartridge M55, the nose may be screwed to the body. The cartridge case M103 and the electric primer M52A3 are used in the cartridge M55.

57. Cartridge, 20 Millimeter: Electric, Ball, M55A1

a. *General.* This cartridge (fig. 12) is for use in practice firing; prior to standardization of the basic model, this type of cartridge was referred to as a target practice (TP) cartridge. The nomenclature has been changed to "ball" in order to have the designation conform to the small-arms system. The projectile of this cartridge consists of body, nose, and rotating band. The body is made of steel; it is hollow and contains no filler. The nose, which may be assembled to the body with screw threads and a thermosetting resin or keyed to the body by swaging, is made of aluminum alloy and is solid. The cartridge M55A1 of current production, which replaces the cartridges M55 and M55A1 of earlier design, incorporates several improvements in the design of the projectile. These include better steel for the body, a modified (double-undercut) rotating band seat, and metal parts more securely fastened together. The cartridge case M103 loaded with approximately 0.084 pound of double-base (Western Ball) propellant and the electric primer M52A3B1 are used in the cartridge M55A1. A cellulose case vent seal is assembled in the primer recess, between vent and primer. Early production of the cartridge M55A1 may contain the electric primer M52A3 and no case vent seal and the propellant may be single-base (nitrocellulose).

b. Data.

Weight of complete round	0.56 lb.
Weight of projectile, as fired	0.22 lb.
Length of complete round	6.615 in. (max.)
Length of projectile	2.98 in.
Length of cartridge case	4.015 in.
Width of rotating band	0.203 in.
Type of base	square

58. Cartridge, 20 Millimeter: Electric, Ball, M55A1, Steel Case

This cartridge is identical with the cartridge described in paragraph 56, except that this round is assembled with the cartridge case M103B1 (steel) instead of the cartridge case M103 (brass). The steel cartridge case is approximately 0.01 pound lighter than the brass case.

59. Cartridge, 20 Millimeter: Electric, HEI, M56 (T198), W/Fuze, PD, M505

This cartridge is replaced by the cartridge M56A1 (pars. 60 and 61) for use for detonative and incendiary effect against aircraft and light materiel targets. The projectile of this cartridge differs from the projectile of the cartridge M56A1 in material of the body, rotating band seat, and method of attaching the base cover to the projectile body. The steel from which the body is made is a different composition from that of the M56A1 body, the rotating band seat is not double-undercut, and the base cover is welded to the base. The cartridge case M103 and the electric primer M52A3 are used in the cartridge M56.



D-2

Figure 12. Cartridge, 20 millimeter: electric, ball, M55A1.

**60. Cartridge, 20 Millimeter: Electric, HEI,
M56A1 (T198E1), W/Fuze, PD, M505**

a. General. This cartridge (fig. 13) is for use against aircraft and light materiel targets, functioning with both detonative and incendiary effect. The projectile body is a steel, relatively thin-walled casing. The weight of the incendiary composition, which is MOX-2B, is 0.26 pound. The total weight of explosive is 0.03 pound, composed of 0.026-pound MOX-2B and 0.004-pound RDX. The RDX explosive is loaded between the base of the fuze and the incendiary composition which occupies the rest of the interior of the projectile body. The thickness of the base of the projectile is approximately 0.21 inch and the base cover is crimped thereon for additional safety. Upon impact, the charge is functioned with a combined detonative and incendiary effect. Functioning is initiated by the PD fuze M505, an instantaneous fuze of the impact type, which is described in paragraph 66. The PD fuze M505E1 which is described in paragraph 67 may be used instead of the fuze M505. The cartridge case M103, loaded with approximately 0.083 pound of double base (Western Ball) propellant, and the electric primer M52A3B1 are used in the cartridge M56A1. A cellulose case vent seal is assembled in the primer recess, between vent and primer.

b. Data.

Weight of complete round.....	0.56 lb.
Weight of projectile, as fired.....	0.22 lb.
Length of complete round.....	6.615 in. (max.)
Length of fuzeed projectile.....	3.025 in.
Length of cartridge case.....	4.015 in.
Width of rotating band.....	0.203 in.
Type of base.....	square

**61. Cartridge, 20 Millimeter: Electric, HEI,
M56A1, Steel Case, W/Fuze, PD, M505**

This cartridge is identical with the cartridge described in paragraph 60, except that this round is assembled with the cartridge case M103B1 (steel) instead of the cartridge case M103 (brass). The steel cartridge case is approximately 0.01 pound lighter than the brass case.

62. Cartridge, 20 Millimeter, Dummy: M51 (T228)

a. General. This cartridge (fig. 14) is a completely inert assembly that is used for drill purposes and for testing the feeder assembly of the weapon. The service cartridge is simulated by assembling the projectile of the ball cartridge M55 (par. 56) or M55A1 (par. 57) with the cartridge case M103 (dummy). The cartridge case contains approximately 0.086 pound of inert material in order to produce an average overall weight equal to that of the service cartridges.

b. Data.

Weight of complete round.....	0.56 lb.
Length of complete round.....	6.615 in. (max.)
Length of cartridge case.....	4.015 in.

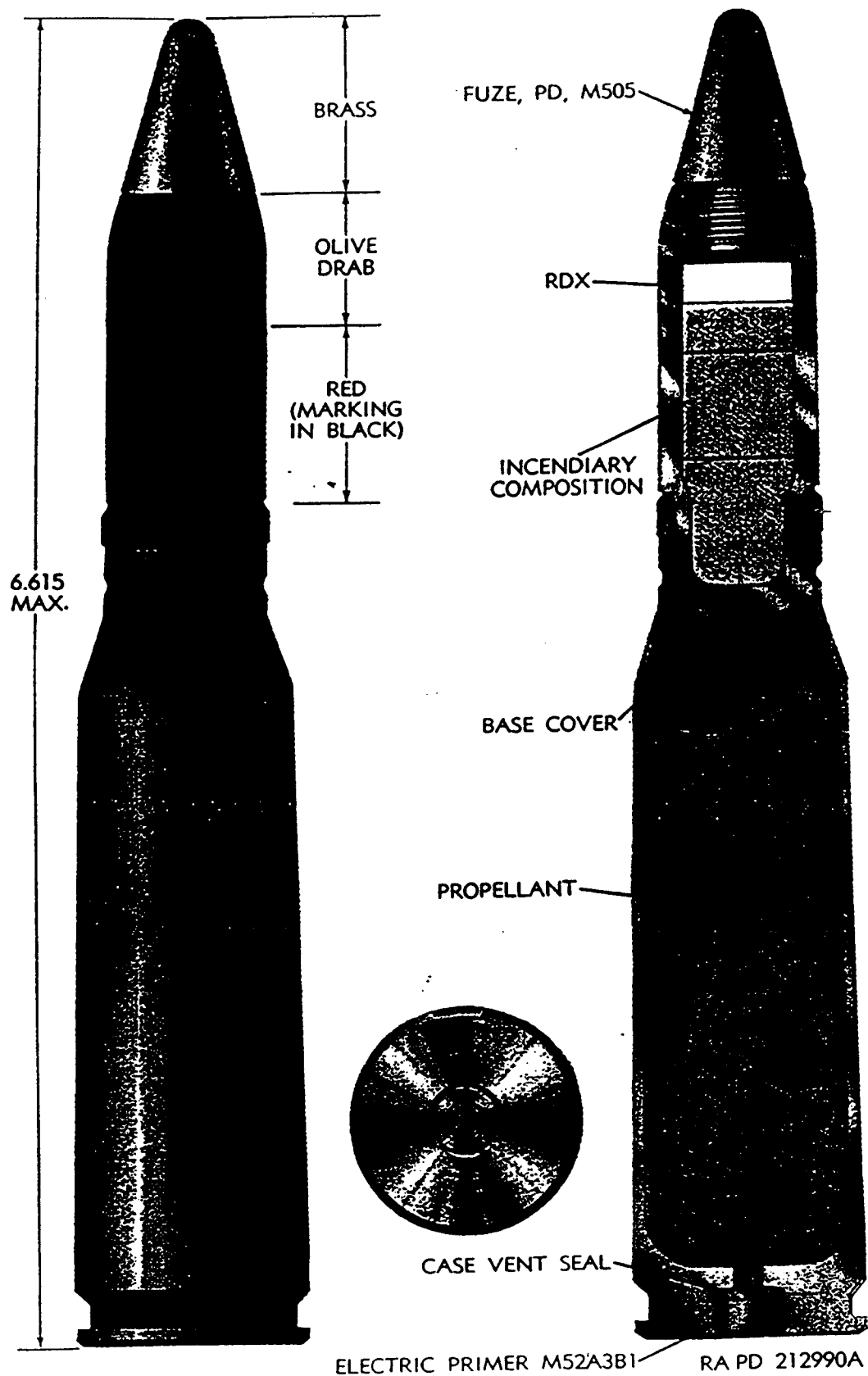


Figure 13. Cartridge, 20 millimeter: electric, HEI, M56A1 (T198E1), w/ fuze, PD, M505.

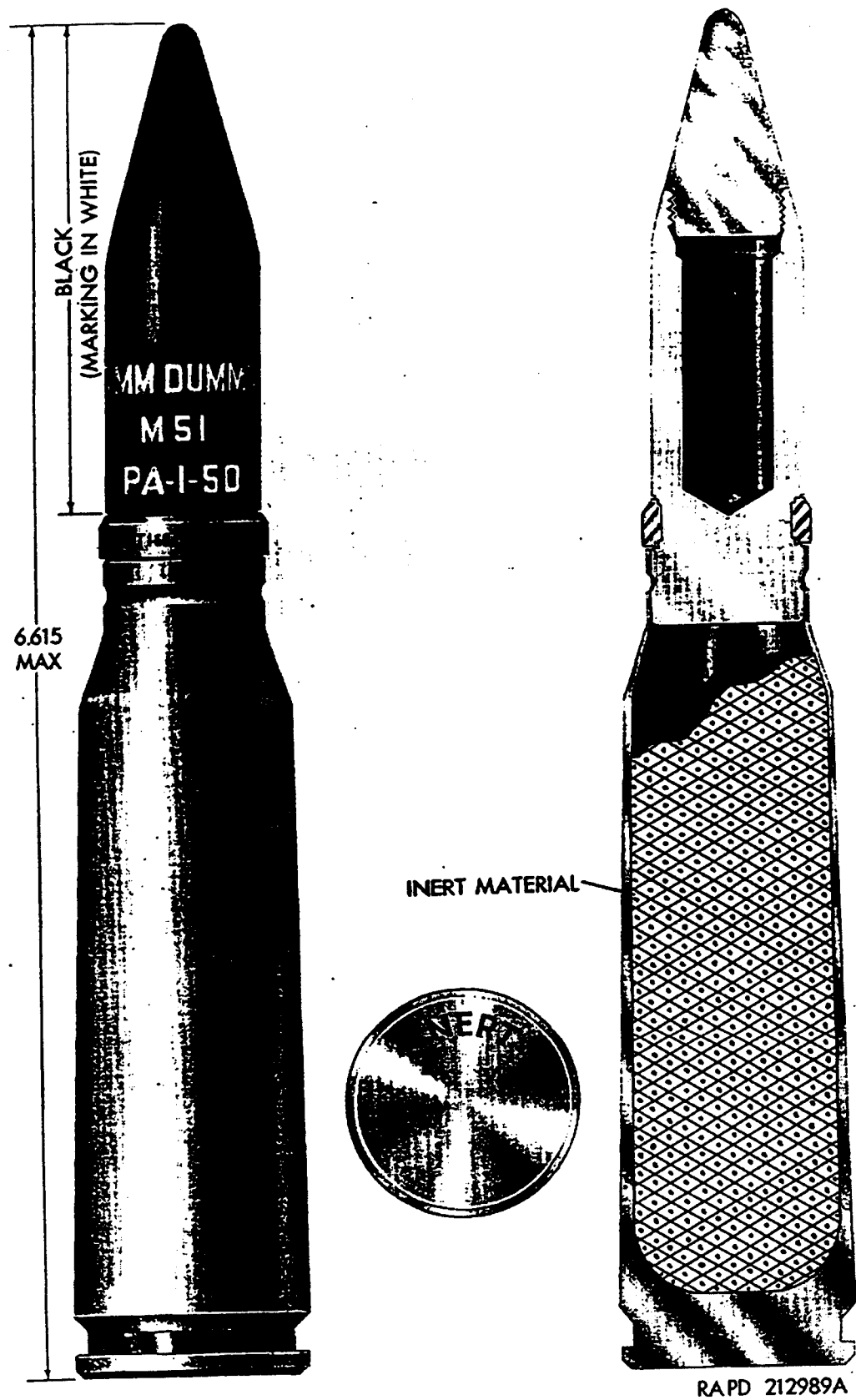


Figure 14. Cartridge, 20 millimeter, dummy: M51 (T228).



D-2

Figure 15. Cartridge, 20 millimeter: electric, test, high-pressure, M54 (T156).

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

APPENDIX E

REPORTS/STUDIES

APPENDIX E

REPORTS/STUDIES

Table of Contents

E-1. INPR, 6 July 1994 (B-16).

E-2. Report of Federal and State Rare and Endangered Species in San Diego County, California, 2 July 1996 (B-19).

E-3. Report of Cultural Resources Present on former Borrego Hotel Lands, 10 October 1996 (B-20).

SITE SURVEY SUMMARY SHEET
FOR
DERP-FUDS SITE NO. J09CA701100

BORREGO SPRINGS
BORREGO SPRINGS, CALIFORNIA
6 JULY 1994

SITE NAME: Borrego Springs, California (includes: Army - Borrego Maneuver Area, Navy - Benson Dry Lake, Navy - Borrego Hotel, Navy - Borrego Military Wash, Navy - Clark's Dry Lake, and Marines - Camp Ensign).

LOCATION: The majority of the site is located in the northern portion of Anza-Borrego Desert State Park. The Park is located in eastern San Diego County, west and southwest of the Salton Sea, California. The overall general area consists of desert terrain and dry lakes.

SITE HISTORY: The Borrego Springs site was a composite of several sub-sites within or immediately adjacent to the boundaries of the Anza-Borrego Desert State Park. Sub-sites that were formerly utilized by the Army, Navy or Marines include: Borrego Maneuver Area, Benson Dry Lake, Borrego Hotel, Borrego Military Wash, Clark's Dry Lake, and Camp Ensign. Each of these areas are discussed separately below.

Army - Borrego Maneuver Area The Borrego Maneuver area comprised of approximately 400 square miles of park land. The northern boundary extended to the Riverside County line, the eastern boundary was U.S. Highway 99, the southern boundary was State Highway 78, and the western boundary was a north-south line through Borrego P.O. The property was acquired by the Department of the Army through a Use Permit with the State of California dated 10 March 1942. This permit exempted three areas: portion of Township 9 South, Range 9 East, lying between U.S. Highway No. 99 and the Santa Rosa Mountains (this area is an Indian Reservation); Benson's Dry Lake lying north of Ocotillo (Naval landing field); and area adjacent to western boundary on which houses, fences and other improvements have been erected. It is not clear if private properties were also exempted. Records indicate the majority of the Maneuver area was returned to the State of California during the end of 1944.

The Department of the Army conducted extensive logistical preparations to build roads in the area but reportedly did not use the area as extensively as originally intended. Reported uses of the area by the Army included: force-on-force maneuvers (limited number of excursions) and anti-aircraft training for troops stationed at Camp Callan (San Diego, California). Historical references to the locations where Army training activities were conducted in the Borrego Maneuver area were vague. Areas used by the Army specifically identified in the documents include Coyote Canyon, the north face of Borrego Mountain, Borrego Military Wash, south of Borrego Sink, Yaqui Pass, Fish Creek Mountain, Carrizo Canyon, and Blair Valley.

According to Jim Walker, OEW expert with the Army Corps of Engineers, the Army Maneuver Area has relatively high potential for ordnance hazards. Based on the area's history and reports of recovered ordnance, possible ordnance in the area includes: medium/large caliber arms (armor piercing), 100-pound practice bombs, 2 to 6 inch rockets, and various small arms (0.22 to .50 caliber).

Navy - Borrego (Military) Wash (inside the boundary of the Army's Borrego Maneuver Area) - This area lies approximately three miles due north of the town of Ocotillo Wells and Benson Dry Lake. No records were found that indicated the size of the property or when the Department of the Navy acquired it. Nevertheless, this property was located within the Borrego Maneuver Area which was acquired from the State of California by the Department of the Army in 1942.

According to the Navy records this area was used for level bombing. This was confirmed by ordnance fragments from both 100- and 250-pound bombs. The Navy and/or Army also used this area for aircraft gunnery practice as evidenced by the heavy concentration of 20mm and 0.50-caliber projectiles and clips and 2.75-inch rockets. The collapsed remains of two rake stations are present at Military Wash, only the concrete-reinforced platforms remain.

North and east of the rake stations is a feature on the desert floor which consists of an east-west lineament running for about one to two miles. This feature may possibly have been the site of railroad tracks along which a target was either pulled or was self-driven. A heavy concentration of ordnance was found along this lineament. A large metal structure (8 feet by 8 feet) was located in Fault Wash (about 0.5 miles south west of the first rake station) and appears to have been a target.

Mr James Walker, OEW expert with the Army Corps of Engineers, noted that while all of the ordnance observed on this site visit presented no immediate danger, there was a distinct possibility that there could be a definite hazard presented by live ordnance that was either unobserved or buried. A week after the site visit to the area, State Park Ranger, Mr. Homer Townsend reported that the Army's 70th Ordnance Detachment for Explosive Ordnance Disposal (EOD) was sent to the intersection of Palo Verde Wash Road and Short Wash Road (approximately 3.5 miles north of the Military Wash site) and disposed of a high explosive 40mm round (Appendix 3 of 3, Section 5). Additional inquiries concerning ordnance were made to the San Diego Sheriff's Department, Borrego Springs Fire Department, former Yuma EOD contacts at the Yuma Proving Ground, and to Marine Corps EOD at Camp Pendleton. The contacts indicated that numerous sightings of various ordnance have been found at the site. The predominant type of ordnance recalled to be found in the area includes: practice bombs, spent small arms (0.50 caliber and 20mm), and some unidentified high explosive rockets or bombs. This area, in particular, is considered to be a high risk area for remaining ordnance.

Navy - Clark's Dry Lake (inside the boundary of the Army's Borrego Maneuver Area) - Clark's Dry Lake consisted of 640 acres located in Section 5, T10S, R7E. This section comprises most of the southeastern corner of the dry lake. The property was acquired by the Department of the Navy through Declaration of Taking dated 25 October 1943. This property was declared surplus on 30 November 1955. Ownership of the property was transferred to Bart J. Comer, through a Deed of Trust, on 21 September 1956. The property was subsequently granted to the State of Maryland for use as a radar telescope site. During the late 1980s the property was transferred to the State of California to be incorporated into Anza-Borrego State Park.

The Navy referred to it's installation at Clark's Dry Lake as an outlying field or as an emergency landing field, although it's primary function was as a target for practice bombing. Navy records alternatively describe it as a level bombing target and as a dual-purpose level and dive bombing target. The field was the responsibility of the Naval Auxiliary Air Station (NAAS) at Salton Sea. The NAAS-Salton Sea reported through the Naval Air Station - San Diego to the 11th Naval District headquartered in San Diego, California.

The facility included a target, two dirt landing strips, a wind sock and two bomb-proof rake stations. The target was constructed of stones placed in concentric circles and a majority of it was still intact. The landing strips consisted of sections of the desert floor that were cleared of brush. No pavement was installed, and evidence of these landing strips was not found during the site visit. The rake stations consisted of a reinforced concrete slab, three-feet thick by twelve-feet square, resting on four reinforced concrete pillars. Remnants of the rake stations are still present, including the four pillar supports for each station.

According to Jim Walker, OEW expert with the Army Corps of Engineers, the most likely ordnance expected at this site would be practice bombs with spotting charges. Remnants of ordnance spotted during the site visit included corroded remains of 6-inch and 100-pound practice bombs and 20mm shells. One source quoted in Orrell's account reports (Appendix 3 of 3, Section 3) that the amount of ordnance around the target was quite abundant at one time but today the remaining ordnance is relatively small. Orrell reports that evidence of 2.75-inch training rockets were found but none were noted during the site visit.

Additional inquiries concerning ordnance were made to the Army's 70th EOD, Park Rangers, San Diego Sheriff's Department, San Diego Fire Department, the Borrego Springs Fire Department, Yuma Proving Ground, and the Marine Corps EOD at Camp Pendelton. No specific accounts of unexploded ordnance were identified, but access to this area was restricted to the general public until the last couple of years.

Navy - Benson Dry Lake (also known as Ocotillo Dry Lake) (just outside the southern boundary of the Army's Borrego Maneuver Area) - This area lies just outside the boundary of Anza-Borrego Desert State Park at the northeast corner of Highway 78 and Split Mountain Road. The property acquired consisted of four parcels totalling 353.11 acres. Two of the parcels, 160 acres (Marvin Ben Couch) and 85.21 acres (Elbert and Chesta Benson) were purchased by the Department of Defense (DOD) on 19 November 1940. The other two parcels, 80 acres (John Sheran et al) and 27.90 acres (Elaine L. Wright et al) were acquired through a Declaration of Taking (condemnation) on 20 March 1941.

The property was used by the Department of the Navy as a dive bombing target and an emergency landing field. Use of the property during World War II is documented. Post World War II use of the property is not clear from the documentation. The property was declared excess 20 December 1955. Disposal documents indicate that the property contained no improvements and was transferred to the County of San Diego on 17 August 1956. San Diego County currently owns the property and operates a small airport at the site.

While the real estate documents indicates that no improvements were constructed at the site, two remnants of stone-reinforced bunkers were observed on the small hills immediately east of the landing field. These structures provided excellent viewing areas of the landing field to the west and the Military Wash target area approximately 3 miles to the north. No other structures were noted during the site visit and no ordnance was found.

According to Jim Walker, OEW expert with the Army Corps of Engineers, the most likely ordnance expected at a former bombing target would be practice bombs with spotting charges. According to the Borrego Springs Fire Department a 20-pound practice bomb has been recovered from the area.

Navy - Borrego Hotel (also known as Halfhill Dry Lake) (Outside the boundary of the Army's Borrego Maneuver Area) - The area is located approximately 1.5 miles south on Split Mountain Road from the intersection of Highway 78 and Split Mountain Road. The subject property comprised of 160 acres that consist of the southeast 1/4 of Section 26 Township (T) 12 South (S) and Range (R) 8 East (E) was acquired from Elmo Rowland Livingston via Declaration of Taking, dated 10 July 1941. The property was declared excess and sold to Ray Formost on 6 September 1956. Currently, the property is owned by multiple private parties (only one owner shown).

This location was designated as a dive bombing target. In the general area was the former site of the "Little Miracle Hotel" (also referred to as the "Borrego Hotel"). The hotel was deserted in the 1930s. Today only the slab of the 14 room hotel exists. An abandoned water well lies west of the former hotel. No ordnance was found in the area and the only structure observed which could present a hazard was the exposed casing of the water

SITE NO. J09CA701100

well extending about two to three feet above ground level. Date of the well is unknown. The slab of former hotel is now used extensively by campers as a level area for their trailers.

According to Jim Walker, OEW expert with the Army Corps of Engineers, the most likely ordnance expected at a dive bombing area would be practice bombs with spotting charges, medium caliber arms (20mm target practice and possibly high explosives), and small arms (0.50 caliber).

Marines - Camp Ensign (just outside the western boundary of the Army's Borrego Maneuver Area) - The Ensign Ranch, known as Camp Ensign, is situated in the western portion of Borrego Springs, California. The intersection of Palm Canyon Drive and Borrego Springs Road defines the northeast corner of the former Camp. In 1943 Marines established a formal base at the Ensign Ranch. No real estate documents were found that identified the amount of acreage the camp consisted of. The historical map indicates that the camp consisted of sections 4, 9, and 16 of T11S, R6E (estimated from maps to be 1920 acres).

Camp Ensign reportedly consisted of a tented area for trainees and an unoccupied dwelling for use as headquarters near the open area where the tents were set up. The facility was used to train large numbers of Marines as truck drivers who were to be readied for combat duty in short order. It is possible that the destination for these drivers after training made practice in desert driving essential.

The area once occupied by Camp Ensign is now a residential area containing residences and large open areas. No evidence of the former camp now exists. Real estate records indicate that the area of the former camp is owned by numerous (estimated over 200) private parties.

SITE VISIT: The site was visited 26 February 1994 and 26 March 1994 by Robert A. Davis, Jr. of Groundwater Technology, Inc., San Diego, California. Jim Walker, OEW expert with the Army Corps of Engineers was present during the site visit on 26 March 1994. Site conditions encountered are detailed in the Field Trip Summary Sheet dated 22 April 1994.

CATEGORY OF HAZARD: OEW

PROJECT DESCRIPTION:

a) OEW: Recommend the Mandatory Center of Expertise (MCX) for OEW at Huntsville Division make a determination regarding further investigation at this site.

AVAILABLE STUDIES AND REPORTS:

Pacific Sierra Region, National Archives San Bruno, California - Limited files and maps on Benson Dry Lake, Borrego Hotel and Clark's Dry Lake

SITE NO. JC9CA701100

F.L. Orrell, recent Military Operations in the Anza-Borrego
Desert State Park, (a preliminary study of such activity from
1941 to 1959) 31 October, 1991 (Revised January 1992)

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

PROJECT SURVEY SUMMARY SHEET
FOR
DERP-FUDS OEW PROJECT NO. J09CA701104

BORREGO SPRINGS
BORREGO SPRINGS, CALIFORNIA
SITE NO. J09CA701100
6 JULY 1994

PROJECT DESCRIPTION: During World War II the Department of the Army, the Department of the Navy, and the Marines used sections of the Anza-Borrego Desert State Park and/or private property in the Borrego Springs area for military purposes. The area was used for multiple purposes which include: force-on-force maneuvers, anti-aircraft training, various kinds of bombing targets, emergency landing fields, and training camps.

The majority of the acreage acquired by the Department of Defense (DOD) entailed 400 square miles that constituted the Army's Maneuver Area. The Maneuver Area included acreage that the Navy used at Borrego Military Wash (acreage unknown) and Clark's Dry Lake (640 acres). Finally, the Marines acquired an undetermined amount of property (calculated 1920 acres) known as Camp Ensign.

Navy - Borrego Hotel (also known as Halfhill Dry Lake) property acquired by the Navy included Benson Dry Lake (353.11 acres) and Borrego Hotel (160 acres). (outside the boundary of the Army's Borrego Maneuver Area) This site was used as a dive bombing target. Expected possible ordnance in the area would be practice bombs, medium caliber arms, and small arms. No remnants of ordnance were spotted during the site visit. Additionally, no reported ordnance has been spotted in the area. According to the Borrego Springs Fire Department most of the ordnance recovered in the Borrego Springs area has been north of Highway 78.

None of the historical records revealed what kinds of clearance activities were conducted in the area, if any. However, reported accounts and visual inspection of the property revealed that various types of ordnance has been found, including live rounds. Agencies and personnel contacted concerning ordnance in the area included Jim Walker, OEW expert with the Army Corps of Engineers; Anza-Borrego State Park Rangers; Army 70th Ordnance Detachment, Explosive Ordnance Disposal (EOD); San Diego Sheriff's Department; San Diego Fire Department; Borrego Springs Fire Department; Yuma Proving Ground; and the Marine Corps EOD at Camp Pendelton.

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

BORREGO SPRINGS
BORREGO SPRINGS, CALIFORNIA
SITE NO. J09CA701100

FINDINGS OF FACT

1) During the early 1940s the Army, Navy, and Marines acquired authorization to use six locations in the vicinity of Borrego Springs as primarily bombing targets and/or landing fields. Not all the real estate information was available, but the research conducted indicates that the property was acquired as follows. The largest area of property acquired consisted of the Army's Borrego Maneuver Area. The Maneuver Area consisted of 400 square miles (calculated 256,000 acres) that were acquired from the State of California via a Use Permit dated 10 March 1942. This permit exempted three areas: portion of Township 9 South, Range 9 East, lying between U.S. Highway No. 99 and the Santa Rosa Mountains (this area is an Indian Reservation); Benson's Dry Lake lying north of Ocotillo (Naval landing field); and area adjacent to western boundary on which houses, fences and other improvements have been erected. It is not clear if private properties were also exempted. Two of the Navy's properties were located within the Army's property and included: Borrego Military Wash and Clark's Dry Lake. No records were found that indicated the size of Borrego Military Wash or when the Department of the Navy acquired it. Clark's Dry Lake consisting of 640 acres was acquired from private parties through a Declaration of Taking dated 25 October 1943. Two additional Navy areas included Benson Dry Lake (353.11 acres) and Borrego Hotel (160 acres) and were acquired from private parties. Benson Dry Lake consisted of four parcels. Two of the parcels, 160 acres (Marvin Ben Couch) and 85.21 acres (Elbert and Chesta Benson) were purchased by the Department of Defense (DOD) on 19 November 1940. The other two parcels, 80 acres (John Sheran et al) and 27.90 acres (Elaine L. Wright et al) were acquired through a Declaration of Taking (condemnation) on 20 March 1941. Borrego Hotel was acquired from Elmo Rowland Livingston via Declaration of Taking, dated 10 July 1941. Finally, the Marines acquired an undefined amount of acreage (calculated 1920 acres) in the town of Borrego Springs known as Camp Ensign.

2) The Department of the Army acquired 400 square miles for use in force-on-force maneuvers and anti-aircraft training for troops stationed in the San Diego area. However, records indicate that the Army's use of the area may have been less than originally planned for. Referenced improvements to the Maneuver Area primarily included roads. The Navy sites were predominantly used as various bombing targets and emergency landing strips. Emergency landing strips were installed by the Navy at Benson Dry Lake and Clark's Dry Lake. Expected and or observed military improvements at the bombing targets include: remains of rake stations, remains of mobil target tracks, and remains of targets. The Marine site was reportedly used as a tent camp for trainees

from the San Diego area. No references of permanent structures or improvements were found for Camp Ensign.

3) Documentation detailing the Department of Defense (DOD) disposal activities were not available for all the sites. The records found indicated that the majority of the properties were relinquished during the 1950s. The 400 square miles which constituted the Maneuver Area were predominantly relinquished back to the State of California. Currently, the State of California owns this property as part of the Anza-Borrego Desert State Park. The 540 acres which comprises Clark's Dry Lake was transferred to Bart J. Comer, through a Deed of Trust, on 21 September 1956. The property was subsequently granted to the State of Maryland for use as a radar telescope site. During the late 1980s the property was transferred to the State of California to be incorporated into Anza-Borrego State Park. The 353.11 acres which constituted Benson Dry Lake was relinquished to the County of San Diego for use as a municipal airport. Disposal documents for Benson Dry Lake indicate that the property contained no improvements and was transferred to the County of San Diego on 17 August 1956. The 160 acres which comprised the former Borrego Hotel was declared excess and sold to Ray Formost on 6 September 1956. The former site of Borrego Hotel is currently owned by multiple private parties but only one owner is identified on the records. Site specific real estate records were not available for Camp Ensign. However the real estate records indicate that the undefined amount of acreage (calculated 1920 acres) which constituted Camp Ensign were sold to private parties and have subsequently been subdivided and are owned by multiple private parties.

DETERMINATION

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

17 Jan 95

Date

for DEPitt col
BRUCE K. SCOTT
Brigadier General, U.S. Army
Commanding

Listed Species in SAN DIEGO County

COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS
CALIFORNIA BROWN PELICAN	PELECANUS OCCIDENTALIS CALIFORNICUS (NESTING COLONY)	Endangered	Endangered
CALIFORNIA BLACK RAIL	LATERALLUS JAMAICENSIS COTURNICULUS	Sp of Concern (C2)	Threatened
LIGHT FOOTED CLAPPER RAIL	RALLUS LONGIROSTRIS LEVIPES	Endangered	Endangered
WESTERN SNOWY PLOVER	CHARADRIUS ALEXANDRINUS NIVOSUS	Threatened	None
CALIFORNIA LEAST TERN	STERNA ANTILLARUM BROWNI	Endangered	Endangered
WESTERN YELLOW BILLED CUCKOO	COCCYZUS AMERICANUS OCCIDENTALIS	None	Endangered
WILLOW FLYCATCHER	EMPIDONAX TRAILLII	None	Endangered
BANK SWALLOW	RIPARIA RIPARIA	None	Threatened
CALIFORNIA GNATCATCHER	POLIOPTILA CALIFORNICA	Threatened	None
LEAST BELLS VIREO	VIREO BELLII PUSILLUS	Endangered	Endangered
BELDINGS SAVANNAH SPARROW	PASSERCULUS SANDWICHENSIS BELDINGI	Sp of Concern (C2)	Endangered
DESERT PUFFFISH	CYPRINODON MACULARIUS	Endangered	Endangered
TIDEWATER GOBY	EUCYCLOGOBIUS NEWBERRYI	Endangered	None
UNARMORED THREESPINE STICKLEBACK	GASTEROSTEUS ACULEATUS WILLIAMSONI	Endangered	Endangered
PACIFIC POCKET MOUSE	PEROGNATHUS LONGIMEMBRIS PACIFICUS	Endangered	None
STEPHENS KANGAROO RAT	DIPODOMYS STEPHENSI	Endangered	Threatened
PENINSULAR BIGHORN SHEEP	OVIS CANADENSIS CREMNOBATES	Proposed Endangered	Threatened
BAREFOOT BANDED GECKO	COLEONYX SWITAKI	Sp of Concern (C2)	Threatened
ARROYO SOUTHWESTERN TOAD	BUFO MICROSCAPHUS CALIFORNICUS	Endangered	None
RIVERSIDE FAIRY SHRIMP	STREPTOCEPHALUS WOOTTONI	Endangered	None
SAN DIEGO BUTTON-CELERY	ERYNGIUM ARISTULATUM VAR PARISHII	Endangered	Endangered
ENCINITAS BACCHARIS	BACCHARIS VANESSAE	Proposed Endangered	Endangered
OTAY TARPLANT	HEMIZONIA CONJUGENS	Proposed Endangered	Endangered
MOHAVE TARPLANT	HEMIZONIA MOHAVENSIS	Sp of Concern (C2*)	Endangered
LAGUNA MTNS ASTER	MACHAERANTHERA ASTEROIDES VAR LAGUNENSIS	Sp of Concern (C2)	Rare
GANDER'S RAGWORT	SENECIO GANDERI	Sp of Concern (C2)	Rare
SLENDER-POD JEWELFLOWER	CAULANTHUS STENOCARPUS	Sp of Concern (C2)	Rare
GAMBEL'S WATERCRESS	RORIPPA GAMBELLII	Endangered	Threatened
CUYAMACA LAKE DOWNINGIA	DOWNINGIA CONCOLOR VAR BREVIOR	Proposed Endangered	Endangered
SHORT-LEAVED DUDLEYA	DUDLEYA BLOCHMANIAE SSP BREVIFOLIA	Proposed Endangered	Endangered
PEIRSON'S MILK-VETCH	ASTRAGALUS MAGDALENAE VAR PEIRSONII	Proposed Endangered	Endangered
COASTAL DUNES MILK-VETCH	ASTRAGALUS TENER VAR TITI	Proposed Endangered	Endangered
SAN DIEGO THORN MINT	ACANTHOMINTHA ILICIFOLIA	Proposed Endangered	Endangered
WILLOWY MONARDELLA	MONARDELLA LINOIDES SSP VIMINEA	Proposed Endangered	Endangered
SAN DIEGO MESA MINT	POGOGYNE ABRAMSII	Endangered	Endangered
OTAY MESA MINT	POGOGYNE NUDIUSCULA	Endangered	Endangered
PARISH'S MEADOWFOAM	LIMNANTHES GRACILIS SSP PARISHII	Proposed Threatened	Endangered
ORCUTT'S SPINEFLOWER	CHORIZANTHE ORCUTTIANA	Proposed Endangered	Endangered
CUYAMACA LARKSPUR	DELPHINIUM HESPERIUM SSP CUYAMACAE	Sp of Concern (C2)	Rare
SMALL-LEAVED ROSE	ROSA MINUTIFOLIA	Sp of Concern (C2)	Endangered
BORREGO BEDSTRAW	GALIUM ANGUSTIFOLIUM SSP BORREGOENSE	Sp of Concern (C2)	Rare
SALT MARSH BIRD'S-BEAK	CORDYLANTHUS MARITIMUS SSP MARITIMUS	Endangered	Endangered
MEXICAN FLANNELBUSH	FREMONTODENDRON MEXICANUM	Proposed Endangered	Rare
DEHESA NOLINA	NOLINA INTERRATA	Proposed Threatened	Endangered

THREAD-LEAVED BRODIAEA
DUNN'S MARIPOSA LILY
CALIFORNIA ORCUTT GRASS

Totals

20 Animals

27 Plants

Return to species by county.

rev:07/08/96

BRODIAEA FILIFOLIA
CALOCHORTUS DUNNII
ORCUTTIA CALIFORNICA

Proposed Threatened	Endangered
Sp of Concern (C2)	Rare
Endangered	Endangered



South Coastal Information Center
Social Science Research Laboratory
College of Arts and Letters
San Diego State University
5500 Campanile Drive
San Diego CA 92182-4537

(619) 594-5682

October 10, 1996

L. Dauphin
SIOAC-ESL
Director
USADACS
Savanna, IL 61074-9639

Dear Mr. Dauphin,

We have conducted a records search as per your request for the Borrego Hotel and Benson Dry Lake project located on the Borrego Mountain SE, Borrego Mountain, and Shell Reef USGS 7.5-minute quadrangle maps in San Diego County.

There is one prehistoric habitation site within one mile of your Borrego Hotel project area. There are eight sites within one mile of your Benson Dry Lake project area. They are made up of, habitation sites, food processing sites, and possible manufacturing and/or procurement sites.

The cultural resources present in the above project areas may require significant mitigation if they are to be utilized. Cultural resources are nonrenewable and often easily damaged; their scientific and aesthetic values are significantly impaired by disturbance.

Federal law allows us to release our record search information to only the following qualified individuals: archaeologists, architects or historians. Because there are cultural resources in your project area we recommend that you contact a qualified archaeologist to review this record search.

Your qualified professional can receive the site maps and the site forms by sending us a letter, at the above address, requesting the information. The qualified professional will also need to include their vitae or resume, and a copy of the Agreement of Confidentiality which is enclosed. Be sure to give the project name and who the requested the search in the letter. Please let us know when we can be of further service.

Sincerely,

A handwritten signature in black ink, appearing to read "Gabrielle Jamison", is written over the typed name.

Gabrielle Jamison
Research Assistant
South Coastal Information Center
San Diego State University

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

APPENDIX F

LETTERS/MEMORANDUMS/MISCELLANEOUS ITEMS

APPENDIX F

LETTERS/MEMORANDUMS/MISCELLANEOUS ITEMS

Table of Contents

- F-1. Memorandum Concerning the Acquisition of Auxiliary Landing Fields in the Vicinity of San Diego, California, 7 September 1940 (B-21).
- F-2. Memorandum Concerning the Long Range Development of Outlying Fields, 27 January 1941 (B-22).
- F-3. Memorandum, U.S. Naval Air Station, San Diego, California, 13 March 1941, subject: Navy Operating Areas in Borrego and Imperial Valleys, NARA, Pacific Southwest, RG 181, Box 38 (B-23)
- F-4. Department of Commerce Chart Citing Civil and Military Airports, 1 December 1942 (B-24).
- F-5. Circular Letter Concerning Naval Operations in the Aircraft Southern California Sector, Western Sea Frontier, 24 August 1944 (B-25).
- F-6. Memorandum Pertaining to the Numbering of Naval Land and Water Targets, 23 April 1945 (B-26).

C O P Y

7 September 1940.

Op-30D-MG
NA11/N1-9(400708)
Serial 232930

4th Endorsement

From: Chief of Naval Operations.
To: Secretary of the Navy (Judge Advocate General).
Subject: Acquisition of auxiliary landing fields in the
vicinity of San Diego, California (Ltr. Comdt.
11ND N1-13/N1-9 (Serial P-889), dated 15 Aug.
1940).

1. Forwarded, concurring in the recommendations
of the Chief of the Bureau of Aeronautics and the Chief
of the Bureau of Yards and Docks, in the second and third
endorsements, that appropriate action be taken to acquire
the eleven fields described in the basic letter.

C.C.Hartigan

C. C. HARTIGAN,
By Direction

Copy to: BuAer
BuY&D

F-1

C O P Y

Aer-F-2-PMQ
N1-9/NA11

September 3, 1940

2nd Endorsement

From: The Chief of the Bureau of Aeronautics.
To: The Chief of Naval Operations.
Via: The Chief of the Bureau of Yards and Docks.
SUBJECT: Acquisition of auxiliary landing fields
in the vicinity of San Diego, California.

1. Forwarded.

2. The present plans of this Bureau are to acquire the outlying fields used at the Naval Air Station, San Diego. An item of \$251,000 for this purpose is indicated in the sum appropriated for the development of the Naval Air Station, San Diego by H. R. 1005.

3. It is noted in the enclosure to the basic letter that the fields listed consist of eleven outlying fields in seventeen parcels of land. It is recommended that appropriate action be taken to acquire the eleven fields described in the basic letter.

J. H. Towers

J. H. TOWERS
Rear Admiral U.S.N.
Chief of the Bureau of Aeronautics

Q Q E Y

September 5, 1940

ND11/N1-13

3rd Endorsement

From: Chief of the Bureau of Yards and Docks
To: Judge Advocate General,
Via: Chief of Naval Operations.
Subject: Acquisition of auxiliary landing fields in
the vicinity of San Diego, California--Letter
from Commandant, Eleventh Naval District,
N1-13/N1-9 (Serial F-339), dated August 15,
1940.

1. Forwarded. The Bureau of Yards and Docks,
concurs in the recommendation of the Bureau of Aeronautics
contained in the Second Endorsement.

2. Upon receipt of information as to the cost, this
Bureau will prepare the necessary accounting requisition to
provide a check for payment of these properties.

L.B.Combs

L. B. Combs
Assistant to Chief of Bureau
by direction

CC - Bureau of Aeronautics

F-1

DEPARTMENT OF THE NAVY
U O P Y

IN REPLY ADDRESS
JUDGE ADVOCATE GENERAL OF THE NAVY
AND REFER TO NO.

NA11/NI-9(400708)U

DEPARTMENT OF THE NAVY
OFFICE OF THE JUDGE ADVOCATE GENERAL
WASHINGTON, D. C.

August 23, 1940

First Endorsement

From: The Judge Advocate General of the Navy
To: The Chief of Naval Operations
Via: 1. The Chief of the Bureau of Aeronautics
2. The Chief of the Bureau of Yards and Docks
Subject: Acquisition of auxiliary landing fields
in the vicinity of San Diego, California.
1. Comment and recommendation are requested with
return of papers.
2. Information is requested as to whether all of
the auxiliary fields listed herein are recommended to be
acquired for naval aviation purposes.

C. F. Martin

C. F. Martin
By direction

Commandant's Office
ELEVENTH NAVAL DISTRICT
San Diego, California

August 13, 1940

Serial P-889)

FROM: The Commandant.
To: The Judge Advocate General.
SUBJECT: Acquisition of auxiliary landing fields in the vicinity of San Diego, California.

References: (a) JAG's lettr. 1A11/NI-9 (400703)U, of August 6, 1940.
(b) Budoke's lettr. ND11/NI-13, June 20, 1940.
(c) Comeleven Des. 082301, of August 8, 1940.
(d) JAG's Des. 13A106, of August 13, 1940.

Enclosures: (A) List of auxiliary fields, showing owners, areas and prices asked.
(B) List of auxiliary landing fields giving best available description.

1. By reference (c) the Commandant was requested to furnish a complete description, together with names and addresses of the owners, of the respective lands selected to be acquired for the auxiliary landing fields. By reference (b) the Commandant was requested to furnish similar information, but in greater detail, for the "Rosedale" auxiliary landing field.

2. Enclosure (A) herewith gives the names of the fields, the owners and addresses, the areas, the prices asked per acre, the total prices asked per field, and the proffered prices informally made by Mr. LeRoy E. Goodbody. Enclosure (B) gives the best description at present available of the various areas in question.

3. In addition to the above information, reference requested blue prints or plats of the areas, references to maps and records of deeds, or other instruments of title, and descriptions by metes and bounds, unless the property can be

August 15, 1940

fully described by lot number or numbers, and appraisals giving the names of individual owners in each instance, and the areas involved. This further information is not, as yet, available, but surveys are now under way to complete the plats and secure the metes and bounds descriptions of the various parcels. Records are being searched, and this information will be forwarded as soon as obtained.

4. Reference (c) requested Fred Prakel and Harry Jackson, HOLC appraisers, who have reported in connection with appraisal of Rosedale Field, to be further authorized via HOLC channels to appraise all other auxiliary landing fields now being considered for purchase.

5. In answer to reference (c) reference (d) requested by airmail the descriptions and ownerships of the auxiliary landing fields, which is enclosed herewith. While the property descriptions, as given on Enclosure (B) are not sufficient for legal purposes, they are sufficient to permit the appraisers to identify and locate the areas to be appraised, and to permit the appraisals to be made on an acreage basis.

6. It is therefore requested that the necessary orders be issued to have Messrs. Prakel and Jackson perform this work.

C. A. Blakely

C. A. BLAKELY

Field	Owner	HOLC Area	Asking Price	HOLC Appraisal	Cotton Appraisal	Goodbody Appraisal
San Dieguito	*Swift and Company	80	\$6,500			\$12,000**
Borego Hotel	*B. H. Livingston	160	1,280			1,600**
Coyote Wells	*Mrs. E. C. Stephens	160	4,000			4,600**
	*Mrs. M. O. Dobson	60	1,500			1,500**
Ocotillo Lake	*E. E. Benson	85	2,125			3,200**
	M. E. Couch	160				
	State of California	80				
Rosedale	✓ C First Nat'l Bank	160	17,600	\$14,000		9,600**
Otay Mesa	Sophie Lampe, et al.	155	24,000	4,650		15,400**
	Alta Loma School	5				
	J. D. Schroeder	160	24,000	5,750		
Linda V. Mesa	/ S.D.Co. Water Co.	160	4,800	4,900	\$5,600	4,000
Border Field	First Nat'l Bank	40	4,000	2,000	1,800	2,000
	Crofton Invest. Co.	57.98	23,200	2,900	2,610	2,900
Jacumba	S.D. Trust, etc. Bank	129.70	13,100	6,800	7,205	9,125
Ream Field	Pauline Carpenter	40		3,500	3,600	4,000
	Crofton Invest. Co.	100	40,000	7,250	7,830	8,100
	HOLC--Parcels 3 & 5	11.77		1,250		
	HOLC--Parcel 4	1.62		400		
	HOLC--Parcel 6	2.50		200		
	HOLC--Parcel 7	2.50		200		
Clark's Lake	State of California	640.60		960	480	320.80

* Options sent to owners at asking prices.

** Informal Appraisal made for Commandant.

° Condemnation proceedings instituted at \$9,600.

^ Contains 13 acres tidelands not appraised.

U. S. NAVAL AIR STATION
SAN DIEGO, CALIFORNIA

January 27, 1941

MEMORANDUM

To: The Commanding Officer.

Subject: Long Range Development of Outlying Fields.

1. Commander C. T. Simard, Commander M. T. Seligman and Lieutenant Commander Harry A. Bolles discussed the question of ultimate development of the outlying fields of the Eleventh Naval District. The assumptions and recommendations are as follows:

ASSUMPTIONS

- (1) That the ultimate development of major outlying fields in so far as paving is concerned will be the installation of runways 2000' long by 300' wide in sufficient number to permit landing under all conditions of the wind.
- (2) That provision for the health and comfort of servicing personnel will be made at two fields in the desert.
- (3) That with the increase of army and civilian training, dive bombing in the immediate vicinity of San Diego must probably be curtailed or entirely abandoned.
- (4) That it will be necessary to have at least two fields, exclusively available for field carrier training with the overflow to be taken care of at North Island.
- (5) That at least two and probably three major auxiliary fields will be required for practice landings and all other allied operations.
- (6) That all horizontal bombing will be conducted in the desert areas except that conducted at sea or at San Clemente Island.

2. The recommended development of the various fields is as follows:

OTAY MESA

USE: Field carrier training; practice landings; parachute drop tests; possible servicing for divebombing; general training.

PAV. GOAL: Ultimate development 5 standard runways. Immediate development 1 runway 700' x 100' into the prevailing winds and 2 others each 600' x 100' 120 deg. apart.

Exhibit 2(1)

January 27, 1941

ESTIMATED COST: Immediate development \$12,000.
Ultimate development \$110,000 additional.

CAMP KILARLEY

USE: Field carrier training; practice landings;
parachute drop tests; dive bombing; possible
servicing for dive bombing; general training.
NOTE: This field can only be used for one of
these purposes at a time.

DEVELOPMENT: Immediate development - extend 100' x 600' mat
to 750' in length. Install two additional mats
100' x 600'. All at the west end of the field.
Ultimate development - extend three 1700' mats
at the east end of the field to standard
runways.

ESTIMATED COST: Immediate development \$10,000.
Ultimate development \$13,500 additional.

NOTE: No additional facilities for personnel
are included in the above.

REAM FIELD

USE: Field carrier training; practice landings;
parachute drop tests; dive bombing; possible
servicing for dive bombing; general training.

DEVELOPMENT: Three standard runways predicated upon securing
an additional forty acres to the eastward of
north Ream Field. If the forty acres cannot be
secured the development will be made to the
maximum extent possible on the existing property.

ESTIMATED COST:

NOTE: Present fleet personnel do not believe
Ream Field to be suitable for field carrier
training. This is not concurred in.

OCOTILLA BAY LAKE

USE: Major auxiliary servicing field for horizontal
and dive bombing practice and for gunnery train-
ing if suitable property is acquired to the
eastward of the Salton Sea in the future.

DEVELOPMENT: 3 standard runways to permit landing under all
wind conditions. Barracks for 20 men.

ESTIMATED COST: 500,000.

LAKE OCOTILLA BAY (Del Mar)

USE: Practice landings; machine gun practice.
Possible use - servicing for dive bombing.

Exhibit 2(2)

January 27, 1941

DEVELOPMENT: Two standard runways.

ESTIMATED COST: \$80,000.

COYOTE WHEELS

USE: Major auxiliary servicing field for horizontal and dive bombing practice and for gunnery training.

DEV. COMMENT: 3 standard runways to permit landing under all wind conditions. Barracks for 20 men.

ESTIMATED COST: \$80,000.

ROSEDALE

USE: Dive bombing and emergency landings.

DEVELOPMENT: None, maintenance only.

ESTIMATED COST:

MIRAMAR

USE: Dive bombing and emergency landings.

DEVELOPMENT: None, maintenance only.

ESTIMATED COST:

Note: These two fields, Rosedale and Miramar, will probably have to be abandoned for dive bombing due to increase in other activities. If other developments are undertaken they will be available for emergency use but not required full time.

JACUETA

USE: Emergency landing field.

DEVELOPMENT: Maintenance only.

ESTIMATED COST:

CLARKS DRY LAKE

USE: Horizontal and dive bombing and emergency landing.

DEVELOPMENT: Maintenance only.

ESTIMATED COST:

Attachment 2(3)

January 27, 1941.

BORNEO HOTEL SITE

USE: Horizontal and dive bombing and emergency
landing.

DEVELOPMENT: Maintenance only.

ESTIMATED COST:

SANTON SEA

USE: Horizontal bombing; for land and seaplanes.
Possible use - machine gun range.

DEVELOPMENT: Increase the size of the "magic carpet" by two
additional units; boat house and landing; store-
house. Improve service roads; temporary
housing facilities for survey crew.

ESTIMATED COST: \$15,000.

SAN CLEMENTE ISLAND

USE: All purposes to maintain one Carrier Air
Group, exclusive of shop and overhaul
facilities.

DEVELOPMENT: Continue improvements in general.

ESTIMATED COST:

OCEANSIDE

Civil Aeronautics Field available for
emergency landings.

(Signed) C. T. Simard
C. T. SIMARD,
Commander, U. S. Navy.

(Signed) M. T. Seligman
M. T. SELIGMAN,
Commander, U. S. Navy.

(Signed) Harry A. Bolles
HARRY A. BOLLES,
Lt. Commander (CEC), U.S. Navy.

Exhibit 2(4)

SI-9 (1041)
(950483)

U. S. NAVAL AIR STATION
SAN DIEGO, CALIFORNIA
March 13, 1941.

95-cho

MEMORANDUM

From: The Commanding Officer (District Air Officer).
To: Colonel S.L. Howard, USMC, 8th Marine Brigade,
Marine Corps Base, San Diego, California.

Subject: Navy Operating Areas in Borego and Imperial Valleys.

Enclosure: (A) Chart showing present and proposed Navy air
operating areas in Borego and Imperial Valleys.

1. In compliance with a telephone request from Lieut.
Barger, enclosure (A) is forwarded herewith.

2. The Navy will require the proposed emergency machine
gun range east of the Salton Sea on account of the fact that the
present off-shore ranges are restricted by Army coastal firing
from Fort Rosecrans, Torrey Pines Mesa and Carlsbad and such Marine
firing as may take place in the above areas.

3. The status of the Borego Valley sites now being used
by the Navy is as follows:

Clark's Dry Lake	- Airfield and horizontal bombing target. Property leased by Navy.
Borego Wash	- Horizontal bombing target only. Property leased by Navy.
Cecilie	- Landing field and dive bombing target. Property being purchased by Navy.
Borego Hotel site	- Landing field and dive bombing target. Property leased by Navy.
Dejote Wells	- Landing field. Horizontal bombing target three (3) miles east. Proper- ty leased by Navy.
Jacumba	- Airfield only. Property leased by Navy.
Salton Sea	- Water bombing target and seaplane operating area.

H. L. JUNTNER,

COPY

COPY

COPY

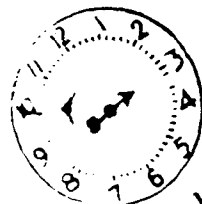
DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

CIVIL AND MILITARY AIRPORTS

(CANCELS ISSUE DATED SEPTEMBER 15, 1942)

— CONFIDENTIAL —

APR 13 43 AM



RECEIVED
CLASSIFIED FILE UNIT
- AG - 332

AIRPORT DIVISION
DECEMBER 1, 1942

NAME
TITLE
OFFICE
ADDRESS
CITY
STATE
ZIP
COUNTRY
TELEPHONE
FAX
E-MAIL
WEB
OTHER

6000 airports

[Handwritten signature]

F-4

FOREWORD

This directory has been compiled to provide certain pertinent information for those concerned in the planning, construction and operation of airports in the United States which are now, or may become, of importance to the national defense. The following categories of existing and proposed facilities are included:

1. Authorized C.A.A. projects as of September 1, 1942.
2. W.P.A. airport projects intended to provide facilities of class shown in "Pro" column.
3. Existing and authorized Army and Navy* airports.
4. Civil airports taken over for military operations.
5. Other existing class 3 and 4 civil airports.

*Navy Material

Copy for material in the directory relating to Navy and Coast Guard facilities emanates from the Operating Facilities Section, Shore Establishments Branch, Bureau of Aeronautics, U.S. Navy. The distance and direction shown for Navy and Marine Corps auxiliary (AUX) and outlying (O P) fields, when listed under base fields, is the distance and direction from that base field.

The "Type of Facility" shown herein does not necessarily reflect the current assignments as approved by the Interdepartmental Air Traffic Control Board. To date no attempt has been made to carry I.A.T.C.B. assignments in this directory.

REFERENCE

Location column:

- /M/ following location name indicates municipally owned airport.
/C/ following location name indicates commercially owned airport.

See inside back cover for FACILITY ABBREVIATIONS.

Construction Agency column:

C - C.A.A. Project	N - Navy Project	A - Army Project
W - W.P.A. Project	X - Existing Airport	

Class column:

- Pre (Present) - Class at start of construction.
Pro (Proposed) - Class which author will provide.
Ex (Existing) - Class of existing airport, or construction completed to class shown.

Classes shown are based on longest length of landing and take-off area as follows:

Class 1 - 1800 to 2499 feet	Class 4 - 4500 to 5499 feet	Class 7 - 7500 to 8499 feet
Class 2 - 2500 to 3499 feet	Class 5 - 5500 to 6499 feet	Class 8 - 8500 to 9499 feet
Class 3 - 3500 to 4499 feet	Class 6 - 6500 to 7499 feet	Class 9 - Over 9500 feet

(Adjusted for Altitude)

With few exceptions, C.A.A. construction has provided runway lengths as follows:

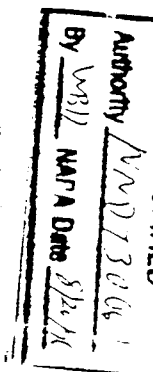
- At least 3000 feet on Class 2 Projects
- At least 4000 feet on Class 3 Projects
- At least 5000 feet on Class 4 Projects

Distance column:

Approximate distance from center of city in miles and tenths.

Direction column:

1 - North; 2 - East; 3 - South; 4 - West.



CONFIDENTIAL

[illegible]

35

ACC/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 ares, 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 ares, targets and landing fields shall coordinate the schedules except in cases where the assignments specify the hours a unit is to use such are, target or landing field.
5. It is frequently necessary to conduct air and surface firing and other surface operations in the same ares. 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

ACC/F41-10

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 ComAirSOCPAC, *SF.

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


MAX L. BLACK
Deputy Commander

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.C.O.	33-05-30 116-06-06	Concentric Circles	High Altitude and Dive Bombing	Practice bombs and strafe
Borego Wash BT	33-11-45 116-09-15	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	33-18-50 118-25-40	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	32-55-45 115-12-30	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

NAVY DEPARTMENT
 COMMANDER, NAVAL AIR BASES
 ELEVENTH NAVAL DISTRICT

NAB11/GT
 (980123)(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.

Present Name of Target

New Number

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
Long Rock	12
Shoal Rock	13
San Clemente #5	14
San Clemente #8	15
San Clemente #21	16
Catalina (Catalina)	17
Cortez Bank (Cortez)	18
Glide Angle Target	19

Numbers 20 to 30 available for assignment to new targets.

MAIL/OT
(280186)(mc)

Subj: Land and Water Targets - Numbering of.

5. Land targets near the coastline will bear numbers from 30 to 39.

<u>Present Name of Target</u>	<u>New Number</u>
Lab. Base	30
Lab. Base	31
Lab. Base	32
Lab. Base #1	33
Lab. Base #2	34
Lab. Base X Trabuco	35
Trabuco I	36
Trabuco 2	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 60.

<u>Present Name of Target</u>	<u>New Number</u>
Sutton Sea #9	50
Sutton Sea #10	51
Sutton Sea #11	52
Sutton Sea #12	53
Sutton Sea #13	54
Sutton Sea #14	55
Sutton Sea #15	56
Sutton Sea #16	57
Sutton Sea #17	58
Sutton Sea #18	59
Sutton Sea #19	60
Ship Bombing Target	61
Ship Bombing (Kane)	62
Ship Bombing	63
Ship Bombing	64
Clark's Dry Lake Clark's	65
Ocotillo	66
San Felipe	67
Hollywood #1	68
Quilley	69
Ship Bombing	70
Mojave #1	71
Mojave #2	72
Mojave #3	73
Mojave #4	74
Mojave #5	75
Mojave #6	76
Mojave Mobile	77
Coyote Hills	78

Numbers from 73 to 90 available for assignment to new targets.

NABLL/ST
(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. Bernhardt
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)

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

APPENDIX G

REAL ESTATE DOCUMENTS

APPENDIX G

Real Estate Documents

Table of Contents

- G-1. Declaration of Taking for Borrego Hotel Site Lands, 10 July 1941 (B-27).
- G-2. Report of Excess Real Property for the Emergency Landing Field and Target #63 at the Borrego Hotel Site, 31 October 1955 (B-28).
- G-3. Letter Declaring the Emergency Landing Field and Target 63 of the Borrego Hotel Site Surplus, 20 December 1955 (B-29).
- G-4. Form Declaring the Borrego Hotel Emergency Landing Field Surplus, 25 January 1956 (B-30).
- G-5. Deed Releasing the Borrego Emergency Landing Field Lands to Ray Formost, 6 September 1956 (B-31).
- G-6. Naval Shore Activity Summary for the Borrego Outlying Field/Target #63, Circa 1956 (B-32).

IN THE DISTRICT COURT OF THE UNITED STATES
IN AND FOR THE SOUTHERN DISTRICT OF CALIFORNIA
SOUTHERN DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

vs.

160 ACRES OF LAND, MORE OR LESS,
IN SAN DIEGO COUNTY, CALIFORNIA;
ELMO ROWLAND LIVINGSTON, et al.,

Defendants.

No. 113 Civil

DECREE ON

DECLARATION OF TAKING

Comes now the plaintiff, United States of America, by Wm. Fleet Palmer, United States Attorney for the Southern District of California, and Irl D. Brett and Francis C. Whelan, Special Attorneys, Lands Division, Department of Justice, and moves the Court to enter a Decree vesting title in the United States of America in and to the real property hereinafter described, and in the Declaration of Taking and the Condemnation Complaint, together with all improvements thereon.

Thereupon the Court proceeds to hear and pass upon said Motion, Complaint, and Declaration of Taking, and finds and decrees as follows:

FIRST, That the United States of America is entitled to acquire property by Eminent Domain for the purpose of establishing an outlying field for use in connection with the Naval Air Station, San Diego, California, to be located upon and within the acreage set forth and described in said Complaint and Declaration of Taking and this Decree;

SECOND, That a Complaint for Condemnation was filed at the request of the Secretary of the Navy of the United States, the authority empowered by law to acquire the lands described in said Complaint, and also under direction of the Attorney General of the United States;

1 THIRD, That said Complaint and Declaration of Taking, and
2 statement of authority under which, and the public use for which said
3 lands were taken, is set out, and that the Secretary of the Navy of the
4 United States is the person duly authorized and empowered by law to
5 acquire lands such as are described in the Complaint for the purposes
6 as aforesaid, and that the Attorney General of the United States is the
7 person authorized by law to direct the institution of such condemnation
8 proceedings;

9 FOURTH, That a proper description of the lands sought to be
10 taken, sufficient for the identification thereof, is set out in said
11 Declaration of Taking;

12 FIFTH, A statement of the estate or interest in said lands
13 taken for said public use is set out in said Declaration of Taking;

14 SIXTH, A plan showing the lands taken is annexed to and
15 incorporated in said Declaration of Taking;

16 SEVENTH, A statement of the sum of money estimated by said
17 acquiring authority to be just compensation for the lands taken, to-wit,
18 the sum of Two Thousand Eight Hundred Thirty Dollars (\$2,830.00), is
19 set out in said Declaration of Taking, which sum has been deposited in
20 the Registry of this Court coincident with the filing of said Declaration
21 of Taking;

22 EIGHTH, That there is a statement in said Declaration of Taking
23 that the estimated ultimate award of damages for the taking of said prop-
24 erty, in the opinion of said Secretary of the Navy of the United States,
25 probably will be within any limits prescribed by Congress to be paid as a
26 price therefor.

27 That sufficient moneys to pay such ultimate award for the
28 taking of said property have been appropriated by the Congress of the
29 United States in appropriation designated as 17X1283.035, First Sup-
30 plemental National Defense Appropriation Act, 1941, approved June 26,
31 1940.
32

1 And the Court, having fully considered said Condemnation
2 Complaint and the Declaration of Taking and the statutes in such case
3 made and provided, is of the opinion that the United States of America
4 is entitled to take said property and have the title thereto vested in
5 it pursuant to the Act of Congress approved February 26, 1931 (46 Stat.
6 1421; Title 40 Sec. 258a, U.S.C.A.).

7
8 IT IS THEREFORE ORDERED, ADJUDGED and DECREED that the
9 title to the following described lands, including all buildings and
10 improvements thereon, if any, and all appurtenances thereto, and all
11 interests therein, in fee simple absolute, free and clear of all en-
12 cumbrances, subject to existing public utility easements and rights-
13 of-way for public roads and highways, if any, be and the same is
14 hereby vested in the United States of America, and said lands, im-
15 provements and appurtenances are deemed to be condemned and taken,
16 and are condemned and taken for the use of the United States, and the
17 right to just compensation for the same shall vest in the persons
18 entitled thereto when said compensation shall be ascertained and
19 awarded in this proceeding and established by judgment thereunder
20 pursuant to law. The lands so condemned and taken are described as
21 follows:

22 160 acres of land, more or less, situate
23 in the County of San Diego, State of California,
24 being more particularly described as follows:

25 Southeast one quarter (SE 1/4) of Section
26 26, Township 12 South, Range 8 East, San Ber-
27 nardino Base and Meridian, San Diego County,
28 California. (A blueprint of said map is
29 marked Exhibit "A" and annexed to the
30 Declaration of Taking filed coincident with
31 the filing of this Complaint and is by refer-
32 ence made a part hereof.)

1
2 IT IS FURTHER ORDERED, ADJUDGED and DECREED that possession
3 of the above described property and premises, and the whole thereof,
4 shall be delivered to the United States of America forthwith.

5 This cause is held open for such other and further orders,
6 judgments and decrees as may be necessary in the premises.

7 Entered this 10 day of July, 1941.

8
9
10 PAUL J. McCORMICK
United States District Judge

11
12 Presented by:
WM. FLEET PALMER
United States Attorney

13
14 IRL D. BRETT
FRANCIS C. WHELAN
Special Attorneys, Lands Division
Department of Justice

15
16 By IRL D. BRETT

17
18
19 FILED

20
21 JUL 10 1941

22 R. S. ZIMMERMAN, Clerk

23 By B. B. HANSEN
Deputy Clerk

24 Judgment entered JUL 10 1941
25 Docketed JUL 10 1941

26 CO Book 1 Page 311

R. S. Zimmerman, Clerk,

27 By B. B. HANSEN
28 Deputy.

29
30 A TRUE COPY,
31 ATTEST, ETC. JUL 10 1941

R. S. Zimmerman, Clerk U. S. District Court,
Southern District of California

32 By J. M. Horn Deputy
7-1404 J. M. Horn
- 4 -

REPORT OF EXCESS REAL PROPERTY

1. HOLD AGENCY NO. DATE RECEIVED (GSA use only)

371

11-8-55

2. DATE OF REPORT

Oct. 31, 1955

GSA CONTROL NO. (GSA use only)

7-144

3. TO (Furnish address of GSA regional office)

General Services Administration
49 Fourth Street
San Francisco 3, California

4. FROM (Name and address of holding agency)

Navy Department
Washington 25, D. C.

5. NAME AND ADDRESS OF REPRESENTATIVE TO BE CONTACTED

Real Estate Division
Bureau of Yards and Docks
Navy Department
Washington 25, D. C.

6. NAME AND ADDRESS OF CUSTODIAN

District Public Works Officer
11th Naval District
1220 Pacific Highway
San Diego 30, California

7. PROPERTY IDENTIFICATION

Emergency Landing Field
Target 63 (Borego Hotel Site)

8. PROPERTY ADDRESS (Give full location)

S.E. $\frac{1}{4}$ S. 26, T. 12 S., R. 8E.,
S.B.M. in County of San Diego,
California

9. SPACE DATA						10. LAND	
USE	NUMBER OF BUILDINGS (1)	FLOOR AREA (Sq. ft.) (2)	NUMBER OF FLOORS (3)	FLOOR LOAD CAPACITY (4)	CLEAR HEADROOM (5)	(From SF 118b)	ACRE OR SQUARE FEET
A. OFFICE						A. FEE	160
B. STORAGE						B. LEASED	
C. OTHER (See 9 F)						C. OTHER	
D. TOTAL (From SF 118a)						D. TOTAL	160
E. GOV'T INTEREST:				F. SPECIFY "OTHER" USE ENTERED IN C ABOVE			
(1) OWNER							
(2) TENANT							

11. COST TO GOVERNMENT			12. LEASEHOLD(S) DATA (Use separate sheet if necessary)	
ITEM	SCHEDULE	COST	A. TOTAL ANNUAL RENTAL	\$
A. BUILDINGS, STRUCTURES, UTILITIES, AND MISCELLANEOUS FACILITIES	A (Col. d)	\$	B. ANNUAL RENT PER SQ. FT. OR ACRE	\$
B. LAND	B (Col. f)	3,000.00	C. DATE LEASE EXPIRES	
C. RELATED PERSONAL PROPERTY	C (Col. h)		D. NOTICE REQUIRED FOR RENEWAL	
D. TOTAL (Sum of 11A, 11B, and 11C)		3,000.00	E. TERMINAL DATE OF RENEWAL RIGHTS	
E. ANNUAL PROTECTION AND MAINTENANCE COST (Government-owned or leased)			F. ANNUAL RENEWAL RENT PER SQ. FT. OR ACRE	\$
			G. TERMINATION RIGHTS (in days)	
			LESSOR	GOVERNMENT

13. DISPOSITION OF PROCEEDS	14. TYPE OF CONSTRUCTION
15. HOLDING AGENCY USE	16. RANGE OF POSSIBLE USES
Emergency land field and target	

17. NAMES AND ADDRESSES OF INTERESTED FEDERAL AGENCIES AND OTHER INTERESTED PARTIES

18. REMARKS

There is no known defense need for this property within the Department of Defense. This Report of Excess is not affected by Title VI of Public Law 155, 82nd Congress (65 Stat. 365).

19. REPORT AUTHORIZED BY

NAME

L. C. WRIGHT

HEAD, DISPOSAL SECTION

OPERATIONS BRANCH

TITLE

REAL ESTATE DIVISION

BY DIRECTION OF CHIEF OF BUREAU

SIGNATURE

L. C. Wright

STANDARD FORM 118b
DECEMBER 1953
PRESCRIBED BY GENERAL
SERVICES ADMINISTRATION
REGULATION 2-IV-201.00

LAND

SCHEDULE B—SUPPLEMENT TO REPORT OF EXCESS REAL PROPERTY

1. HOLDING AGENCY NO.

371

2. PAGE 1 OF 1 PAGES
OF THIS SCHEDULE

3. GOVERNMENT INTEREST

☐ LEASE ☐ LICENSE
☐ PERMIT ☐ EASEMENT
☒ FEE ☐ INFORMAL AGREEMENT

GSA CONTROL NO. (GSA
use only)

71-Calif-544

LINE NO.	TRACT NO.	NAME OF FORMER OWNER OR LESSOR AND ADDRESS	TRACT ACQUIRED XXXX	EXCESS REAL PROPERTY			TYPE OF ACQUISITION	RESTRICTIONS ON USE OR TRANSFER OF GOVERNMENT INTEREST
				ACRES OR SQUARE FEET	COST	ANNUAL RENTAL		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
1		Elmo Rowland	160	160	\$3,000.00		Condemnation suit, U.S.A. vs	
2		Livingston					160 acres of land in San Diego	
3							County, Calif., Elmo Rowland	
4							Livingston, et al., No. 113	
5							Civil.	
6								
7								none
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
TOTAL			160	160	\$3,000.00			

December 20, 1955

9PS

AIR MAIL

Chief of Bureau
Bureau of Yards and Docks
Department of the Navy
Washington 25, D. C.

Re: Emergency Landing Field, Target 63,
Borrego Hotel Site, San Diego County,
Calif. - GSA Control #A-Calif-544

Attention: Mr. L. C. Wright, Head Disposal Section
Operations Branch, Real Estate Division

Dear Sir:

Reference is made to your Report of Excess Real Property, Holding Agency No. 371, covering 160 acres of land at the Emergency Landing Field, Target 63, Borrego Hotel Site, San Diego County, California, submitted with your letter dated November 4, 1955, File C-422A/HB/md, HD11/HL-1, C5-2-SD-25.

No Federal agency needs for this land were reported as a result of its being screened against the known defense and other requirements of the Federal Government. Therefore, the subject property is hereby certified to be surplus to the requirements of the Federal Government and will be disposed of by this office in accordance with existing laws and regulations.

Very truly yours,

Elmo L. Battle, Chief
Real Property Disposal Division

CC - District Public Works Officer
11th Naval District
San Diego, California

CC - Regional Comptroller, GSA
Attn - A. D. McNinch
Mail Station - 20

Director, Real Property
Disposal Division, PBS, GSA
Washington 25, D. C.

John P. Gifford
Dept. of H.E.W.
San Francisco, Calif.

Jesse W. Evans THRU C. E. Keathley
PBS, GSA - Los Angeles, Calif.

D. G. Chappelaar
Bldgs.Mgr., PBS - San Diego, Cal.

/ADWilson

G-3

Borego Emergency Landing Field
N-Cal-544
San Diego County, California

QUITCLAIM DEED

THIS INDENTURE, made the 6th day of September, 1956, between the UNITED STATES OF AMERICA, acting by and through the Administrator of General Services, under and pursuant to the powers and authority contained in the provisions of the Federal Property and Administrative Services Act of 1949 (63 Stat. 377), as amended, and regulations and orders promulgated thereunder, GRANTOR, and RAY FORMOST, GRANTEE,

WITNESSETH: That the said GRANTOR, for and in consideration of the sum of Ten Dollars (\$10.00) to it in hand paid by the said GRANTEE, the receipt of which is hereby acknowledged, has remised, released and forever quitclaimed, and by these presents does remise, release and forever quitclaim, unto the said GRANTEE, and to his heirs and assigns, all that certain piece or parcel of land situate, lying and being in the County of San Diego, State of California, described as follows:

The SE $\frac{1}{4}$ of Section 26, T. 12 S., R. 8 E.,
N88E41,

SUBJECT TO:

Public road right-of-way and right-of-way of Southern Sierra Power Company for transmission line, as disclosed by the recital in the Deed recorded August 28, 1930, in Book 1817, page 51, of Deeds, Official Records, County of San Diego, State of California.

TOGETHER WITH all and singular the tenements, hereditaments and appurtenances thereunto belonging, or in anywise appertaining, and the reversion and reversions, remainder and remainders, rents, issues and profits thereof, and also all the estate, right title, interest, property possession, claim and demand whatsoever, in law as well as in equity, of the said GRANTOR, of, in or to the foregoing described premises, and every part and parcel thereof, with the appurtenances.

SAID PROPERTY transferred hereby was duly declared to be surplus, and was assigned to the General Services Administration for disposal pursuant to the Federal Property and Administrative Services Act of 1949 (63 Stat. 377), as amended, and applicable rules, orders and regulations.

TO HAVE AND TO HOLD, all and singular, the said premises, with the improvements thereon, unto the said GRANTEE, his heirs and assigns forever.

IN WITNESS WHEREOF, the GRANTOR has caused these presents to be executed as of the day and year first above written.

UNITED STATES OF AMERICA
Acting by and through the
ADMINISTRATOR OF GENERAL SERVICES

By /s/ ELMO L. BUTTLE
Elmo L. Buttle
Chief, Real Property Disposal Division
Public Buildings Service
General Services Administration
Region 9, San Francisco, California

[Handwritten signature]

RECEIVED
SEP 11 1956

STATE OF CALIFORNIA)
City and County of San Francisco) 38.

On this 16th day of November 1956, before me
 Phil M. Silsby
 a Notary Public in and for the City and County of San Francisco,
 State of California, personally appeared Elmo L. Buttle, known
 to me to be the Chief, Real Property Disposal Division, Public
 Buildings Service, General Services Administration, Region 9,
 San Francisco, California, and acknowledged that he executed the
 said instrument on behalf of the United States of America, acting
 by and through the Administrator of General Services.

WITNESS my hand and official seal.

/s/ Phil M. Silsby
Notary Public
in and for the City and County of
San Francisco, State of California

(SEAL)

My Commission Expires:

Aug. 5, 1957

CERTIFICATE OF RECORDATION

I, Gilbert E. Morton, Deputy, of the Office
of the County Recorder of the County of San Diego,
State of California, did receive on the 26th day of Nov.,
1956, for filing and recordation the following instrument:

Quitclaim Deed dated the 6th day of September, 1956,
between the UNITED STATES OF AMERICA, acting by and through
the Administrator of General Services, Grantor, and RAY FORMOST,
Grantee.

I further certify that the same has been recorded in Book
6356, at page 442, of the Official Records of said
County, Doc. #166972.

ROGER N. JONE.
Recorder

/s/ GILBERT E. MORTON
Deputy Recorder

Return to:

General Services Administration
49 Fourth Street, Rm. 455
San Francisco 3, California
Attention: Clarence W. Hull
Regional Counsel

NAME Outlying Field (Borego)		LOCATION San Diego, Calif.		CODE -		NAVAL DISTRICT 11		ARMY AREA 6		AIR FORCE AREA 4													
MANAGEMENT BUREAU BuAer		FINANCIAL RESPONSIBILITY		TECHNICAL BUREAU BuAer		OPERATIONAL STATUS Inactive DISPOSED		MAJOR ACTIVITY -		OTHER ARMED SERVICE INSTALLATION													
						MINOR ACTIVITY -		ARMY		AIR FORCE													
MISSION																							
PEACETIME						WARTIME																	
MILITARY COMMAND - PARENT ACTIVITY District Hdqrs. 3397-715 San Diego, Cal				CONTIGUOUS ACTIVITY (Same Real Estate)				ANNEX FACILITY (Real Estate Not Contiguous)															
TYPE OF OCCUPANCY (Land Area - Acres)						PLANT ACCOUNT COST																	
NAVY OWNED 160.0		GOV'T. OWNED		PERMITTEE		LESSEE		RECAPTURE CAUSE		TOTAL 160.0													
								LAND 1,280.0		BUILDINGS													
								EQUIPMENT		TOTAL 1,280.0													
PERSONNEL					TROOP HOUSING			MEDICAL		STORAGE													
					BACHELOR OFFICERS QUARTERS			HOSPITAL		TYPE													
					SLEEPING ROOMS 6			BEDS		GROSS SQUARE FEET													
					CAPACITY			NORMAL		PETROLEUM													
ON BOARD								EMERGENCY		COVERED													
										OPEN													
MOBILIZATION CAPACITY					ENLISTED BARRACKS					COLD													
					BUNKING AREA 6					AMMO.													
					CAPACITY					FUEL OIL													
PRESENT IN TRAINING AND TRANSIENTS								DISPENSARY		DIESEL FUEL													
PRESENT ATTACHED UNITS					PUBLIC QUARTERS			NO.		AV. GAS													
					FAMILY HOUSING			BEDS		MO. GAS													
WWII PEAK					HOO			NORMAL		JET FUEL													
					MEQ			EMERGENCY		LUBR. OIL													
										TOTAL													
										TOTAL													
DRYDOCKS - PIERS - RUNWAYS						OTHER FACILITIES			UTILITIES														
NUMBER		LENGTH		WIDTH		VESSEL DRAFT (Maximum)		WATER DEPTH MLW		WHEEL LOAD (Single tire) AT 70 P.S.I.		TYPE		NO. BLDGS.		GROSS SQUARE FEET		ELECTRICITY		SOURCE		CAPACITY	
N-S		2600'		250'						Dirt		ADMINISTRATION						WATER		KVA			
E-W		2500'		250'								HANGAR-LP						SEWER		Gals. Daily Ave.			
												LABORATORY						GAS		Persons			
												SCHOOL								Therms Monthly Ave.			
												SHOP											
												TRAINING											
												SEAPLANE											
												HANGAR											
												RAMP-NO.											
												OAR CLASS											
												SHIP BERTHING											
								</															

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

APPENDIX H

NEWSPAPERS/JOURNALS

APPENDIX H

NEWSPAPERS/JOURNALS

Table of Contents

H-1. "Government Surplus Sale", 23 July 1956 (B-33).

Gonsalves Resigns As Legion Coach

Joe Gonsalves resigned yesterday as coach of Post 433's District 22 American Legion Junior baseball champions and announced that Fulton Vickery would succeed him.

Gonsalves gave business commitments as his reason for resigning. Vickery, Hoover High School baseball coach and coach of the Hoover entry in Legion baseball, will hold his first drill with the Lincoln-Helix combination tomorrow.

Post 433 plays at Anaheim July 28-29 in the regional tournament.

NOTICE OF INTENTION TO ENGAGE IN THE SALE OF ALCOHOLIC BEVERAGES.

July 20, 1956.
TO WHOM IT MAY CONCERN:
Subject to issuance of the license applied for, and commencing not less than 30 days after the date posted, notice is hereby given that the undersigned proposes to sell alcoholic beverages at these premises, described as follows:

509 12th Street, San Diego 1, Calif.
Pursuant to such intention, the undersigned is applying to the Department of Alcoholic Beverage Control for issuance on original application of an alcoholic beverage license for these premises as follows:

ON SALE BEER
Anyone desiring to protest the issuance of such license may file a verified protest with the Department of Alcoholic Beverage Control at Sacramento, California, stating grounds for denial as provided by law. The premises are not now licensed for the sale of alcoholic beverages.

FRANKLIN E. HENRY
SONOMA M. HENRY

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Council of the City of San Diego, California, has set the hour of 10:00 o'clock A.M. on Thursday the 2nd day of August, 1956, in the Council Chamber, 3rd Floor, Administration Building, Civic Center, as the time and place for conducting a public hearing on the Proposed Amendment to the San Diego Municipal Code regulating Psychologists.

All interested persons are invited to be present at said meeting and be heard.

BY ORDER OF THE COUNCIL,
FRED W. SICK,
City Clerk.

7/23

GOVERNMENT SURPLUS SALE

LAND

Southern California Acreage
Bid No. GSA-PBS-9-L-34
General Services Administration, San Francisco, hereby gives notice that it has available for disposal under Federal Property and Administrative Services Act of 1949 (Public Law No. 152, 81st Congress), the following real property which has been declared surplus by the Government.

LOCATION AND DESCRIPTION
Site No. 1—Clarks Dry Lake Emergency Landing Field. Approximately 640 acres of land located 12 miles northeast from Borrego, San Diego County California.

Site No. 2—Borrego Emergency Landing Field. Approximately 160 acres of land located 25 miles southeast from Borrego, San Diego County, California.

Site No. 3—Coyote Wells Emergency Landing Field. Approximately 215

acres of land located 1/4 mile east of Coyote Wells, Imperial County, California.

TERMS AND CONDITIONS

All bids must be submitted on GSA bid form which particularly describes the property, states in full the terms and conditions of the sale and sets forth instructions to bidders.

Bids to purchase may be for cash or credit. Separate bids are invited for Sites 1, 2 and 3. This offer is being made to the general public and no priority will be recognized. Apply for bid forms, statement of terms and conditions of sale and description of property at the following addresses:

General Services Administration,
Business Service Center
312 N. Spring Street
Los Angeles 12, California
General Services Administration
Business Service Center
49 Fourth Street
San Francisco 3, California

Sealed bids will be received at the Los Angeles office only until 3:00 p.m., Pacific Daylight Time, August 21, 1956, at which time and place they will be publicly opened and read.

This property has been screened against the known defense and other requirements of the Government.
7/23

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Council of the City of San Diego, California, has set the hour of 10:00 o'clock A.M. on Thursday the 2nd day of August, 1956, in the Council Chamber, 3rd Floor, Administration Building, Civic Center, as the time and place for conducting a public hearing on the matter of the Proposed Tentative Map of Lot 1, Block L, Riviera Villas; on west side of Osprey Street between Barcelona Drive and Sorrento Drive.

All interested persons are invited to be present at said meeting and be heard.

BY ORDER OF THE COUNCIL,
FRED W. SICK,
City Clerk

7/23



—San Diego Union Staff Photo
mediate girls classes in the Pacifico Swim from Old Mission to Belmont Park.

es Victory Water Swim

won the intermediate girls' division. Miss Blanck was timed in 32:03.

All but three of the 49 swimmers who started finished. The race was conducted through relatively calm water.

Results:
Men's division—Bruce DeForrest (Long Beach Navy), Bill Spore (SD) 5:11

FREE!

\$1.00 bottle of new
**EVERSHARP
SCHICK**



ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

APPENDIX I

INTERVIEWS

APPENDIX I

INTERVIEWS

Table of Contents

- I-1. Interview of SGT Conrad Grayson, Bomb Disposal Technician with the San Diego Sheriff's Department Arson/Explosives Unit.
- I-2. Interview of SFC Rodriguez, SSG Thompson, SSG Wilson, and SPC Knowles, U.S. Army Explosive Ordnance Disposal Technicians.
- I-3. Interview of Investigator Steve Sawyer, Bomb Disposal Technician with the Borrego Springs Fire Department Arson/Bomb Unit.
- I-4. Interview of Deputy Sheriff Charles Hahn, assigned to the San Diego County Sheriff's Department Rural Enforcement Division, Borrego Springs Office.
- I-5. Interview of Elizabeth Baker, Attorney representing the estate of Josef Janota, Josef being one of the current recorded owners of Borrego Hotel Site Lands.
- I-6. Interview of Mrs. Nancy Ellis, Lifetime Local Resident.
- I-7. Interview of Mr. Fred Jee, Supervising Park Ranger for the California Park Service at the Anza-Borrego Desert State Park.
- I-8. Interview of Mr. Mark Jorgensen, Park Ranger and Ecologist for the California Park Service at the Anza-Borrego Desert State Park.
- I-9. Interview of Mr. Kenneth Smith, Former Park Ranger for the California Park Service at the Anza-Borrego Desert State Park.
- I-10. Interview of Mr. Manford Knack, Archaeologist for the California Park Service at the Anza-Borrego Desert State Park.
- I-11. Interview of Mr. David Ragsdill, Local Resident.
- I-12. Interview of Mrs. Florence Leedy, Owner of Property Adjacent to Borrego Hotel site lands.
- I-13. Interview of Mr. Jim Meiers, Ranger for the California Park Service at the Anza-Borrego Desert State Park.

I-14. Interview of Mr. Bruce Tinknell, Retired Army Explosive Ordnance Disposal Technician.

I-15. Interview of Deputy Sheriff Jim McKenna, assigned to the San Diego County Sheriff's Department Rural Enforcement Division, Borrego Springs Office.

I-16. Interview of Mr. David Rock, WWII Era Area Resident.

I-17. Interview of Mr. Homer Townsend, Former Head Ranger for the California Park Service at the Anza-Borrego Desert State Park.

I-18. Interview of Mr. Bob Begole, Archaeologist for the California Park Service at the Anza-Borrego Desert State Park.

I-19. Interview of Mr. Bernard Bares, Owner of Property Adjacent to Borrego Hotel site lands.

I-20. Interview of Mr. Willard Henry, Longtime Local Resident.

I-21. Interview of Mr. Al McLeary, Ranger for the California Park Service at the Ocotillo State Off-Road Park.

I-22. Interview of Mr. Sam Fortiner, Longtime Local Resident.

I-23. Interview of Mr. Denny Duvall, Lifetime Local Resident.

CONVERSATION RECORD	TIME 0835	DATE 22 January 1997
----------------------------	---------------------	--------------------------------

TYPE

☒ VISIT

☐ CONFERENCE

☐ TELEPHONE
INCOMING
OUTGOING

NAME OF PERSON CONTACTED

SGT Conrad Grayson

ORGANIZATION

San Diego County Sheriff's
Department
5255 Mt. Etna Drive
San Diego, CA 92117

TELEPHONE NO.

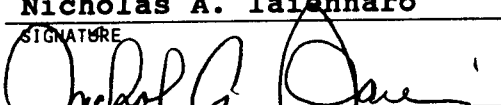
(619) 467-4579

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY At the above specified time and date, SGT Grayson, of the Arson/Explosives unit of the above specified organization, was interviewed concerning his knowledge of ordnance or explosives reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. SGT Grayson began the interview by stating that he has been with the Sheriff's Department Arson/Explosives Unit for 20 years, and is the chairman of all Military/Civilian Explosive Ordnance Disposal (EOD) activity in the County. His organization is notified of all ordnance/explosive incidents in San Diego County. His organization also supported Imperial County until three years ago. SGT Grayson was not aware of a range or an ordnance/explosives presence at the location of the former Borrego Hotel Site. SGT Grayson was aware of ordnance activity in the Anza Borrego State Park (a portion of which the former Maneuver Area was located) and in the Chocolate Mountains. SGT Grayson's organization specializes in the render safe of Improvised Explosive Devices (Pipe Bombs, etc.) and calls the 70th Ordnance Company (EOD) to respond to military ordnance calls in general, so he is not aware of the location of actual ranges/former ranges in that area. SGT Grayson is aware of the presence of a lot of 2.75 inch rockets in that region. SGT Grayson also stated that most of the military ordnance discovered in that region is the result of ordnance removed/pilfered from ranges in the Anza-Borrego Park and the Chocolate Mountains and left by the roadside. SGT Grayson suggested that the 70th EOD be contacted to determine ordnance types and range locations of that region. SGT Grayson, in conclusion, stated that he is not aware of any incidents/accidents resulting from ordnance remaining on/removed from the subject sites.

ACTION REQUIRED

None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 22 January 97

CONVERSATION RECORD	TIME 1115	DATE 22 January 1997
----------------------------	---------------------	--------------------------------

TYPE

☒ VISIT

☐ CONFERENCE

☐ TELEPHONE
INCOMING
OUTGOING

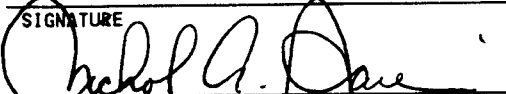
NAME OF PERSON CONTACTED SFC Rodriguez SSG Wilson SSG Thompson SPC Knowles	ORGANIZATION 70 th Ord Co (EOD) Navy Sub Base, P.O. Box 6376 San Diego, CA 92166	TELEPHONE NO. (619) 553-8500
---	--	--

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY

At the above specified time and date, the above specified individuals were interviewed concerning their knowledge of ordnance or explosives reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and former Borrego Maneuver Area. All incident reports, journals, and activity report files of the organization (dating from 1992 to present) were surveyed to determine incident response to the subject sites. Several incident responses occurred to the Anza-Borrego Desert State Park. None of the incidents occurred at or near the former Borrego Hotel Site, nor was any of the interviewed parties aware of a former bombing target at that location. Two incidents (11 March 1994 and 29 December 1996) occurred in/near the Palo Verde Wash (Military Wash) Area of the Desert State Park. This area is a separate former Naval Bombing Target located within (but not associated with) the former Army Borrego Maneuver Area. Incident items discovered/destroyed were a 40MM MK1 WWII High Explosive Projectile and two 5* High Explosive Rockets. All other incident responses involved response to the Carrizo Impact Area, which is part of the Anza-Borrego State Park but not associated or near aforementioned project areas. The interviewed parties, in conclusion, stated that they are not aware of any incidents/accidents resulting from ordnance remaining on/removed from the subject sites or other sites in the area. In addition they have not found evidence of or heard rumor of CWM training or activities in the area.

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 22 January 97

CONVERSATION RECORD	TIME 0700/0800	DATE 27 Jan/4 Mar 1997
--------------------------------	--------------------------	----------------------------------

TYPE

☒ VISIT

☒ CONFERENCE

☒ TELEPHONE
INCOMING
☒ OUTGOING

NAME OF PERSON CONTACTED Investigator Steve Sawyer	ORGANIZATION Borrego Springs Fire Department 2324 Stirrup Road Borrego Springs, CA 92004	TELEPHONE NO. (619) 767-5436
--	--	--

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

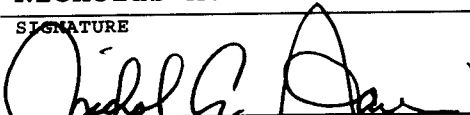
SUMMARY

At the above specified time and date, Investigator Sawyer of the Arson/Bomb unit of the above specified organization, was interviewed concerning his knowledge of ordnance or explosives reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Investigator Sawyer began the interview by stating that he has been with the Borrego Springs Fire Department Arson/Bomb Unit for 14 years, but has visited the Borrego Springs area for the past 19 years. His organization is normally called for assistance for all ordnance/explosive incidents in the Borrego Springs/Park vicinity. Investigator Sawyer was not aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. Investigator Sawyer was aware of ordnance ranges/activity in the Anza Borrego State Park. Investigator Sawyer stated that there were former ranges/impact areas at the Clarks Dry Lake and Military Wash Area of the Park (these areas were Naval bombing/strafing

(continued on separate page)

ACTION REQUIRED

None

NAME OF PERSON DOCUMENTING CONVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 22 January 97

ranges/targets located within, but not associated with, the former maneuver area). Two 5" high explosive rockets were discovered in/around the Military Wash area on 29 December the vicinity of Fonts Point (northeast, one practice bomb) by paleontologists. Other military improvements located at 1996 and destroyed by the Army Explosive Ordnance Disposal personnel (70th Ord Co) at his request. Other items commonly found in the Military Wash area are 3 pound MK 23 practice bombs devoid of spotting charges, .50 caliber bullets, and 20mm projectiles. MK 23 3 pound practice bombs have also been discovered (devoid of spotting charges) in town (Borrego Springs) by a local Realtor (Ted Townsend) and in the former Clarks Dry Lake and Military Wash ranges are Rake Stations. Investigator Sawyer has also discovered what are believed to be inert target practice rockets in the vicinity of Borrego Wash around the area where it merges with San Felipe Wash. Investigator Sawyer also hikes and explores as a hobby. During the week of 2-7 March 1997, Investigator Sawyer hiked/explored the west butte of Borrego Mountain and the Short Wash area (to include an approximate 2 Kilometer area radius around) of the Anza Borrego State Park. No OE items were discovered during the course of this expedition. In conclusion, Investigator Sawyer stated that he is not aware of any incidents/accidents resulting from ordnance remaining on or removed from the subject sites. In addition he has not found evidence of or heard rumor of CWM training or activities in the area.

CONVERSATION RECORD	TIME 0930	DATE 27 January 1997
---------------------	--------------	-------------------------

TYPE

☒ VISIT

☐ CONFERENCE

☐ TELEPHONE
INCOMING
OUTGOING

NAME OF PERSON CONTACTED

Deputy Charles K. Hahn

ORGANIZATION

San Diego County Sheriff's
Department
Rural Enforcement Division
610 Palm Canyon Drive
Borrego Springs, CA 92004

TELEPHONE NO.

(619) 767-5656

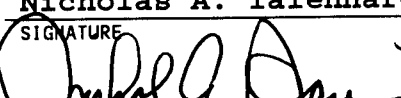
SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY

At the above specified time and date, Deputy Hahn, of the above specified organization, was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Deputy Hahn began the interview by stating that he has been with the Sheriff's Department for 6 years working in the Borrego Springs/Ocotillo area. Deputy Hahn was not aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. The only ordnance related discovery that he is aware of associated with the former Borrego Maneuver Area was the discovery of a MK23 3 pound practice bomb in the military wash area 3-4 years ago. (this area was a Naval bombing/strafing range/target area located within, but not associated with, the former Army maneuver area). Deputy Hahn also believes that there are trees that were fired upon by the military in the Five Palms Spring area of the former maneuver area. In conclusion, Deputy Hahn stated that he is not aware of any incidents/accidents resulting from ordnance remaining on or removed from the subject sites. In addition he has not found evidence of or heard rumor of CWM training or activities in the area.

ACTION REQUIRED

None

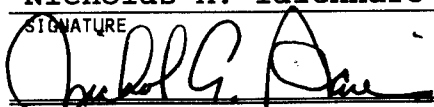
NAME OF PERSON DOCUMENTING CONVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 22 January 97

CONVERSATION RECORD		TIME 1200	DATE 27 January 1997
TYPE			
<input type="checkbox"/> VISIT		<input checked="" type="checkbox"/> CONFERENCE	
		<input checked="" type="checkbox"/>	TELEPHONE
			INCOMING
		<input checked="" type="checkbox"/>	OUTGOING
NAME OF PERSON CONTACTED Attorney Elizabeth Baker		ORGANIZATION 1321 East Adobe Way Palm Springs, CA 92262	TELEPHONE NO. (619) 320-3556
SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field)			

SUMMARY

At the above specified time and date, Ms. Baker was interviewed concerning her knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Manuever Area. Ms. Baker stated that she is the attorney representing the estate of the late Josef Janota who is currently the listed owner of the former Borrego Hotel Site. She stated that the property is to be sold to settle the estate, but a joint owner/acquaintance of Mr. Janota, Ms. Margaret Acers, is being uncooperative in the listing and sale of the property due to diminished relations with Mr. Janota prior to his death. Ms. Baker was not informed/aware of the former Naval ownership/usage of the property or of an ordnance presence on the property. She also stated that the current deed does not contain any restrictive clauses to her knowledge.

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 27 January 97

CONVERSATION RECORD	TIME 0930	DATE 27 January 1997
---------------------	--------------	-------------------------

TYPE

☒ VISIT

☐ CONFERENCE

☐ TELEPHONE
☐ INCOMING
☐ OUTGOING

NAME OF PERSON CONTACTED

Nancy Ellis

ORGANIZATION

601 Anchor Drive
Borrego Springs, CA 92004

TELEPHONE NO.

(619) 767-3010

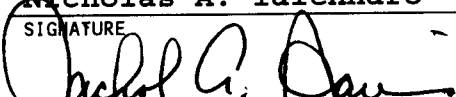
SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY

At the above specified time and date, Ms. Ellis, a lifetime local resident of the Borrego Springs Area, was interviewed concerning her knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Ms. Ellis began the interview by stating that she was not aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. She was familiar, however, with military activity in the former Borrego Maneuver area from 1935-1948 when she lived in a homestead with her family 1 mile north of Clarks Dry Lake. She stated that the Clark's Dry Lake area was used for bombing and strafing activity from approximately 1940 until the end of the war in 1945 (this area was a Naval bombing/strafing range/target area located within, but not associated with, the former Army maneuver area). Ms. Ellis stated that planes dropped bombs at low altitude, bombing from east to west, at white rock round target circles. Also present in the area were rake (observation) stations. Planes also strafed the target area, with small arms ammunition. She recalls seeing small practice bombs and .50 caliber ammunition in the area following range usage. Ms. Ellis recalled an incident where her homestead was accidentally strafed by small arms ammunition. Her father lodged a serious complaint following the incident with local military authorities. Ms. Ellis also recalls seeing tank tracks in the vicinity of her old homestead during that period, but never actually encountered tanks or troops maneuvering in the area. Ms. Ellis stated that she is not aware of any incidents/accidents (continued)

ACTION REQUIRED

None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 27 January 97

resulting from ordnance remaining on or removed from the subject sites. In addition she has never observed or heard rumor of CWM training or activities in the area or artillery soldiers, guns, or positions in the area. In conclusion, Ms. Ellis stated that her brother, David Rock, may have additional knowledge of activities during that period. In addition, she stated that although selling a good portion of family acreage to the State for additional park land, she still owns a 40 acre parcel of land west of Clark's Dry Lake.

CONVERSATION RECORD	TIME 1045	DATE 27 January 1997
---------------------	--------------	-------------------------

TYPE

☒ VISIT

☐ CONFERENCE

☐ TELEPHONE
INCOMING
OUTGOING

NAME OF PERSON CONTACTED Fred Jee	ORGANIZATION California Park Service Anza-Borrego State Park 200 Palm Canyon Drive Borrego Springs, CA 92004	TELEPHONE NO. (619) 767-5311
--	--	-------------------------------------

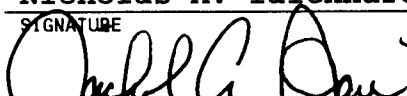
SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY

At the above specified time and date, Mr. Jee was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Mr. Jee began the interview by stating that he is the Supervising Park Ranger for the California Park Service at the Anza Borrego Desert State Park. He began employment as a Ranger in that area in 1975. Mr. Jee was not aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. He was familiar, however, with evidence of former military activity in the former Borrego Maneuver area, due to the fact that he has patrolled a good portion of that area. Mr. Jee stated that there were former ranges/impact areas at the Clarks Dry Lake and Military Wash Area of the Park (these areas were Naval bombing/strafing ranges/targets located within, but not associated with, the former Army Maneuver Area). Ordnance items can still be found in these areas. The only other evidence of prior military use in the park consists of a fallen metallic platform once supported by telephone poles (located in Fault Wash, believed to have been an observation post for Military Wash) and rake stations at the aforementioned Navy Clark's Dry Lake and Military Wash locations. Mr. Jee stated that the only incident/accident resulting from a remaining ordnance presence, to his knowledge, occurred in 1959 in the Carrizo Impact area (not associated with the Maneuver Area). Two individuals were apparently killed when trying to remove ordnance scrap from that area. Mr. Jee stated that park

(continued in next page)

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 22 January 97

records for the period of military occupation of the area do not exist, they were destroyed long ago. A minimal park personnel presence existed during the military occupation period, so park records were probably few or non-existent for that period anyway. Mr. Jee stated that there are several Archeological/Palaentological sites located within the former maneuver area in the form of village sites, tool construction sites, and sleeping circles (to name a few). In conclusion, Mr. Jee has never heard rumor of CWM training or activities in the area.

CONVERSATION RECORD	TIME 1045	DATE 27 January 1997
---------------------	--------------	-------------------------

TYPE

☒ VISIT

☐ CONFERENCE

☐ TELEPHONE
☐ INCOMING
☐ OUTGOING

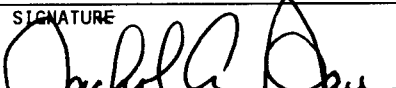
NAME OF PERSON CONTACTED Mark Jorgensen	ORGANIZATION California Park Service Anza-Borrego State Park 200 Palm Canyon Drive Borrego Springs, CA 92004	TELEPHONE NO. (619) 767-5311
--	--	-------------------------------------

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY

At the above specified time and date, Mr. Jorgensen was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Mr. Jorgensen began the interview by stating that he is a Park Ranger and Ecologist for the California Park Service at the Anza-Borrego Desert State Park. He began employment as a Ranger in that area in 1972, but began playing in and exploring the area in 1963. Mr. Jorgensen was not aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. He was familiar, however, with evidence of former military activity in the former Borrego Maneuver area. Mr. Jorgensen remembers the discovery of what was believed to be 155MM shot rounds in 1969 around the Yaqui Pass. Also, a case of dynamite was discovered in the vicinity of Clark's Dry Lake around 1970. Mr. Jorgensen recalled the stories of an old Park Ranger, Chuck Gatti (deceased) who stated that artillery emplacements were once present in the Borrego Sink area with a firing destination of Clark's Dry Lake. Mr. Gatti also had stated that schrapnel could be found all over the badlands. Mr. Jorgensen also stated that another oldtimer, Merle Beckman, once told him that strafing occurred into the 1950's at the Military Wash Area. Footlockers were placed in line at that location for strafing fire (this area was a Naval bombing/strafing range/target area located within, but not associated with, the former Army maneuver area). Mr. Jorgensen stated that he is not aware of any (continued)

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCRC-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 27 January 97

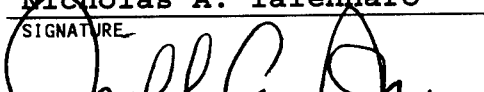
incidents/accidents resulting from ordnance remaining on or removed from the subject sites. In addition he has never heard rumor of CWM training or activities in the area.

CONVERSATION RECORD		TIME 1200	DATE 30 January 1997
TYPE			
<input checked="" type="checkbox"/> VISIT		<input type="checkbox"/> CONFERENCE	<input type="checkbox"/> TELEPHONE <input type="checkbox"/> INCOMING <input type="checkbox"/> OUTGOING
NAME OF PERSON CONTACTED	ORGANIZATION	TELEPHONE NO.	
Kenneth A. Smith	P.O Box 252 Borrego Springs, CA 92004	(619) 767-3303	
SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area			

SUMMARY

At the above specified time and date, Mr. Smith was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Mr. Smith began the interview by stating that he was a Park Ranger for the California Park Service at the Anza Borrego Desert State Park from 78-91. Mr. Smith was not aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. He was familiar, however, with evidence of former military activity in the former Borrego Maneuver area. Mr. Smith remembers the discovery of what was believed to be a High Explosive bomb in the 17 Palms area at an unknown date. Also, military explosives were found in the vicinity of the Military Wash area at an unknown date (this area was a Naval bombing/strafing range/target area located within, but not associated with, the former Army maneuver area). Mr. Smith stated that he is not aware of any incidents/accidents resulting from ordnance remaining on or removed from the subject sites. In addition he has never heard rumor of actual CWM training or activities in the area.

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION	ORGANIZATION	TELEPHONE NUMBER
Nicholas A. Iaiennaro	CENCR-ED-DO	(309) 794-6056
SIGNATURE	TITLE	DATE
	Health & Safety Specialist (UXO)	30 January 97

CONVERSATION RECORD	TIME 1126	DATE 30 January 1997
----------------------------	---------------------	--------------------------------

TYPE

☒ VISIT

☐ CONFERENCE

☐ TELEPHONE
☐ INCOMING
☐ OUTGOING

NAME OF PERSON CONTACTED Manford Knack	ORGANIZATION California Park Service Anza-Borrego State Park 200 Palm Canyon Drive Borrego Springs, CA 92004	TELEPHONE NO. (619) 767-5311
--	--	--

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

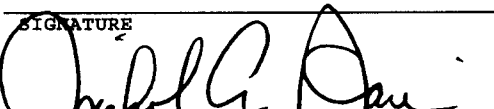
SUMMARY

At the above specified time and date, Mr. Knack was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Mr. Knack began the interview by stating that he has been an Archaeologist for the California Park Service since 1972, assigned to the Anza Borrego Desert State Park. Mr. Knack was not aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. He was familiar, however, with evidence of former military activity in the former Borrego Maneuver area. Mr. Knack knows of the presence of ordnance in the Military Wash area (this area was a Naval bombing/strafing range/target area located

(continued on next page)

ACTION REQUIRED

None

NAME OF PERSON DOCUMENTING CONVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 30 January 97

I-10

within, but not associated with, the former Army Maneuver Area). Mr. Knack has discovered military communications wire in the Yaqui pass area. Mr. Knack also has discovered evidence of former military activity in the Coyote Canyon, Rock House Canyon, and Font's Point areas, none of which was ordnance related.

CONVERSATION RECORD	TIME 1845/0900	DATE 27/30 Jan 1997
---------------------	-------------------	------------------------

TYPE

☒ VISIT

☐ CONFERENCE

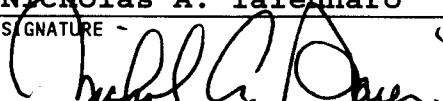
☐ TELEPHONE
☐ INCOMING
☐ OUTGOING

NAME OF PERSON CONTACTED David Ragsdill	ORGANIZATION P.O. Box 143 Borrego Springs, CA 92004	TELEPHONE NO. (619) 767-0304
--	---	-------------------------------------

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY At the above specified time and date, Mr. Ragsdill was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Mr. Ragsdill began the interview by stating that he is has been a local resident for 6 years with an interest in military and Anza-Borrego Park history. In addition, Mr. Ragsdill is an Engineer representing a company engaged in hot well boring activities in the area. Mr. Ragsdill was not aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. He was familiar, however, with evidence of former military activity in the former Borrego Maneuver area. Mr. Ragsdill knows of the presence of ordnance, rake stations, a concentric circle target, and plane crash debris in the Clarks Dry Lake area (located within, but not associated with, the former Army maneuver area). Mr. Ragsdill stated that an old timer (Mr. Duvall) once told him that artillery fire occurred from Rams Hill towards Borrego Sink, that tanks maneuvered through Borrego, and that tank fire occurred from Camp Ensign eastward. Mr. Ragsdill also stated that he has heard that tanks maneuvered in the Little Clark's Lake area and in the foothill's of the Santa Rosa's. Mr. Ragsdill stated that he once located bomb fragments, buried vehicles, and a surface shot-up vehicle near Rock House Canyon Road. Mr. Ragsdill escorted the site inspection team to this area, but failed to re-locate the stated items. In conclusion, Mr. Ragsdill stated that he is not aware of any incidents or accidents resulting from ordnance remaining on or removed from the subject sites. In addition he has never heard rumor of actual CWM training or activities in the area.

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 30 January 97

I-11

CONVERSATION RECORD	TIME 1300	DATE 13 February 1997
---------------------	--------------	--------------------------

TYPE

☐ VISIT

☒ CONFERENCE

☒ TELEPHONE
INCOMING
☒ OUTGOING

NAME OF PERSON CONTACTED

Florence Leedy

ORGANIZATION

P.O. Box 1113
Borrego Springs, CA 92004

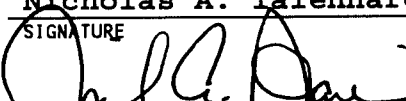
TELEPHONE NO.

(619) 767-3781

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field)

SUMMARY At the above specified time and date, Mrs. Leedy was interviewed concerning her knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field). Mrs. Leedy began the interview by stating that she and her husband Donald are the joint owners of property in the northeast ¼ of Section 26, Township 12S, Range 8E which is directly North of the project parcel of land. Mrs. Leedy stated that they have owned the property since 1980, but she has dune-buggied in the area for the past 40 years. Mrs. Leedy was aware that military activity occurred in the area during WWII. She stated that she has seen a concentric circle bombing target and arrows, both formed with painted stone lines, on the adjacent (southern) property. She stated that one may find an occasional thin metal shell (bomb) casing or two on the property, but these are rather scarce because the property has been picked over, over the years. Mrs. Leedy stated that this area, being a dry lake, sees a good deal of recreational use because people are not aware that it is private property. People often fly radio control airplanes on the dry lake bed which was, and is believed to currently be, an emergency landing field. Mrs. Leedy has never discovered ordnance on or near her property. Mrs. Leedy is not aware of any incidents or accidents resulting from ordnance remaining on or removed from the subject property. In addition, she has never heard rumor of actual CWM training or activities in the area. In conclusion, Mrs. Leedy stated that the Halfhill Dry Lake bed remains dry for most of the year. It holds water briefly during summer flash floods, three or four days maximum. Mrs. Leedy also stated that she actually lives on her property, but the subject property does not contain any form of dwelling.

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Taiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 30 January 97

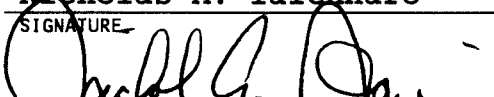
CONVERSATION RECORD	TIME 1115	DATE 14 February 1997
---------------------	--------------	--------------------------

TYPE		
<input type="checkbox"/> VISIT	<input checked="" type="checkbox"/> CONFERENCE	<input checked="" type="checkbox"/> TELEPHONE <input type="checkbox"/> INCOMING <input checked="" type="checkbox"/> OUTGOING
NAME OF PERSON CONTACTED Jim Meiers	ORGANIZATION California Park Service Anza-Borrego State Park 200 Palm Canyon Drive Borrego Springs, CA 92004	TELEPHONE NO. (619) 767-5311

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY At the above specified time and date, Mr. Meiers was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Mr. Meiers began the interview by stating that he has been a Ranger for the California Park Service since 1980, assigned to the Anza Borrego Desert State Park. Mr. Meiers was not aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. He was familiar, however, with evidence of former military activity in the former Borrego Maneuver area. Mr. Meiers current patrol area covers a good portion of the former maneuver area, where he often takes visitors on guided tours. Mr. Meiers knows of an ordnance presence in the Military Wash and Clarks Dry Lake area (these areas were Naval bombing and strafing ranges/target areas located within, but not associated with, the former Army maneuver area). Mr. Meiers has also discovered 40mm projectiles in the Palo Verde Wash areas and the 17 Palms area. The Palo Verde Wash 40mm was reported to authorities and destroyed by Army Explosive Ordnance disposal personnel on 11 March 1994. This was a 40mm high explosive round and the actual location was at the intersection of Palo Verde Wash and Short Wash. The other 40mm projectile is located 1 to 1.5 miles west of the 17 Palms area. Mr. Meiers believes that he would be unable to pinpoint the exact location of the projectile for destruction. In conclusion, Mr. Meiers stated that he is not aware of any incidents or accidents resulting from ordnance remaining on or removed from the subject property. Also, he has never heard rumor of CWM training or activities.

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 14 February 97

CONVERSATION RECORD	TIME 0800	DATE 13 February 1997
---------------------	--------------	--------------------------

TYPE

☐ VISIT

☒ CONFERENCE

☒

TELEPHONE

INCOMING

☒

OUTGOING

NAME OF PERSON CONTACTED

Bruce Tinknell

ORGANIZATION

8786 Betelgeuse Way
San Diego, CA 92126

TELEPHONE NO.

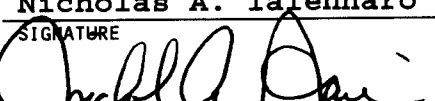
(619) 578-9901

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY At the above specified time and date, Mr. Tinknell was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Mr. Tinknell began the interview by stating that he is a retired Army Explosive Ordnance Disposal (EOD) Technician who had been stationed with the 70th Ord Det (EOD) in San Diego from 1975-1987. The 70th's area of responsibility included the project areas. Mr. Tinknell was not aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. He was familiar, however, with evidence of former ordnance activity in the former Borrego Maneuver area. Mr. Tinknell stated that he responded to an incident involving the discovery of three 100 pound photoflash bombs in the Military Wash portion of the maneuver area. He could not recall the date of the incident, but he did recall that the bombs were destroyed. Mr. Tinknell responded to the military wash area on another unknown date after the discovery of a 5^{1/2} rocket, believed to have been of the high explosive variety. Explosive disruption of this item revealed that it was a wax filled practice rocket. Mr. Tinknell stated that additional responses to the Anza Borrego region were numerous, items often appeared after rain moved through washes, but most of the activity was believed to have been attributed to operations in the Carrizo Impact area, south of the subject sites. In conclusion, Mr. Tinknell stated that he is not aware of any incidents or accidents resulting from ordnance remaining on or removed from the subject property. Also, he has never heard rumor of actual CWM training or activities in the area.

ACTION REQUIRED

None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 13 February 97

CONVERSATION RECORD	TIME 1030	DATE 17 February 1997
----------------------------	---------------------	---------------------------------

TYPE

☐ VISIT

☒ CONFERENCE

☒ TELEPHONE
☐ INCOMING
☒ OUTGOING

NAME OF PERSON CONTACTED

Deputy Jim McKenna

ORGANIZATION

San Diego County Sheriff's
Department
Rural Enforcement Division
610 Palm Canyon Drive
Borrego Springs, CA 92004

TELEPHONE NO.

(619) 767-5656

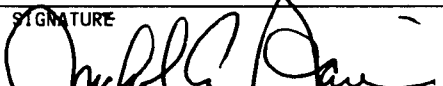
SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY

At the above specified time and date, Deputy McKenna, of the above specified organization, was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Deputy McKenna began the interview by stating that he has been with the Sheriff's Department for 17 years working in the Borrego Springs/Ocotillo area. Deputy McKenna stated that in his seventeen years in the area, he has only received 2-3 ordnance related calls which were associated with ordnance discovered in the Carrizo Impact area, located south of the subject sites. In conclusion, Deputy McKenna stated that he is not aware of any incidents/accidents resulting from ordnance remaining on or removed from the subject sites. In addition he has not found evidence of or heard rumor of CWM training or activities in the area.

ACTION REQUIRED

None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 17 February 97

CONVERSATION RECORD	TIME 1200	DATE 17 February 1997
---------------------	--------------	--------------------------

TYPE

☐ VISIT

☒ CONFERENCE

☒ TELEPHONE
INCOMING
☒ OUTGOING

NAME OF PERSON CONTACTED David Rock	ORGANIZATION 1317 North V Street Lampoc, CA 93436	TELEPHONE NO. (805) 735-4864
--	---	-------------------------------------

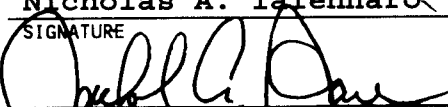
SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY

At the above specified time and date, Mr. Rock was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Mr. Rock began the interview by stating that he was not aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. He was familiar, however, with military activity in the former Borrego Maneuver area during WWII activity, where he lived in a homestead with his family 1 mile north of Clarks Dry Lake. Mr. Rock Began the interview by stating that he lived in the Clark's Dry Lake area from the mid 1930's until the late 1940's on property that his father had homesteaded. During the period of 1940-1944, the family did not actually live on the property but visited there most weekends. Mr. Rock stated that Navy Corsairs often bombed and strafed a concentric circle stone target on Clark's Dry Lake (this area was a Naval bombing/strafing range/target area located within, but not associated with, the former Army maneuver area). The ordnance fired/dropped from these aircraft consisted of .30 and .50 caliber ammunition and 3 pound practice bombs containing a spotting charge resembling a 10 gauge shotgun shell. Mr. Rock stated that he could actually watch the ordnance activity from their property. The planes would sometimes come in from the southeast and dive bomb and strafe the targets from the east. Never did the bombs create a loud noise or earth shock, just a puff of spotting smoke. Sometimes, though, the planes would come in from the south and fire into the Santa Rosa's. One time the planes accidentally shot up their barn with small arm's fire.

(continued on next page)

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 17 February 97

Mr. Rock stated that the practice bombs were only found in the target area, some intact and some broken, and were often removed as souvenirs. Mr. Rock stated that some of the bombs removed still had intact spotting charges. Although never removing any bombs himself, his cousin, now deceased, often removed them for his collection. Also in his collection was a 155mm projectile (devoid of fuze) containing lead shot, the location discovered and it's present location unknown. Mr. Rock stated that he is not aware of any incidents or accidents resulting from ordnance remaining on or removed from the subject sites. In addition he has never observed or heard rumor of CWM training or activities in the area. In conclusion, Mr. Rock stated that the only other evidence of military operations in the park, that he discovered, were tank tracks in the vicinity of Clark's Dry Lake. Never did he actually see tank or ground troop activity in the area. In addition, Mr. Rock clarified the families dislocation from the area from 1940-1944. He stated that it was family motivated, not government mandated, that's why they were able to return on weekends.

CONVERSATION RECORD	TIME 1115	DATE 14 February 1997
---------------------	--------------	--------------------------

TYPE

☐ VISIT

☒ CONFERENCE

☒ TELEPHONE
INCOMING
☒ OUTGOING

NAME OF PERSON CONTACTED

Homer Townsend

ORGANIZATION

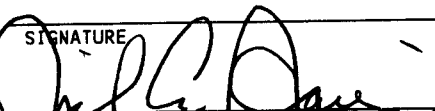
TELEPHONE NO.

(619) 767-3986

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY At the above specified time and date, Mr. Townsend was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Mr. Townsend began the interview by stating that he was the Head Ranger for the Anza Borrego Desert State Park from 1991 to 1996. In addition, he was the Chief Ranger for the Ocotillo State Park from 1983 until 1985. The Anza Borrego Desert State Park area north of Route 78 and the Ocotillo State Park were included as part of the Borrego Maneuver Area. Mr. Townsend was not aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. He was familiar, however, with evidence of former military activity in the former Borrego Maneuver area. Mr. Townsend knew of an ordnance presence in the Military Wash and Clarks Dry Lake area (these areas were Naval bombing and strafing ranges/target areas located within, but not associated with, the former Army maneuver area). Mr. Townsend has also stated that Mr. Meiers, a Ranger of the Anza Borrego State Park, discovered a 40mm projectile in the Short Wash north of Military Wash a few years ago. Mr. Townsend stated that he also heard rumor that artillery fire occurred over the badlands towards Clarks Dry Lake. In conclusion, Mr. Townsend stated that he is not aware of any incidents/accidents resulting from ordnance remaining on or removed from the subject sites. In addition he has not found evidence of or heard rumor of CWM training or activities in the area.

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 14 Feb 97

I-17

CONVERSATION RECORD	TIME 1115	DATE 14 February 1997
---------------------	--------------	--------------------------

TYPE

☐ VISIT

☒ CONFERENCE

☒ TELEPHONE
INCOMING
☒ OUTGOING

NAME OF PERSON CONTACTED

Bob Begole

ORGANIZATION

1010 Palm Canyon Drive
P.O. Box 1306
Borrego Springs, CA 92004

TELEPHONE NO.


(619) 767-5070

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY At the above specified time and date, Mr. Begole was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Mr. Begole began the interview by stating that he has been a Archaeologist for the California Park Service for a number of years, working in the Anza Borrego Desert State Park. Mr. Begole was not specifically aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. He was familiar, however, with evidence of former military activity in the former Borrego Maneuver area. Mr. Begole found an observation post with ration cans in the Yaqui Pass area. Additionally found in this area was a telephone line extending towards Borrego Springs. Mr. Begole knows of an ordnance presence in the Military Wash and Clarks Dry Lake area (these areas were Naval bombing and strafing ranges/target areas located within, but not associated with, the former Army maneuver area). Mr. Begole stated that he has walked the Borrego Mountains, the Santa Rosa Mountains, and the majority of the former maneuver area acreage, never discovering any other military ordnance or artifacts. In conclusion, Mr. Begole stated that he is not aware of any incidents or accidents resulting from ordnance remaining on or removed from the subject property. Also, he has never heard rumor of actual CWM training or activities.

ACTION REQUIRED

None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Laiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 14 February 97

I-18

CONVERSATION RECORD	TIME 1115	DATE 17 February 1997
---------------------	--------------	--------------------------

TYPE

☐ VISIT

☒ CONFERENCE

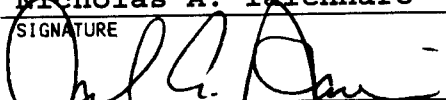
☒ TELEPHONE
INCOMING
☒ OUTGOING

NAME OF PERSON CONTACTED Bernard Bares	ORGANIZATION 31603 Scenic Drive Laguna Beach, CA	TELEPHONE NO. (714)499-2412
---	--	------------------------------------

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field)

SUMMARY At the above specified time and date, Mr. Bares was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field). Mr. Bares began the interview by confirming that he is the owner of property in the southeast ¼ of Section 25, Township 12S, Range 8E which is directly East of the project parcel of land. Mr. Bares stated that he has owned the this property, and a number of other properties in the area for many years. Mr. Bares stated that although having had contact with his property and the subject property, he had no idea that military activity ever occurred in that area. He has never discovered ordnance or artifacts to suggest a military usage.

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 17 February 97

CONVERSATION RECORD	TIME 1300	DATE 17 February 1997
---------------------	--------------	--------------------------

TYPE

☐ VISIT

☒ CONFERENCE


☒ TELEPHONE
INCOMING
☒ OUTGOING

NAME OF PERSON CONTACTED Willard Henry	ORGANIZATION 769 Diamond Bay Road Borrego Springs, CA 92004	TELEPHONE NO. (619) 767-5506
---	---	-------------------------------------

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY At the above specified time and date, Mr. Henry was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Mr. Henry began the interview by stating that he is has been a local resident since 1955 with an interest in military activity/artifacts. Mr. Henry was not aware of a target area or an ordnance or explosives presence at the location of the former Borrego Hotel Site. He was familiar, however, with evidence of former military activity in the former Borrego Maneuver area. Mr. Henry knows of an ordnance presence in the Military Wash and Clarks Dry Lake area (these areas were Naval bombing and strafing ranges/target areas located within, but not associated with, the former Army maneuver area). Mr. Henry also located concrete foundation remains and a 500 gallon propane tank north of the Borrego Sink, an area he believes to have been associated with military activity (possibly from a former firing point, the propane tank no longer remains). Mr. Henry stated that he has scoured a good portion of the former Borrego Maneuver area acreage in search of artifacts since 1955, but never has discovered any projectiles, ordnance, or firing/impact areas other than those previously mentioned. In conclusion, Mr. Henry stated that he is not aware of any incidents or accidents resulting from ordnance remaining on or removed from the subject sites. In addition he has never heard rumor of actual CWM training or activities in the area.

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 17 February 97

I-20

CONVERSATION RECORD	TIME 1410	DATE 13 February 1997
---------------------	--------------	--------------------------

TYPE

☐ VISIT

☒ CONFERENCE

☒ TELEPHONE
INCOMING
☒ OUTGOING

NAME OF PERSON CONTACTED

Al McLeary

ORGANIZATION

Ocotillo State Off Road
Park
5172 Highway 78
Ocotillo Wells, CA 92004

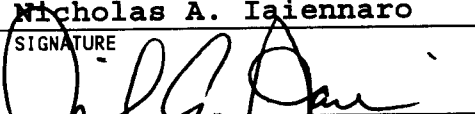
TELEPHONE NO.

(619) 767-5391

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY At the above specified time and date, Mr. McLeary was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Mr. McLeary began the interview by stating that he has been a Ranger for the above specified organization for over 20 years, a position he filled following his Navy retirement. The Anza Borrego Desert State Park area north of Route 78 and the Ocotillo State Park were included as part of the Borrego Maneuver Area. Mr. McLeary was not aware of a target area or an ordnance/explosives presence at the location of the former Borrego Hotel Site. He was familiar, however, with evidence of former military activity in the former Borrego Maneuver area. Mr. McLeary knows of an ordnance presence in the Military Wash and Clarks Dry Lake area (these areas were Naval bombing and strafing ranges/target areas located within, but not associated with, the former Army maneuver area). Mr. McLeary is also aware of an extensive ordnance presence in the Carrizo Impact Area, which is south and not associated with the project sites. In conclusion, Mr. McLeary stated that he is not aware of any incidents or accidents resulting from ordnance remaining on or removed from the subject sites. In addition he has not found evidence of or heard rumor of CWM training or activities in the area .

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 13 February 97

I-21

CONVERSATION RECORD	TIME 1030	DATE 19 February 1997
---------------------	--------------	--------------------------

TYPE

☐ VISIT

☒ CONFERENCE

☒ TELEPHONE
INCOMING
☒ OUTGOING

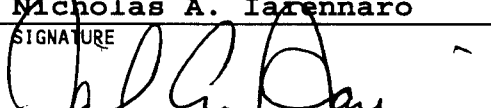
NAME OF PERSON CONTACTED Sam Fortiner	ORGANIZATION P.O. Box 67 Borrego Springs, CA 92004	TELEPHONE NO. (619) 767-5539
--	--	-------------------------------------

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY At the above specified time and date, Mr. Fortiner was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Mr. Fortiner began the interview by stating that he has been a local resident since 1947, but began visiting the area since 1945/1946. Mr. Fortiner was not aware of a target area or an ordnance or explosives presence at the location of the former Borrego Hotel Site. He was familiar, however, with evidence of former military activity in the former Borrego Maneuver area. Mr. Fortiner knows of an ordnance presence in the Clarks Dry Lake area (this area was a Naval bombing and strafing range/target area located within, but not associated with, the former Army maneuver area). Ordnance in the form of .50 caliber bullets and little smoke bombs were dropped/fired into Clark's Dry Lake by Navy Planes. Mr. Fortiner also located military slit trenches east of the churches located in Borrego near Warners Hot Spring. Mr. Fortiner stated that he never heard or found evidence of tank maneuvers occurring anywhere in the area. He did recall seeing a sign in the former Borrego Store/Post Office stating the price of hot and cold showers (25c/40c) with a statement concerning General Patton beneath it (stating something to the effect that General Patton had showered there). Mr. Fortiner stated that he had talked considerably to the locals of that time that would have had the most contact with military personnel (Tom Davis who had a house on Camp Ensign, Eddie Duvall of the General Store/Post Office, and Mr. Ensign who owned the Camp Ensign Property). Never had they discussed a knowledge of Anti-Aircraft

(continued on next page)

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iannaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 19 February 97

Artillery fire in the area. In conclusion, Mr. Fortiner stated that he is not aware of any incidents or accidents resulting from ordnance remaining on or removed from the subject sites. In addition he has never heard rumor of actual CWM training or activities in the area.

CONVERSATION RECORD	TIME 1115	DATE 19 February 1997
---------------------	--------------	--------------------------

TYPE

☐ VISIT

☒ CONFERENCE

☒ TELEPHONE
INCOMING
☒ OUTGOING

NAME OF PERSON CONTACTED

Denny Duvall

ORGANIZATION

601 Anchor Drive
Borrego Springs, CA 92004

TELEPHONE NO.

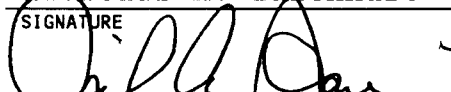
619) 767-3010

SUBJECT OE on or Originating from The Former Borrego Hotel Site (Target Area and Emergency Landing Field) and Borrego Maneuver Area

SUMMARY At the above specified time and date, Mr. Duvall was interviewed concerning his knowledge of an ordnance or explosives presence reported or discovered on the former Borrego Hotel Site (Bombing Target and Emergency Landing Field) and Former Borrego Maneuver Area. Mr. Duvall began the interview by stating that he has been a local resident all of his life, and was a young boy living in the area at the beginning of WWII. His father (now deceased) owned the general store/post office during military activities in the area during that time frame, and he and his family lived across the street from his fathers establishment. Mr. Duvall recalls seeing Half Tracks, Jeeps, 6 X 6 vehicles, and a small Banning Tank in the area during that period, never any large tanks. In fact, he was given a ride in the Banning Tank. Mr. Duvall recalls that his father had some ordnance on display in the store/home at that time. He had several 6-8 inch diameter projectiles, about 17 inches long, some were empty and some filled with steel shot/balls (believed to be 155mm shot rounds). He also had a couple of 3 pound practice bombs on display which had been cleaned and plated. The location where these ordnance items were recovered or their present location is unknown. All the projectiles were devoid of fuzes. Mr. Duvall stated that all the soldiers he encountered were Army soldiers who often ate breakfast cooked by his mom at the store. The soldiers camped north of Clark's Valley and east of the store in the Borrego Sink area. The soldiers were being familiarized in desert operations for future wartime service in Africa. Mr. Duvall was not aware of a target area or an ordnance or explosives presence at the location of the former Borrego Hotel Site.

(continued on the next page)

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING COVERSATION Nicholas A. Iaiennaro	ORGANIZATION CENCR-ED-DO	TELEPHONE NUMBER (309) 794-6056
SIGNATURE 	TITLE Health & Safety Specialist (UXO)	DATE 17 February 97

I-23

He was familiar, however, with evidence of former ordnance activity in the former Borrego Maneuver area. Mr. Duvall knows of an ordnance presence in the Clarks Dry Lake area (this area was a Naval bombing and strafing range/target area located within, but not associated with, the former Army maneuver area). Mr. Duvall stated that he has explored a good portion of the Maneuver Area in the last few years and has not discovered any other evidence of military activity. He believes a good deal of ordnance remaining after the military usage period has been removed by a multitude of people who visit the park. Mr. Duvall stated that he is not aware of any incidents or accidents resulting from ordnance remaining on or removed from the subject sites. In addition he has never witnessed or heard rumor of actual CWM training or activities in the area.

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

APPENDIX J

PRESENT SITE PHOTOGRAPHS

APPENDIX J
PRESENT SITE PHOTOGRAPHS

TABLE OF CONTENTS

J-1. Area A: Looking east from west center target circle at part of former target (painted rock) circle.

J-2. Area A: Looking east from west center target circle towards east center target circle and practice bomb debris.

J-3. Area A: MK 23 3 pound practice bomb debris between center target circles.

J-4. Area A: MK 23 3 pound practice bomb debris north of target center.

J-5. Area A: 500 pound practice bomb debris southwest of target.

J-6. Area A: 20MM armor piercing projectile east of target.

J-7. Area A: MK15 100 pound practice bomb nose northwest of target center.

J-8. Area A: Approximate center of target looking north.

J-9. Area A: Approximate center of target looking west.

J-10. Area A: Approximate center of target looking south.

J-11. Area A: Approximate center of target looking east.

J-12. Area B: Looking west towards secondary target.

J-13. Area B: .50 Cal belt links at east edge of secondary target center.

J-14. Area B: M38A2 100 pound practice bomb scrap northeast of target.

J-15. Area B: .50 Cal shell casing northeast of target.

J-16. Area C: M38A2 100 pound practice bomb scrap in northeast portion of site.

J-17. Area C: Stone directional arrow facing east.

J-18. Area C: Stone directional arrow facing north.

J-19. Area D: M38A2 100 pound practice bomb scrap east of eastern site boundary.

J-20. Area D: MK 23 3 pound practice bomb fragments east of eastern site boundary

J-21. Area D: M38A2 100 pound practice bomb nose east of eastern site boundary.



J-1. Looking East from Main Target West Center Target Circle at Part of Former Target (Painted Rock) Concentric Circle.



J-2. Looking East from Main Target West Center Target Circle Towards East Center Target Circle and Practice Bomb Debris.



J-3. MK 23 3 Pound Practice Bomb Debris Between Main Target Center Target Circles.



J-4. MK 23 3 Pound Practice Bomb Debris North of Main Target Center.



J-5. M65 500 Pound Practice Bomb Debris Southwest of Main Target.



J-6. M95 20MM Armor Piercing Tracer Projectile East of Main Target.



J-7. MK15 100 Pound Practice Bomb Nose Northwest of Main Target Center.



J-8. Approximate Center of Main Target Looking North.



J-9. Approximate Center of Main Target Looking West.



J-10. Approximate Center of Main Target Looking South.



J-11. Approximate Center of Main Target Looking East.



J-12. Looking West Towards Secondary Target Area.



J-13. .50 Cal Belt Links at East Edge of Secondary Target Area Center.



J-14. M38A2 100 Pound Practice Bomb Scrap Northeast of Secondary Target Area.



J-15. .50 Cal Shell Casing Northeast of Secondary Target Area.



J-16. M38A2 100 Pound Practice Bomb Scrap in Northeast Portion of Impact Area.



J-17. Stone Directional Arrow in Impact Area Facing East.



J-18. Stone Directional Arrow in Impact Area Facing North.



J-19. M38A2 100 Pound Practice Bomb Scrap in Impact Area (Additional Land), East of Original Site Eastern Boundary.



J-20. MK 23 3 Pound Practice Bomb Fragments in Impact Area (Additional Land), East of Eastern Original Site Eastern Boundary



J-21. M38A2 100 Pound Practice Bomb Nose in Impact Area
(Additional Land), East of Original Site Eastern Boundary.

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

APPENDIX K

HISTORICAL PHOTOGRAPHS

APPENDIX K

HISTORICAL PHOTOGRAPHS

TABLE OF CONTENTS

K-1. Aerial Photo of Borrego Hotel Target Area and Emergency Landing Field, 23 March 1944 (B-34).



K-1. Aerial Photo of Borrego Hotel Target Area and Emergency
Landing Field, 23 March 1944

K-1

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

APPENDIX L

REFERENCE MAPS/DRAWINGS

APPENDIX L

REFERENCE MAPS/DRAWINGS

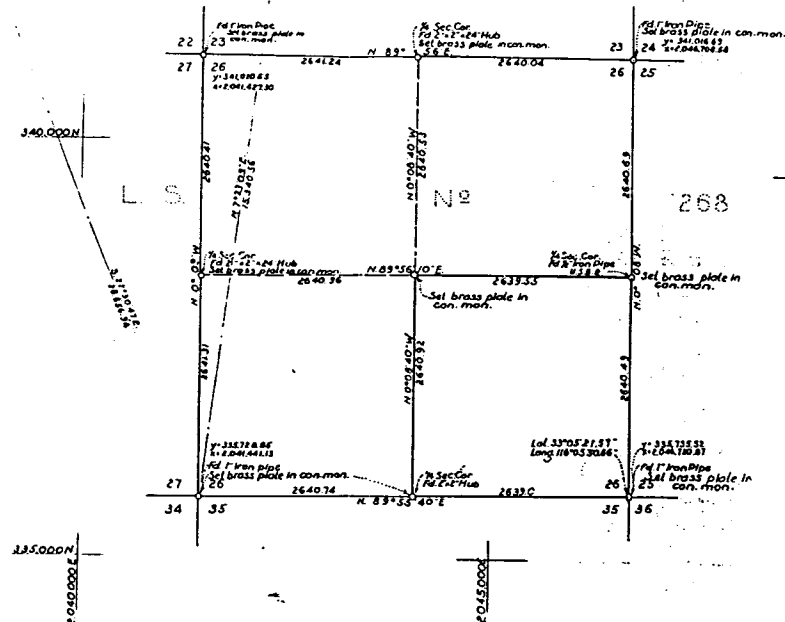
Table of Contents

L-1. Plat Map Survey of Borrego Hotel Site Landing Field, Circa 1940 (B-35).

L-2. Location Map of Naval Reservations in San Diego, Imperial, and Portions of Orange and Riverside Counties, California, 30 June 1942 (B-36).

L-3. Location Map of San Felipe Bombing Target (Borrego Hotel Site Information Included), Circa 1944 (B-37).

Plat of Survey of
 BOREGO HOTEL SITE LANDING FIELD
 Being the S.E. 1/4 of Sec. 26, T12S, R8E
 SBBM
 San Diego County Calif.
 Scale 1"=1000'



Surveyed under contract made and entered into on October 4, 1940, between the United States of America, by Rear Admiral Charles A. Blakely, U.S. Navy, Commandant, Eleventh Naval District, San Diego, California, acting for the Secretary of the Navy, pursuant to the provisions of Act of Congress approved June 15, 1940 (54 Stat. Chap. 375) Part of the First Part, and Norman G. Glover, a licensed land surveyor in the State of California, Part of the Second Part.

Surveyed By Norman G. Glover, L.S. 1880
 November, 1940

Norman G. Glover

Approved after examination of map and comparing with data of record.
 ERNEST R. CHILDS, County Surveyor

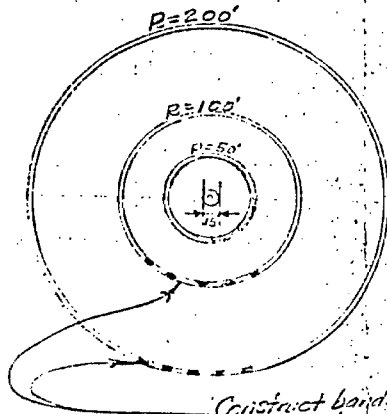
By _____ Deputy

FILE NO. _____
 Filed at the request of Norman G. Glover at _____ minutes after _____ o'clock _____ M. this _____ day of _____ 1940.
 ROGER N. HOWE, County Recorder

By _____ Deputy

NOTE:
 Bearings, distances and coordinates are based on the Lambert Conformal Polyconic Projection, State of California, Grid No. 6. Survey controlled locally by U.S. Coast and Geodetic Survey Triangulation Station "Ocotilla 1939" and my own station "Borrow."

Ocotilla 1939: y=350,942.13
 x=2,043,413.17
 Borrow: y=362,386.65
 x=2,030,331.98



Construct bands of natural sandstone slabs if available, or gypsum blocks, and whitewashed.

SALTON SEA

Naval Air Station
Salton Sea

To Julian

Cal. 78

Bowling House

King Springs

U.S. 44

5	4	3	2	1	0	1	2
17	16	15	14	13	12	11	10

SAN FELIPE
BOMBING TARGET

COYOTE WELLS - NORTH
Emergency Landing Field

Marine Corps
Air Station
El Centro

Dixie Island

To El Centro

Plaster City

U.S. 80

To San Diego

UA

RB

DRAWN BY: <u>RMD</u> TRACED BY: _____ CHECKED BY: _____ CHIEF DRAFTSMAN: _____ IN CHARGE: _____ SCALE: <u>1" = 1/2 MI.</u> SHEET: <u>1 OF 1</u>	NAVAL AIR BASES-ELEVENTH NAVAL DISTRICT SAN DIEGO, CALIFORNIA LOCATION MAP OF SAN FELIPE BOMBING TARGET DATE: _____ APPROVED: _____ NABG/NIZ(S)
---	---

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

APPENDIX M

ARCHIVES SEARCH REPORT CORRESPONDENCE

(Not Used)

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

APPENDIX N

REPORT DISTRIBUTION LIST

APPENDIX N

REPORT DISTRIBUTION LIST

EXTERNAL

	No. Copies		
	I	II	III
Commander, U.S. Army Corps of Engineers Engineering and Support Center, ATTN: CEHNC-OE-AI (MARDIS) P.O. Box 1600 Huntsville, Alabama 35807-4301	2	-	-
Commander, U.S. Army Engineer Division North Central, ATTN: CENCD-PP-PM (Warda) 111 North Canal Street Chicago, Illinois 60606-7205	1	-	-
Commander, U.S. Army Defense Ammunition Center and School, ATTN: SIOAC-ESL Savanna, Illinois 61074-9639	3	-	-
Commander, U.S. Army Engineer District Los Angeles, ATTN: CESPL-PM-M (Knutson) P.O. Box 2711 Los Angeles, CA 90053-2325	2	-	-

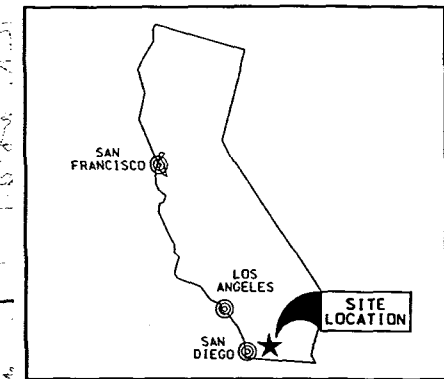
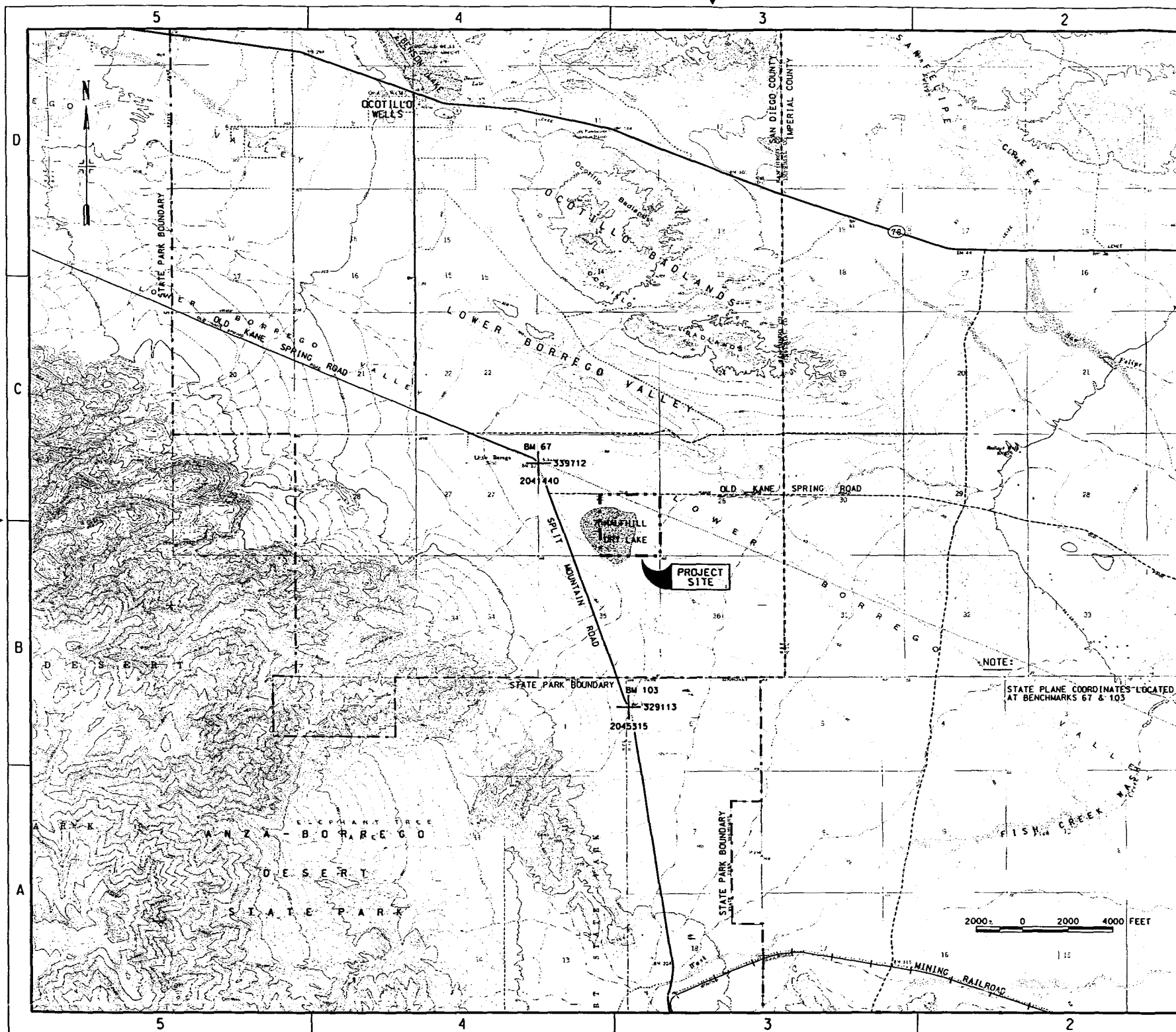
INTERNAL

	No. Copies		
	I	II	III
Commander, U.S. Army Corps of Engineers Rock Island District P.O. Box 2004 Rock Island, Illinois 61201			
ATTN: CENCR-			
ED	-	-	1
ED-D	-	-	1
ED-DO	3	-	-

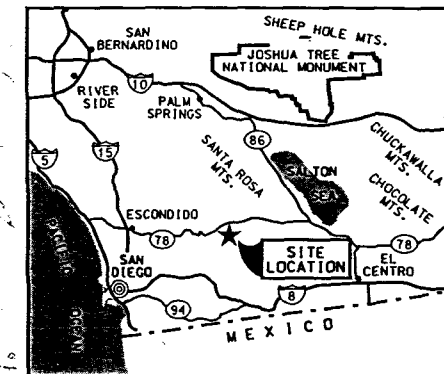
I - Final Report
 II - Findings Report
 III - Routed Final Report

ORDNANCE AND EXPLOSIVE
ARCHIVES SEARCH REPORT
FOR
BORREGO HOTEL (TARGET AREA AND
EMERGENCY LANDING FIELD)
BORREGO SPRINGS, CALIFORNIA
PROJECT NUMBER J09CA701104

REPORT PLATES



STATE MAP OF CALIFORNIA



VICINITY MAP

LEGEND:

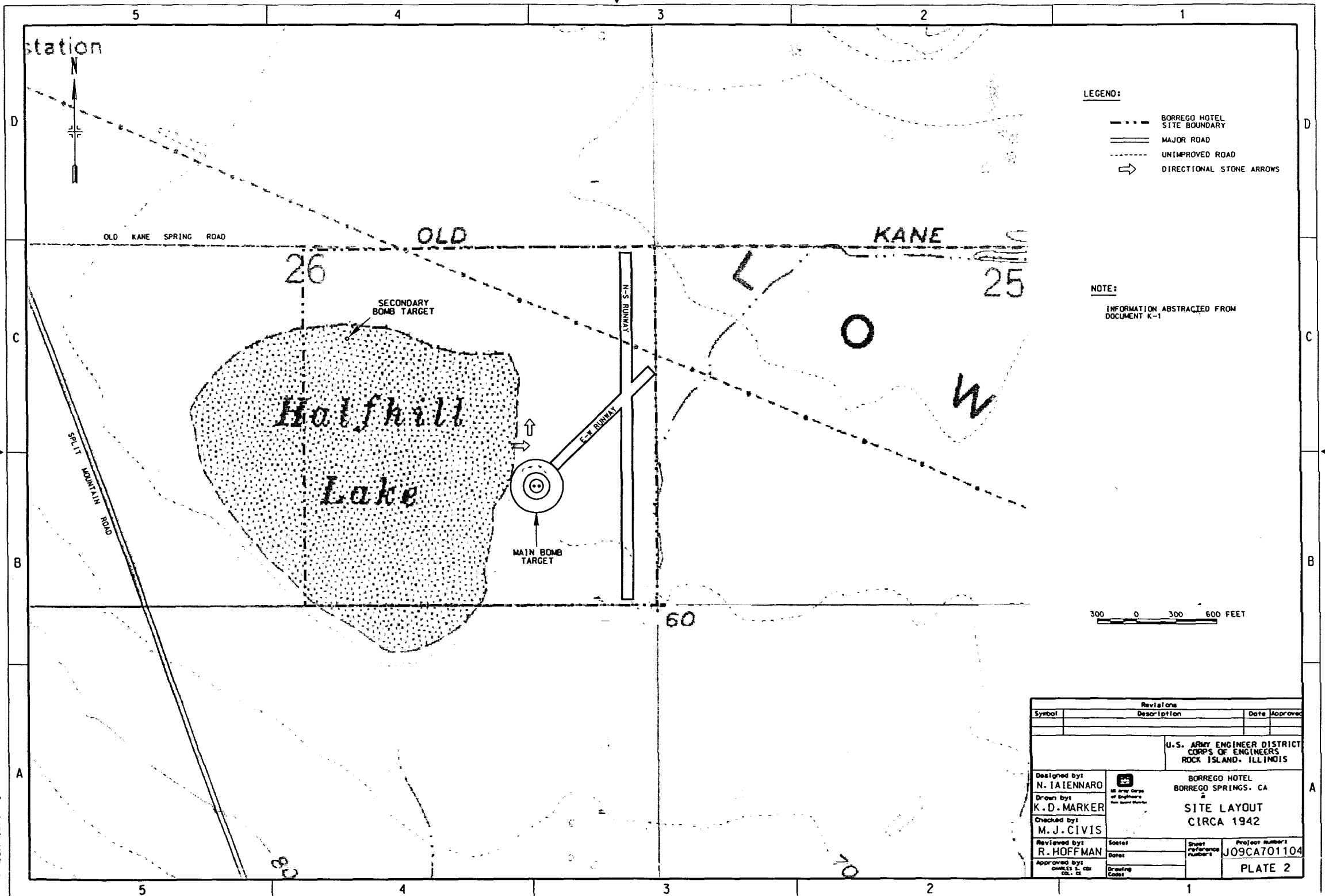
- BORREGO HOTEL PROJECT BOUNDARY
- MAJOR ROADS
- - - UNIMPROVED ROADS
- - - STATE PARK BOUNDARY
- - - COUNTY LINE
- + RAILROAD
- + STATE PLANE COORDINATES

NOTE:
STATE PLANE COORDINATES LOCATED AT BENCHMARKS 67 & 103

2000 0 2000 4000 FEET

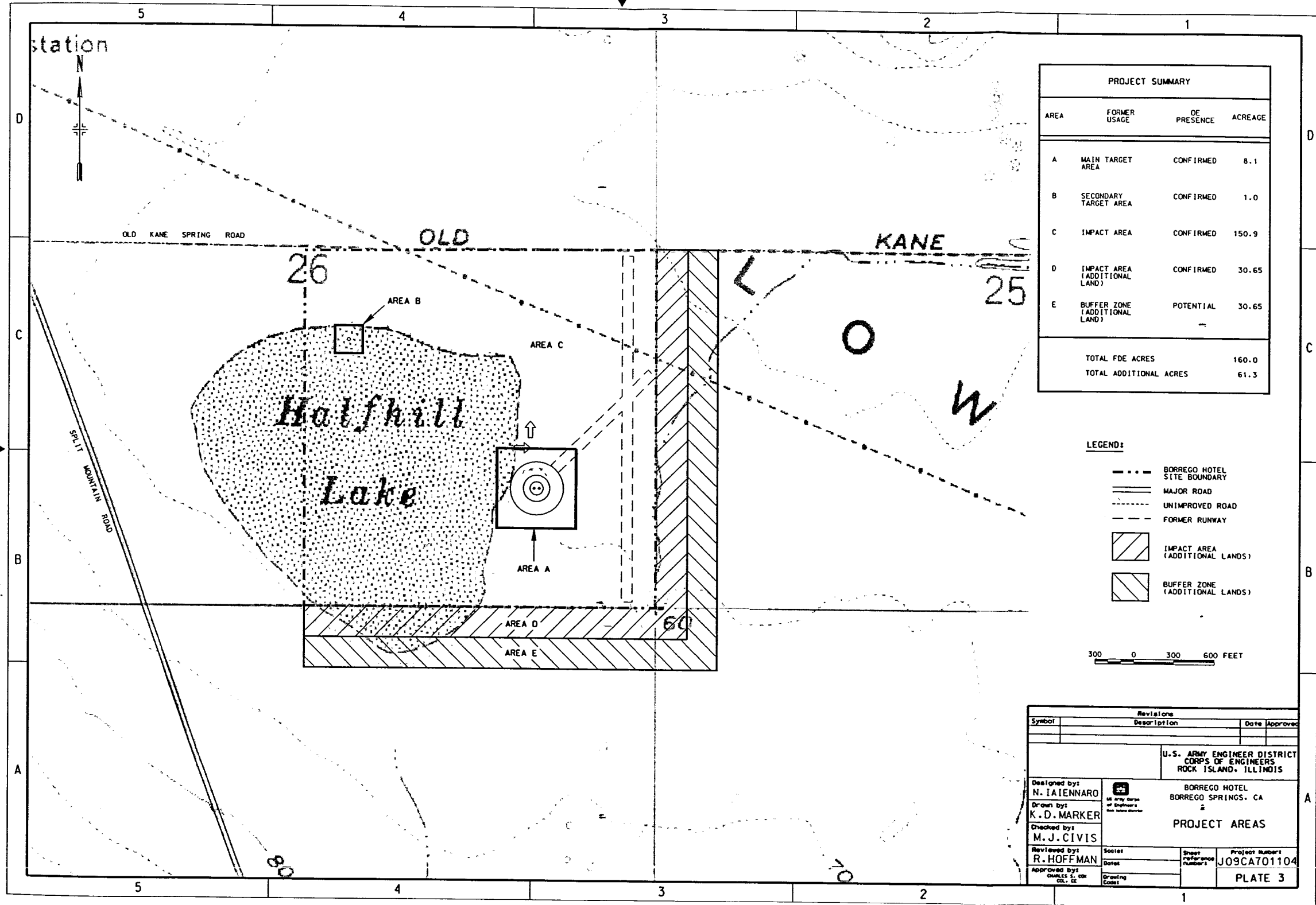
Revisions		Date	Approved
Symbol	Description		
<p align="center">U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS</p>			
<p>Designed by: N. IAIENNARO</p> <p>Drawn by: K.D. MARKER</p> <p>Checked by: M.J. CIVIS</p> <p>Reviewed by: R. HOFFMAN</p> <p>Approved by: _____ COL. CC</p>	<p align="center">BORREGO HOTEL BORREGO SPRINGS, CA</p> <p align="center">SITE MAP</p> <p>Scale: _____ Date: _____</p> <p>Sheet Reference Number: _____ Project Number: J09CA701104</p> <p align="center">PLATE 1</p>		

19-MAR-1998 08:14
a:\mp261\mp261.plt.dgn

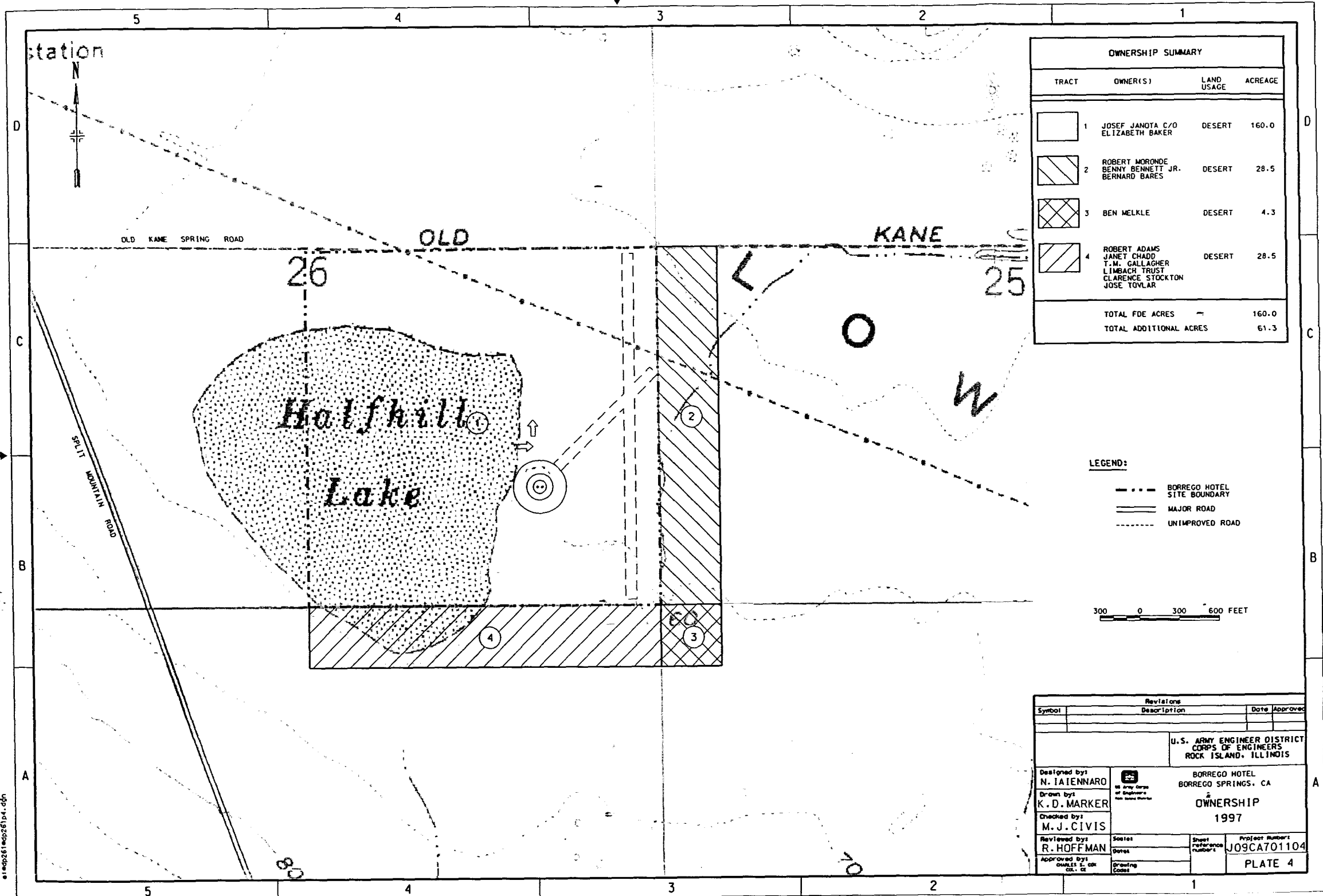


Revisions		Date Approved	
Symbol	Description		
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS			
Designed by N. IAIENNARO		BORREGO HOTEL BORREGO SPRINGS, CA	
Drawn by K. D. MARKER		SITE LAYOUT CIRCA 1942	
Checked by M. J. CIVIS		Project Number J09CA701104	
Reviewed by R. HOFFMAN		Sheet Performance Number 1	
Approved by CHARLES S. GIL COL. US		Drawing Code	

15-MAR-1958 08:26
e:wp261wp261p2.dgn

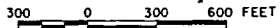


19-MAR-1998 08:28
e:\p261\p261p3.dgn



OWNERSHIP SUMMARY			
TRACT	OWNER(S)	LAND USAGE	ACREAGE
1	JOSEF JANOTA C/O ELIZABETH BAKER	DESERT	160.0
2	ROBERT MORONDE BENNY BENNETT JR. BERNARD BARES	DESERT	28.5
3	BEN MELKLE	DESERT	4.3
4	ROBERT ADAMS JANET CHADD T.M. GALLAGHER LIMBACH TRUST CLARENCE STOCKTON JOSE TOVLAR	DESERT	28.5
TOTAL FDE ACRES			160.0
TOTAL ADDITIONAL ACRES			61.3

- LEGEND:
- BORREGO HOTEL SITE BOUNDARY
 - == MAJOR ROAD
 - - - - UNIMPROVED ROAD



Revisions		Date		Approved	
Symbol	Description				
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS					
Designed by: N. IAIENNARO	BORREGO HOTEL BORREGO SPRINGS, CA				
Drawn by: K. D. MARKER	OWNERSHIP				
Checked by: M. J. CIVIS	1997				
Reviewed by: R. HOFFMAN	Scale:	Sheet reference number:	Project Number: J09CA701104		
Approved by: CHARLES E. COE, COL, CE	Dates:	Drawing Codes:	PLATE 4		

13-JUN-1998 08:32
e:\ep261\ep261.dgn

