

**US Army Corps
of Engineers**

St. Louis District

Partners in Progress

Defense Environmental Restoration Program
for
Formerly Used Defense Sites

Ordnance and Explosive Waste
Chemical Surety Materials

ARCHIVES SEARCH REPORT

For

Mill Cove Bombing Site

Clay County, FL

Project Number - I04FL033701

FINAL – 19 AUGUST 2002

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



DEPARTMENT OF THE ARMY
HUNTSVILLE CENTER, CORPS OF ENGINEERS
P.O. BOX 1600
HUNTSVILLE, ALABAMA 35807-4301

REPLY TO
ATTENTION OF:

CEHNC-OE-CX (200-1C)

19 August 2002

MEMORANDUM FOR Commander, U.S. Army Engineer District, Saint Louis
(CEMVS-PM-M/Mr. Mike Dace), 1222 Spruce Street, Saint Louis, MO 63103-2833

SUBJECT: Results of the Technical Advisory Group (TAG) Review of Archives Search
Reports (ASR) and Fact Sheets for Defense Environmental Restoration Program-Formerly Used
Defense Sites (DERP-FUDS)

1. The following ASRs and Fact Sheets have been finalized:

PROJECT NUMBER:

SITE NAME:

| | |
|--------------------|---|
| C03VA009800 | Oyster Point Backup Ammunition Storage Depot |
| J09AZ002301 | Kingman Army Airfield |
| J09AZ034501 | Douglas Army Airfield |
| J09AZ073601 | Yucca Air to Air Gunnery Range |
| J09AZ041001 | Kingman Air to Air Gunnery Range |
| J09CA017101 | Holtville Target (BT) No. 3 |
| J09AZ071501 | Williams Field Bomb Target Range #14 |
| J09CA055701 | Point Sal Air to Ground Gunnery Range |
| B07KS022101 | Great Bend Precision Bombing Range No. 3 |
| B07KS022001 | Great Bend Precision Bombing Range No. 2 |
| B07KS021901 | Great Bend Precision Bombing Range No. 1 |
| B07KS021801 | Great Bend Air-to-Ground Gunnery Range |
| B07KS021702 | Great Bend Army Air Field |
| C02NJ094501 | Tuckahoe Rocket Range |
| K06NM039601 | Deming Army Air Field, PBR No. 12 |
| G05IN008506 | Vigo Plant Chemical Warfare Vigo Ordnance Plant |
| I04FL089901 | 26-Mile Bend Bomb Target |
| C03MD036303 | Fort Washington Military Reservation |
| C02NY064503 | Mitchel Field |
| A04MS016901 | Smith County Bombing and Gunnery Range |
| F10OR002903 | Camp Adair |
| K06TX014401 | Pyote Army Airfield Target Range No. 1 |
| F10AK029102 | Kodiak Naval Station, Burma Road |
| I04AL325503 | Camp Sheridan Artillery Range |
| I04FL033701 | Mill Cove Bombing Site |

SUBJECT: Results of the Technical Advisory Group (TAG) Review of Archives Search Reports (ASR) and Fact Sheets for Defense Environmental Restoration Program-Formerly Used Defense Sites (DERP-FUDS)

| <u>PROJECT NUMBER:</u> | <u>SITE NAME:</u> |
|------------------------|--|
| K06NM034901 | Carlsbad Practice Bombing Range No. 4 |
| K06NM034801 | Carlsbad Practice Bombing Range No. 3 |
| K06NM034701 | Carlsbad Practice Bombing Range No. 2 |
| K06NM061101 | Kirtland PBR No. 2 (N-5) |
| K06OK011001 | Great Salt Plains Bombing Range |
| E05WI088301 | Edithton Beach Anti-Aircraft Artillery (AAA) Training Center |
| J09CA018201 | Salton Sea Bombing Target #52 |
| J09CA018801 | Salton Sea Bombing Target #58 |
| K06NM050601 | WAFB Roswell PBR #1 |
| K06NM052801 | WAFB Roswell PBR #34 |
| K06NM052501 | WAFB Roswell PBR #28 |
| K06NM052201 | WAFB Roswell PBR #22 |
| K06OK001301 | Cherokee National Wildlife Area (Camp Gruber Military Reservation) |
| I04FL112901 | Lake Wilmington Bomb (Blue Cypress Lake) Target |
| I04FL040101 | Passage Key Air-to-Ground Gunnery Range |
| J09CA706208 | Hamilton Army Airfield |
| J09AZ045901 | Luke Air Force Auxiliary Field No. 3 |
| J09CA730701 | Condor Field No. 4 |
| E05WI506903 | Camp Haven AAA Firing Range |
| I04FL034002 | Bartow Municipal Airport |
| K06TX020701 | McGee Bend Precision Bombing Range |
| K06TX101702 | Jefferson County Airport |
| K06AR005001 | Maumelle Ordnance Works |
| K06TX002709 | Webb Air Force Base |
| K06TX012802 | Stinson Field |

2. Recommended strategy for future actions to be taken by the Project Manager is included in the enclosed fact sheets. Supporting data for TAG decisions are also included with the fact sheets.

3. Fact sheets, supporting data and corrected pages, due to prior reviews, are to be distributed with the subject ASRs.

4. Subject ASRs are recommended to be final when enclosed fact sheets, supporting data and corrected pages are included as a part of the project package.

CEHNC-OE-CX (200-1C)

19 August 2002

SUBJECT: Results of the Technical Advisory Group (TAG) Review of Archives Search Reports (ASR) and Fact Sheets for Defense Environmental Restoration Program-Formerly Used Defense Sites (DERP-FUDS)

5. If you have any questions concerning this action, please call me at 256-895-1797, DSN 760-1797, or facsimile 256-895-1798.

FOR THE DIRECTOR OF ORDNANCE AND EXPLOSIVES DIRECTORATE:



DANNY R. MARDIS

Archive Search Report Manager
for Ordnance and Explosives Directorate

50 Encls
as

DISCLAIMER

The purpose of this archives search report is to present the findings of research undertaken for this specific Formerly Used Defense Site (FUDS) property. All of the factual information found during the research is included in this "Findings" volume. Reference may be made in this volume to a separate "Conclusions and Recommendations" volume. In some instances, the Conclusions and Recommendations (C&R) volume contained recommendations of individuals performing the analysis that may contain inferences or conjecture not supported in subsequent reviews. Because these statements are not always factual in nature, the U.S. Army Corps of Engineers has determined the Conclusions and Recommendations volumes, where they exist, do not necessarily represent the opinion of the USACE and are not available for public release.

TABLE OF CONTENTS

| <u>Section</u> | <u>Page</u> |
|--|-------------|
| 1.0 Introduction | 1-1 |
| 1.1 Authority | 1-1 |
| 1.2 Subject | 1-1 |
| 1.3 Purpose | 1-1 |
| 1.4 Scope | 1-1 |
| 2.0 Previous Investigations | 2-1 |
| 2.1 Corps of Engineers Documents | 2-1 |
| 2.2 Other Reports | 2-1 |
| 3.0 Site Description | 3-1 |
| 3.1 Land Usage | 3-1 |
| 3.2 Climatic Data | 3-1 |
| 3.3 Geology and Soils | 3-4 |
| 3.4 Hydrology | 3-5 |
| 3.5 Ecology | 3-6 |
| 3.6 Demographics | 3-7 |
| 4.0 Historical Ordnance Usage | 4-1 |
| 4.1 Historical Site Summary | 4-1 |
| 4.2 Review of Historical Records | 4-2 |
| 4.3 Summary of Interviews | 4-6 |
| 4.4 Air Photo Interpretation and Map Analysis | 4-6 |
| 5.0 Real Estate | 5-1 |
| 5.1 Confirmed DoD Ownership | 5-1 |
| 5.2 Potential DoD Ownership | 5-1 |
| 5.3 Significant Past Ownership other than DoD | 5-1 |
| 5.4 Present Ownership | 5-1 |
| 6.0 Site Inspection | 6-1 |
| 7.0 Evaluation of Ordnance Presence | 7-1 |
| 8.0 Technical Data of Ordnance and Explosives | 8-1 |
| 9.0 Evaluation of Site Information | 9-1 |

APPENDICES

- A. REFERENCES
- B. GLOSSARY AND ACRONYMS
- C. TEXT/MANUALS
- D. REPORTS/STUDIES
- E. LETTERS/MEMORANDUMS/MISCELLANEOUS ITEMS
- F. REAL ESTATE DOCUMENTS
- G. NEWSPAPERS/JOURNALS
- H. INTERVIEWS
- I. PRESENT SITE PHOTOGRAPHS
- J. HISTORICAL PHOTOGRAPHS
- K. HISTORICAL MAPS/DRAWINGS
- L. SITE SAFETY AND HEALTH PLAN/SITE INSPECTION REPORT
- M. FINALIZATION DOCUMENTS
- N. REPORT DISTRIBUTION LIS

REPORT PLATES

| | |
|-----------------------|-----|
| VICINITY MAP | P-1 |
| SITE MAP | P-2 |
| 1943 AERIAL PHOTO MAP | P-3 |

1.0 INTRODUCTION

1.1 AUTHORITY

) In 1986, Congress established the Defense Environmental Restoration Program (DERP) at 10 U.S.C. 2701 et. seq. This program directed the Secretary of Defense to "carry out a program of environmental restoration at facilities under the jurisdiction of the Secretary."

In March 1990, the EPA issued a revised National Contingency Plan. Under 40 C.F.R. 300.120, EPA designated DoD to be the removal response authority for incidents involving DoD military weapons and munitions under the jurisdiction, custody and control of DoD.

Since the beginning of this program, the U.S. Army Corps of Engineers has been the agency responsible for environmental restoration at Formerly Used Defense Sites (FUDS). Since 1990, the U.S. Army Engineering and Support Center, Huntsville, has been the Center of Expertise (CX) and Design Center for Ordnance and Explosives.

1.2 SUBJECT

The Mill Cove Bombing Site is located in the southern portion of Doctors Lake on the northern portion of Fleming Island, south of the City of Orange Park, in Section 29, Township 4 South, Range 26 East, Clay County, Florida, as shown on Report Plate #1. The site was also known as Doctor's Bomb Target.

1.3 PURPOSE

This Archives Search Report (ASR) compiles information obtained through historical research at various archives and records holding facilities, interviews with individuals associated with the site or its operations, and personal visits to the site. All efforts were directed towards determining types of munitions used at the site, possible disposal areas, and any unknown training areas. Information obtained during this process was used in developing recommendations for further actions at the site.

1.4 SCOPE

) This investigation concentrated on the potential that OE and/or CWM contamination could remain on the Mill Cove Bombing Site from the training activities occurring during World War II. This report presents the history of the site, description and characterization of the immediate surrounding areas, real estate ownership information, findings of a visual site survey, and OE site analysis, including an evaluation of potential ordnance contamination. A separate report supplements these **ASR FINDINGS** and furnishes the **CONCLUSIONS AND RECOMMENDATIONS**.

2.0 PREVIOUS SITE INVESTIGATIONS

2.1 CORPS OF ENGINEERS DOCUMENTS

2.1.1 DERP-FUDS Inventory Project Report (INPR)

Under the Defense Environmental Restoration Program (DERP), the Jacksonville District prepared an Inventory Project Report (INPR), which includes a Findings and Determination of Eligibility (FDE), for the Mill Cove Bombing Site, dated 15 September 1994. It was determined to have a Risk Assessment Code of 3.

Memorandum signed by Billy D. McPherson for Karl E. Blankinship, Group Leader, Design Management Group, Huntsville Division, for Commander, HQUSACE, ATTN: CEMP-RF, 4 May 1996, subject: DERP-FUDS Inventory Project Report (INPR) Requiring an Ordnance and Explosives (OE) Engineering Evaluation and Cost Analysis (EE/CA).

A copy of this INPR is included as Appendix D-1.

2.2 OTHER REPORTS

No other reports were utilized during the research portion for this site.

3.0 SITE DESCRIPTION

3.1 LAND USE

3.1.1 Location

The Mill Cove Bombing Site is located in Section 29, Township 4 South, Range 26 East, about four miles south of the town of Orange Park in Clay County, Florida. The site location and vicinity are shown on Report Plates 1 and 2.

3.1.2 Prior Site Use

Prior to use by the Navy, the site was open water utilized by the general public. The land surrounding this inlet was undeveloped.

3.1.3 Current Site Use

Currently, this open water site in Doctors' Lake is owned by the State of Florida and utilized by the general public for boating, skiing and fishing.

3.2 CLIMATIC DATA

The nearest source of long-record climatological data for the Mill Cove, Florida site is the National Oceanic Atmospheric Administration (NOAA) climatological station at Jacksonville International Airport, Florida. Table 3.2.1 contains data from the Jacksonville International Airport, Florida station. Additional climatological data from the weather station at the Jacksonville Naval Air Station, Florida is provided in Table 3.2.2. The Mill Cove, Florida site is approximately 20 miles south of the Jacksonville International Airport and about 6 miles south of the Jacksonville Naval Air Station.

**CLIMATOLOGICAL DATA FOR
 JACKSONVILLE INTERNATIONAL AIRPORT, FLORIDA
 TABLE 3.2.1**

| Month | Temperature | | Precipitation (Inches) | Wind | |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------------|----------------------|
| | Average Minimum (°F) | Average Maximum (°F) | | Average Speed Miles/Hour | Average Direction |
| January | 43 | 65 | 3.3 | 8 | NW |
| February | 45 | 68 | 3.5 | 9 | NW |
| March | 51 | 74 | 3.9 | 9 | WSW |
| April | 56 | 80 | 3.0 | 9 | SE |
| May | 64 | 86 | 3.6 | 9 | SE |
| June | 70 | 90 | 5.6 | 7 | SW |
| July | 73 | 92 | 6.5 | 6 | SW |
| August | 73 | 91 | 7.3 | 6 | SW |
| September | 70 | 87 | 7.7 | 9 | NE |
| October | 61 | 80 | 4.1 | 10 | NE |
| November | 51 | 73 | 2.0 | 7 | NW |
| December | 44 | 67 | 2.5 | 8 | NW |
| Average | 58 | 79 | 53.0 | 8 | SW |

Source: International Station Meteorological Climate Summary, September 1996. Jointly produced by: Fleet Numerical Meteorology and Oceanography Detachment, National Climate Data Center, and USAFETAC OL-A.

**CLIMATOLOGICAL DATA FOR
JACKSONVILLE NAVAL AIR STATION, FLORIDIA
TABLE 3.2.2**

| Month | Temperature | | Precipitation (Inches) | Wind | |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------------|----------------------|
| | Average Minimum (°F) | Average Maximum (°F) | | Average Speed Miles/Hour | Average Direction |
| January | 46 | 66 | 2.9 | 8 | N |
| February | 48 | 68 | 2.9 | 9 | NNE |
| March | 53 | 74 | 3.7 | 7 | S |
| April | 59 | 80 | 2.5 | 7 | ESE |
| May | 66 | 86 | 3.4 | 7 | ESE |
| June | 72 | 90 | 5.4 | 6 | WSW |
| July | 74 | 91 | 6.1 | 6 | SSW |
| August | 74 | 91 | 6.8 | 6 | SSW |
| September | 72 | 87 | 6.7 | 8 | NE |
| October | 63 | 81 | 3.6 | 9 | NNE |
| November | 54 | 74 | 1.9 | 8 | N |
| December | 47 | 67 | 2.3 | 8 | N |
| Average | 61 | 80 | 48.2 | 7 | N |

Source: International Station Meteorological Climate Summary, September 1996. Jointly produced by: Fleet Numerical Meteorology and Oceanography Detachment, National Climate Data Center, and USAFETAC OL-A.

Downtown Jacksonville is located some 16 miles inland on the St. Johns River. The surrounding terrain is level. Easterly winds blowing about 40 percent of the time produce a maritime influence that modifies to some extent the heat of summer and the cold of winter. Summers are long, warm and relatively humid. Winters, although punctuated with periodic invasions of cool to occasionally cold air from the north, are mild because of the southern latitude and the proximity to the warm Atlantic Ocean waters. Because of the nearness to the ocean, climatic features across the area vary. The summer month temperatures at Jacksonville Airport, located 17 miles inland, usually reach into the low and mid-90's before being tempered by sea breezes. Temperatures along the beaches rarely exceed 90 degrees. Summer thunderstorms usually occur before the noon hour along the beaches, while afternoon thunderstorms are the rule inland.

Temperatures exceed 95 degrees only about ten times a year. Night temperatures in summer are usually comfortable, rarely failing to drop below 80 degrees. Temperatures over 100 degrees have been recorded during the months of June, July and August. Temperatures as low as 7 degrees have been observed during the month of January. The

greatest rainfall, mostly in the form of local thundershowers, occurs during the summer months, when a measurable amount can be expected one day in two. Rainfall of one inch or more in 24 hours normally occurs about fourteen times a year. Very infrequently, heavy rains, associated with tropical storms, reach amounts of several inches with durations of more than 24 hours. The maximum 24-hour rainfall at Jacksonville is slightly over 10 inches, while the maximum 24-hour rainfall at Cecil Field is 7.8 inches.

The atmosphere is moist, with an average relative humidity of about 75 percent, ranging from about 90 percent in early morning to about 55 percent during the afternoon. Wind movement, which averages slightly less than 9 mph, is 2 to 3 mph higher in the early afternoon than the early morning hours, and slightly higher in spring than in other seasons of the year. Although this area is in the Hurricane Belt, this section of the coast has been very fortunate in escaping hurricane-force winds. Most hurricanes reaching this latitude have tended to move parallel to the coastline, keeping well out to sea. Other hurricanes have lost much of their force moving over land before reaching this area.

3.3 GEOLOGY AND SOILS

3.3.1 Geology and Physiology

The former Mill Cove site is in Clay County in the northeastern peninsular Florida, inland from the Atlantic coastline. This area is within the Floridian section of the Coastal Plain province. The site is on the western part of Creighton Island. The land surface is typically marshy and is covered with water for most of the year.

Clay County is underlain by an average of nearly 4,000 feet of sedimentary rock that range in age from the early Paleozoic to era to the Recent. The sediment of the Cenozoic era consists of carbonate sediments that have stratified layers nearly 1,800 feet thick. The oldest Cenozoic era sediments in this area belong to the Cedar Keys Formation of Paleocene age and the youngest sediments belong to an unnamed formation of the Recent or Pleistocene age.

The materials of Recent and Pleistocene age are composed of quartz sand, clay, and shell material. These sediments have not been accurately delineated and named.

Clay County can be divided into five general regions based on physiography. The Mill Cove site is located in the area known as the Eastern valley. This region consists mostly of flatwoods and swamps. The soils are sandy and are poorly drained (Weatherspoon, Cummings, and Wittstruck 1989).

3.3.2 Soils

The soils of the Mill Cove site are nearly level and poorly drained. Typically, the surface layer is very dark gray fine sand about 8 inches thick. The subsurface layer, to a depth of 16 inches, is light gray fine sand. The upper part of the subsoil, to a depth of 21 inches, is

black fine sand with organic coatings on the sand grains. The next layer, to a depth of 29 inches, is dark reddish brown fine sand. Below that, to a depth of 49 inches, is a leached layer of light gray fine sand. The next layer, to a depth of 53 inches, is light brownish gray sandy silty clay that has yellow mottles. The lower part, to a depth of 80 inches, is light brownish gray sandy silty clay with light gray mottles. The available water capacity is low and the permeability is moderate. The risk of corrosion of these soils is high for both uncoated steel and concrete.

This site has many areas of very poorly drained soil that is frequently flooded or is covered with water for most months of the year (Weatherspoon, Cummings, and Wittstruck 1989).

There is little or no potential for frost development in the soil of the Mill Cove site.

3.4 HYDROLOGY

3.4.1 Surface Water

The Mill Cove site is located in Clay County near Orange Park at the southern part of Jacksonville, Florida. Mill Cove is on the western side of Creighton Island next to Doctors Lake. The site is part of the Gulf-Atlantic Coastal Flats of the Atlantic Division region of the Southeastern United States. This area is part of the Humid Region of the United States, which is vulnerable chiefly to droughts of short duration. Prolonged droughts occur rarely in humid regions, but they reduce the ground and surface-water supplies.

The soil is warm and wet with a soil temperature higher than about 47 degrees. Wet soils are seasonally or permanently saturated with water. The United States Geological Survey (USGS) estimates the average annual runoff for this region to be about 10 inches. Frost penetration is rare in this region of the country.

The concentration of dissolved minerals in the surface water for this region is less than 100 ppm. The prevalent chemical type of water in the rivers is Calcium magnesium sulfate-chloride. This information is provided by the USGS and is based on chemical analysis of water in streams during low flow, when the water is derived chiefly from ground water. The site is part of the Lower St. Johns River watershed. The overall health of the watershed has an Index Watershed Indicator (IWI) of 6. A watershed rating of 6 indicates a More Serious Water Quality Problem with a High Vulnerability to stressors such as pollutant loadings. The Environmental Protection Agency provides the IWI rating for the watershed.

The elevation of the site area is relatively flat, ranging from a high elevation of about 15 feet to a low of about 5 feet. There is some development within the site area but most of the area is undeveloped and consists of wet, flat, and marshy terrain. The surface water flows directly into Doctor Lake. Doctor Lake empties into the St. Johns River

immediately north of the site, at the northern tip of Creghton Island. The St. Johns River flows north and empties into the Atlantic Ocean about 30 miles downstream.

There are no stream data available at the study site. The closest stream gaging station is on the St. Johns River in Jacksonville, Florida about 20 miles downstream. According to the flood hazard map provided by the Federal Emergency Management Agency's (FEMA) Project Impact web page, about half of the Mill Cove site area is subject to flooding from the 100-year event. Flooding may occur from out of bank flow of the St. Johns River. Flooding may also result from heavy localized rainfall.

3.4.2 Ground Water

There are three aquifers in the site area, the upper of which is the water-table aquifer. The water-table aquifer consists of shallow sand or clayey sand that contain water under water-table conditions. This aquifer will yield sufficient water to most domestic wells but it is unpotable due to salt content.

The secondary artesian aquifer consists of limestone layers and sand layers. This secondary aquifer will produce enough water for domestic use and other small supplies.

The Floridian aquifer consists of hundreds of meters of soft porous limestone and hard dense limestone and dolomite that act as a hydrologic unit. The Floridian aquifer has high permeability in a lateral direction and a low permeability in a vertical direction. Water in the Floridian aquifer is under artesian conditions in the site area. This aquifer has an extremely high recharge rate. In some areas the recharge is as great as 35 ft³/day. The high water table of the site is generally less than 3 feet below land surface. Although, in many areas that are frequently flooded, the water table is above land surface up to six months of the year (Clark and others 1964).

3.5 ECOLOGY

The information provided for this site has been compiled from the U.S. Fish and Wildlife Service, and the Florida Fish and Wildlife Conservation Commission.

The U.S. Fish and Wildlife Service have indicated that the following Federally listed threatened or endangered species, or those proposed to be listed as such may occur on or near Mill Cove Bombing Site: West Indian (Florida) Manatee, (*Trichechus manatus latirostris*), endangered; Bald Eagle, (*Haliaeetus leucocephalus*), threatened; Florida Scrub-jay, (*Aphelocoma coerulescens*), threatened; Wood Stork, (*Mycteria americana*), endangered; Red-cockaded Woodpecker, (*Picoides borealis*), endangered; Shortnose Sturgeon, (*Acipenser brevirostrum*), endangered; Eastern Indigo Snake, (*Dymarchon corais couperi*), threatened; Chapman's Rhododendron, (*Rhododendron chapmanii*), endangered.

The Fish and Wildlife Service did not provide information on species proposed to be listed as endangered or threatened, or candidate species to be listed as such on this site.

The Florida Fish and Wildlife Conservation Commission did not submit any information on state endangered or threatened species for this site.

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

3.6 DEMOGRAPHICS

3.6.1 Centers of Activity

The Mill Cove site is located near the city of Orange Park in Clay County, Florida.

3.6.2 Population Density

| CITY/COUNTY | AREA (sq. mi) | POPULATION | POP.DENSITY |
|-------------|---------------|------------|-------------|
| Clay | 601 | 105,986 | 176.3 |
| Orange Park | 3.9 | 9,488 | 2,443 |

3.6.3 Business and Industry Profile

The number of business establishments in Clay County can be broken down by type as follows: manufacturing 3.3%; trade 30.4%; services and financial 44.9%; and other 20.0%. Of the people in the county employed by businesses, approximately 1.4% are unclassified. Foregoing percentages are at mid-March 1997.

3.6.4 Types of Housing

Housing in Orange Park is composed of both single family and multi-family dwellings. The median value of 1,741 specified owner-occupied housing units is \$89,500.

3.6.5 New Development in the Area

New development in the area is both commercial and residential.

3.6.6 Typical Cross Section of the Population

The part of the population under the age of 18 is 24.3%, and the part over the age of 65 is 16.3%.

4.0 SITE HISTORY

4.1 HISTORICAL SITE SUMMARY

4.1.1 General Site History

The Mill Cove Bombing Site was obtained by order of the Secretary of War in 1941 for use by the Jacksonville Naval Air Station. A bombing target was constructed in Mill Cove, which is located in Doctors Lake, for Naval Air Advance Training Command.

4.1.2 Summary of Ordnance and Explosives Activities

The Navy utilized this site for practice strafing and bombing operations associated with Jacksonville Naval Air Station. The target was composed of a pyramid shaped raft of palmetto logs, painted yellow. Caliber .50 ammunition were used in strafing runs. Practice bombs included the Mk 23 Miniature Practice Bomb and the Mk 15, 100-pound Practice Bomb (water-filled). (See Report Plate 3)

The dropping of practice bombs continued until either late 1945 or early 1946.

4.1.2.1 Training Areas

Naval Air Station Jacksonville used this bombing site for practice bombing and no other training areas are associated with this location.

4.1.2.2 Ranges

The only range identified was the bombing target located in Doctor's Lake.

4.1.3 Summary of Chemical Warfare Activities

No documentation was discovered of the use of chemical warfare munitions or activities at Mill Cove.

4.1.4 Summary of Radiological Activities

No evidence was discovered during the research process of any radiological activities taking place at Mill Cove Bombing Site.

4.1.5 Certificates Of Clearance

No certificates of clearance were discovered during the research process for this site.

4.2 REVIEW OF HISTORICAL RECORDS

This Archives Search Report (ASR) compiles information obtained through historical research at various archives, records holding facilities, and offices; interviews with individuals associated with the site or its operations; and personal visits to the site. All efforts were directed towards determining types of munitions used at the site, possible disposal areas, and training areas. Information obtained during this process was used in developing recommendations for further actions at the site. Concentration in three areas directed the research for this report:

- Locating documentation concerning the military use of the site
- Compiling the types, quantities and probable locations of OE and/or CWM used by the military
- Collecting real estate information

The research team used finding aids and records managers to assist in locating documents relevant to the research topic.

Researchers visited or contacted the locations listed in the subparagraphs of this section for pertinent records. Appendix E contains a detailed listing of all record groups, accessions, entries, boxes, etc that were reviewed at each location. Appendix E also contains copies of all documents obtained during this research grouped by the location from which they were obtained. Documents that are cited in Section 4.0 General History as in-text references are marked in bold. An alphanumeric designator identifies each document copied to compile this report. The designator is composed of the abbreviation of the repository or office where document was found; the date the document was copied; and a number assigned to that document on that date.

Example CP-050601-001: CP is for College Park; 05 for the month (May), 06 the day, 01 the year 2001; and 001 is the document number for that date.

Several sites could be researched concurrently; so gaps can occur in the numbering sequence.

Abbreviations used in this report and their corresponding locations are listed below.

| | |
|---------|---|
| CP | National Archives College Park, Maryland |
| NARA | National Archives, Downtown, Washington, DC |
| SAJ | U.S. Army Corps of Engineers, Jacksonville, Florida |
| NAVHIST | Washington Navy Yard, Washington, DC |

4.2.1 **NATIONAL ARCHIVES I – WASHINGTON DC**
700 PENNSYLVANIA AVE., NW
WASHINGTON, D.C. 20408-0001
(202) 501-5400

The following record groups were reviewed at this repository:

- RG 26 Records of the U.S. Coast Guard
- RG 49 Records of the Bureau of Land Management
- RG 71 Records of the Bureau of Yards and Docks
- RG 72 Records of the Bureau of Aeronautics
- RG 74 Records of the Bureau of Ordnance

This repository did not contain any useful information on the site.

4.2.2 **NATIONAL ARCHIVES II – COLLEGE PARK**
8601 ADELPHI ROAD
COLLEGE PARK, MD 20740-6001
(301) 713-6800

The following record groups were reviewed at this repository:

- RG 18 Records of the Army Air Force
- RG 30 Records of the Bureau of Public Roads
- RG 38 Records of the Office of the Chief of Naval Operations
- RG 48 Records of the Secretary of the Interior
- RG 52 Records of the Bureau of Medicine and Surgery
- RG 57 Records of the United States Geological Survey
- RG 71 Records of the Bureau of Yards and Docks
- RG 72 Records of the Bureau of Aeronautics
- RG 74 Records of the Bureau of Ordnance
- RG 77 Records of the Chief of the Corps of Engineers
- RG 80 General Records of the Department of the Navy, 1798-1947
- RG 127 Records of the US Marine Corps
- RG 159 Records of the Office of Inspector General (Army)
- RG 165 Records of the War Department Generals and Special Staffs
- RG 218 Records of the Joint Chiefs of Staff
- RG 225 Records of Joint Army and Navy Boards
- RG269 Records of the General Services Administration
- RG 270 Records of War Assets Administration
- RG 291 Records of the Federal Property Services Resources Service
- RG 334 Records of Interservice Agencies
- RG 341 Records of Headquarters, US Air Force
- RG 373 Records of the Defense Intelligence Agency

RG 428 General Records of the Department of the Navy
RG 429 Records of the Organizations in the Executive Office of the President

Documents copied at this repository are located in Appendix E.

4.2.3 **WASHINGTON NATIONAL RECORD CENTER
4205 SUITLAND ROAD
SUITLAND, MD 20409-0002
(301) 457-7000**

The archivist was consulted and it was discovered the applicable records had been shipped to the National Archives.

4.2.4 **U. S. ARMY CHEMICAL AND BIOLOGICAL DEFENSE AGENCY
HISTORICAL DIVISION
BUILDING E5183
ABERDEEN PROVING GROUND, MD 21010-5423
(410) 671-4430**

No pertinent information was obtained at this location for our report.

4.2.5 **NATIONAL PERSONNEL RECORD CENTER
MILITARY PERSONNEL RECORDS
9700 PAGE AVENUE
ST. LOUIS, MO 63132-5100
(314) 538-4085**

No pertinent information was obtained at this location for our report.

4.2.6 **NATIONAL ARCHIVES-SOUTHEAST REGION
1557 ST. JOSEPH AVENUE
EAST POINT, GA 30344-2593
(404) 763-7059**

The finding aids and archivists were consulted on this site and no pertinent information was copied at this repository.

4.2.7 **U.S. AIR FORCE HISTORICAL RESEARCH AGENCY
600 CHENNAULT CIRCLE
MAXWELL AIR FORCE BASE
MONTGOMERY, AL 36112-6424
(334) 953-2302**

The finding aids and archivists were consulted on this site and no pertinent information was copied at this repository.

4.2.8 **WASHINGTON NAVY YARD**
BUILDING 57
WASHINGTON, D.C. 20374-5060
POC: JACK GREEN
(202) 433-2765

Documents found at this repository are located in Appendix E.

4.2.9 **U.S. ARMY CENTER OF MILITARY HISTORY**
1099 14TH STREET, NW
WASHINGTON, DC 2005-3402
(202) 761-5416

The finding aids and archivists were consulted on this site and no pertinent information was copied at this repository.

4.2.10 **U.S. ARMY CORPS OF ENGINEERS**
OFFICE OF HISTORY
7701 TELEGRAPH ROAD
ALEXANDRIA, VA 22310-3865
(202) 355-3558

The archivists were consulted and no additional information was obtained.

4.2.11 **U.S. ARMY MILITARY HISTORY INSTITUTE**
CARLISLE BARRACKS
CARLISLE, PA 17013-5008
(717) 245-3601

The finding aids and archivists for this repository were consulted and no useful information was obtained for our ASR.

4.2.13 **NATIONAL ARCHIVES CARTOGRAPHIC & ARCHITECTURAL BRANCH**
8601 ADELPHI ROAD
COLLEGE PARK, MD 20740
(301) 713-7040

Documents found at this repository are located in Appendix E.

4.2.14 **CLAY COUNTY PUBLIC LIBRARY**
ORANGE PARK BRANCH
2054 PLAINFIELD AVENUE
ORANGE PARK, FLORIDA 320173-5440
(904) 278-4753

The library had no pertinent information covering our site.

**4.2.15 GREEN COVE SPRINGS PUBLIC LIBRARY
403 FERRIS STREET (HWY. 16)
GREEN COVE SPRINGS, FLORIDA 32043
(904) 269-6315**

The library had no pertinent information covering our site.

4.3 SUMMARY OF INTERVIEWS

No pertinent interviews other than those conducted during the site inspection were obtained for this site.

4.4 AIR PHOTO INTERPRETATION AND MAP ANALYSIS

4.4.1 Interpretation of Aerial Photography

Photo analysis and land use interpretation were done using the following listed photography:

| <u>Photo Date</u> | <u>Scale (1:X)</u> | <u>Source</u> | <u>Record Group</u> | <u>FLIGHT ID</u> |
|-------------------|--------------------|---------------|---------------------|------------------|
| JUN 1943 | 20K | ARCHIVES | 145 | DCV |
| JAN 1944 | 40K | ARCHIVES | 373 | CTM-5 |
| APR 1947 | 13K | ARCHIVES | 373 | VV HW |
| FEB 1953 | 20K | ARCHIVES | 145 | DCV |
| JAN 1970 | 40K | ASCS | | DCV |
| MAR 1980 | 58K | ASCS | | 12019 |
| NOV 1989 | 40K | ASCS | | 12000 |
| JAN 1994 | 40K | EROS | | 6970 |
| JAN 1999 | 40K | EROS | | 11056 |

Photography listed above covering the Mill Cover Bomb Target site was examined. Features visible on the photography are shown and described at PLATE 3. Feature numbers, as annotated on the Plate, are **bolded** in text below.

1943 Photography - 1C-97 (See Plate 3)

A 150'-diameter consisting of a 25' square center float surrounded by 12 light-toned objects is visible in Doctor's Lake. Some small disturbed areas are visible in the mud on the eastern end of the cove.

1944 Photography 526-2-1

Target is still visible, but disturbed areas are not evident at the scale of the imagery. Area remains largely unchanged.

1947 Photography - 6014

Specular reflection obscures most of the target area, but no evidence of a target is visible.

1953 Photography - 3H-173

By this time stamp, the target has been removed. Disturbed areas are no longer visible in the east end of the cove, which revegetates. A recreational dock is visible on the northern end of the cove.

1970-1999 Photography

Photos from these time stamps were reviewed. No evidence of military use was visible on the photography.

| <u>Plate</u> | <u>Year of Photo</u> | <u>Title</u> |
|--------------|----------------------|------------------------|
| 3 | 1943 | 1943 Aerial Photograph |

Terrain at the site is relatively flat and swampy. Relief varies approximately 15'. The site is located on the northern Florida Peninsula, near the St. John's River. Doctor's Lake is a major hydrographic feature of the area. Low vegetation and stands of forest are visible throughout the site. Agricultural plots are visible in the region. Primary and secondary roads and numerous trails service the surrounding area, which also has good rail connections. The site is approximately 10 miles south of the City of Jacksonville, and is accessible by boat or by small trails.

4.4.2 Map Analysis

The site was analyzed using the maps discussed in Appendix K, plus:

USGS 7.5-minute quadrangle map:

Fleming Island, FLA (1992)

Orange Park, FLA (1993)

Review of the above-cited map sheet confirms general descriptions found in paragraph 4.4.1 above. The maps were also useful in locating boundaries and identifying features on the photography.

5.0 REAL ESTATE

5.1 CONFIRMED DOD OWNERSHIP

In April 1941 the United States Secretary of War acquired 160 acres of submerged land in Doctors Lake that was known as the Mill Cove Bombing Site. The Naval Air Advance Training Command from Jacksonville Naval Air Station would utilize the site for bombing practice. The site was used until either late 1945 or early 1946.

The homeowners of Doctor's Lake were planning to request this area classified as a fish preserve area. This would require the ceasing of bombing activities.

No documents were located during the research process with any additional details concerning real estate.

5.2 POTENTIAL DOD OWNERSHIP

No information indicating DoD ownership of any related lands, other than those mentioned above was uncovered during the archive search.

5.3 SIGNIFICANT PAST OWNERSHIP OTHER THAN DOD

There is nothing in the records to indicate there were any historically significant past ownerships, other than DoD, with respect to possible OE contamination.

5.4 CURRENT OWNERSHIP

The State of Florida owns the water portion of Mill Cove in Doctors Lake with the land portion controlled by the Pace Enterprises. This land is part of the Pace Island Development that consists of homes, recreation areas and a wildlife conservation area.

6.0 SITE INSPECTION

6.1 GENERAL PROCEDURES AND SCOPE

6.1.1 General Information

Personnel from the St. Louis District, Corps of Engineers, listed below, traveled to the Jacksonville, Florida area to inspect the subject site as part of the DERP-FUDS archives search report process.

Tom Freeman, Project Manager
Randy Fraser, Site Safety Specialist

The plan was to gain access to the shoreline via the residential area east of the site. On arrival the team discovered that the subdivision was in fact a secured community with controlled access. At the entrance the team was introduced to the Director of the Security Committee, Mr. Lee Southwell who agreed to escort them through the area.

6.1.2 Site Inspection

After the appropriate site safety briefing, the team joined Mr. Southwell as he drove through the subdivision. It immediately became apparent that there was no public access to the lake from this side of the cove. All along the waterfront, nearest the target are privately owned lots with established homes and docks. The team proceeded along the entire length of the cove, however nowhere was the team allowed access to the waterfront. During the drive, Mr. Southwell made mention to the fact that he was unaware of any residents ever finding ammunition or other evidence from the former bomb target.

The eastern entrance to the cove consisted of dense marshland, which denied access by foot. The team was able to reach the waterfront utilizing a public landing on the southern shore. Again, the team was restricted from a thorough investigation due to the numerous private residences along the cove. Boat docks line the eastern and western shore. The shoreline immediately to the south of the target is marshland and inaccessible.

Photographs taken during the site inspection are included in Appendix I of this report.

7.0 EVALUATION OF ORDNANCE POTENTIAL

7.1 CONVENTIONAL ORDNANCE CONTAMINATION

The Jacksonville Naval Air Station obtained the Mill Cove Bombing Site by order of the Secretary of War in 1941. A bombing target, composed of a pyramid shaped raft of palmetto logs, painted yellow, and was constructed in Mill Cove on Doctors Lake.

Historical records indicate its use as a strafing target and a bombing target. Bombing was conducted using practice bombs only, while strafing was carried out with .50 cal ammunition. Munitions identified include .50- caliber ammunition; water filled practice bombs (likely 100-lbs), and miniature practice bombs. The 100-pound practice bombs utilized a spotting charge consisting of approximately 2.5-pounds of black powder, while the miniature practice bombs utilize a small spotting charge similar to an elongated 10-gage shotgun shell. Both spotting charges would emit a cloud of smoke or release a dye to assist observers of impacts

The dropping of miniature and practice bombs continued until either late 1945 or early 1946.

7.2 CHEMICAL WARFARE MATERIAL CONTAMINATION

No evidence of Chemical Warfare Training was found during the archives research.

8.0 TECHNICAL DATA OF ORDNANCE AND EXPLOSIVES

8.1 DESCRIPTION OF ORDNANCE

) The following list depicts ammunition typical of time period. These are not all-inclusive. Appendix C-1 contains the technical details of munitions identified.

Miniature Practice Bomb, AN-Mk 5 Mod 1, AN-Mk 23, AN-Mk 43
Bomb, Practice, 100-lbs, Mk 15
Mk 6 Mod 0, Practice Bomb Signal
Mk 7 Mod 0, Practice Bomb Signal
Mk 4, Practice Bomb Signal
Mk 5, Practice Bomb Signal
Small Arms, .50 Caliber

8.2 REFERENCES

OP 1280, *Aircraft Bombs*, February 1945
TM 9-1325-200, *Bombs and Bomb Components*, April 1966
NAVSEA OP 1664, Vol 1, *U.S. Explosives Ordnance*, May 1947
NAVSEA OP 1664, Vol 2, *U.S. Explosives Ordnance*, February 1954
TM 9-1904, *Ammunition Inspection Guide*, March 1944

9.0 EVALUATION OF OTHER SITE INFORMATION

No information regarding any areas of potential environmental concern for this site was found during the archives search process.

APPENDIX A
REFERENCES

APPENDIX A - REFERENCES

A1. INPR REFERENCES

U.S. Army Corps of Engineers, Jacksonville District

- 1994 Under the Defense Environmental Restoration Program (DERP), the Jacksonville District prepared an Inventory Project Report (INPR), which includes a Findings and Determination of Eligibility (FDE), for the Mill Cove Bombing Site, dated 15 September 1994.
- 1996 Memorandum signed by Billy D. McPherson for Karl E. Blankinship, Group Leader, Design Management Group, Huntsville Division, for Commander, HQUSACE, ATTN: CEMP-RF, 4 May 1996, subject: DERP-FUDS Inventory Project Report (INPR) Requiring an Ordnance and Explosives (OE) Engineering Evaluation and Cost Analysis (EE/CA). District Files. U.S. Army Corps of Engineers, Jacksonville District Office, Jacksonville, FL.

A2. REFERENCES

Documents cited in report are listed in Appendix E and all copies are included.

A3. REFERENCES FOR GEOLOGY AND SOILS

Clark, William E., Musgrove, Rufus H., Menke, Clarence G., and Cagle, Joseph W.

- 1964 *Water Resources of Alachua, Bradford, Clay, and Union Counties, Florida*. Florida Geological Survey, Report of Investigations No. 35, Tallahassee.

Weatherspoon, Robert, Cummings, Eddie, and Wittstruck, William H.

- 1989 *Soil Survey of Clay County, Florida*. US Department of Agriculture, Soil Conservation Service.

A4. REFERENCES FOR DEMOGRAPHICS

U.S. Census report as listed below:

- 1990 Census of Population and Housing, Clay County, Florida
1990 Census of Population and Housing Orange Park, Florida
1994 County and City Data Book, Land Area and Population, Clay County, Florida
1994 County and City Data Book, Land Area and Population, Orange Park, Florida
1997 County Business Patterns, Clay County, Florida

APPENDIX B
GLOSSARY AND ACRONYMS

APPENDIX B – GLOSSARY AND ACRONYMS

| | |
|---------------|---|
| AAF | Army Air Field |
| AA | Anti-Aircraft |
| AEC | Atomic Energy Commission |
| AGO | Adjutant General's Office |
| AP | Armor Piercing |
| APDS | Armor Piercing Discarding Sabot |
| APERS | Antipersonnel |
| APT | Armor Piercing with Tracer |
| ASR | Archives Search Report |
| ATG | Air-to-Ground |
| Aux | Auxiliary |
| BAR | Browning Automatic Rifle |
| BD | Base Detonating |
| BD/DR | Building Demolition/Debris Removal |
| BE | Base Ejection |
| BGR | Bombing and Gunnery Range |
| BLM | Bureau of Land Management |
| BRAC | Base Realignment And Closure |
| CADD | Computer-Aided Design/Drafting |
| Cal | Caliber |
| CBDA | Chemical and Biological Defense Agency |
| CBDCOM | Chemical and Biological Defense Command |
| CE | Corps of Engineers |
| CEHNC | Corps of Engineers, Engineering and Support Center, Huntsville |
| CEHND | Corps of Engineers, Huntsville Division |
| CELMS | Corps of Engineers, St. Louis |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| CERFA | Community Environmental Response Facilitation Act |
| CFR | Code of Federal Regulations |
| cfs | Cubic Feet Per Second |
| COE | Chief of Engineers |
| COMP | Composition |
| CTG | Cartridge |
| CSM | Chemical Surety Material |
| CSM | Command Sergeant Major |
| CWM | Chemical Warfare Material |
| CWS | Chemical Warfare Service |
| DA | Department of the Army |
| DARCOM | Development and Readiness Command |
| DERA | Defense Environmental Restoration Account |
| DERP | Defense Environmental Restoration Program |

| | |
|------------------|---|
| DERP-FUDS | Defense Environmental Restoration Program- Formerly Used Defense Sites |
| DoD | Department of Defense |
| DOE | Department of Energy |
| DOI | Department of Interior |
| E | East |
| EE/CA | Engineering Evaluation/Cost Analysis |
| EIS | Environmental Impact Statement |
| EOD | Explosive Ordnance Disposal |
| EPA | Environmental Protection Agency |
| ERDA | Environmental Restoration Defense Account |
| FDE | Findings and Determination of Eligibility |
| FFMC | Federal Farm Mortgage Corporation |
| FORSCOM | Forces Command |
| FS | Feasibility Study |
| FUDS | Formerly Used Defense Sites |
| GIS | Graphic Information System |
| GSA | General Services Administration |
| HC | Hexachoroethane |
| HE | High Explosive |
| HEAT | High Explosive Anti-Tank |
| HEI | High Explosive Incendiary |
| HEP | High Explosive Plastic |
| HQUSACE | Headquarters, U.S. Army Corps of Engineers |
| HTRW | Hazardous Toxic and Radioactive Waste |
| HTW | Hazardous and Toxic Waste |
| IAS | Initial Assessment Study |
| ILLUM | Illuminating |
| INPR | Inventory Project Report |
| IRP | Installation Restoration Program |
| MCX | Mandatory Center of Expertise |
| MG | Machine Gun |
| MG | Major General |
| MM/mm | Millimeter |
| MT | Mechanical Time |
| MTSQ | Mechanical Time Super Quick |
| N | North |
| NARA | National Archives and Records Administration |
| NAS | Naval Air Station |
| NCDC | National Climatic Data Center |
| NCP | National Contingency Plan |
| NFS | National Forest Service |
| NG | National Guard |
| NGVD | National Geodetic Vertical Datum |

| | |
|----------------|---|
| NOAA | National Oceanic and Atmospheric Administration |
| NOFA | No Further Action |
| NPRC | National Personnel Records Center |
| NRC | National Records Center |
| OE | Ordnance and Explosive |
| OSHA | Occupational Safety and Health Administration |
| PA | Preliminary Assessment (Enhanced) |
| PD | Point Detonating |
| PIBD | Point Initiating, Base Detonating |
| PL | Public Law |
| PM | Project Management |
| QASAS | Quality Assurance Specialist - Ammunition Surveillance |
| R | Range |
| RA | Removal Action |
| RAC | Risk Assessment Code |
| RD | Remedial Design |
| RD/RA | Remedial Design/Remedial Action |
| RG | Record Group |
| RI | Remedial Investigation |
| RI/FS | Remedial Investigation/Feasibility Study |
| S | South |
| SARA | Superfund Amendments and Reauthorization Act |
| SCS | Soil Conservation Service |
| SLD | St. Louis District, Corps of Engineers |
| SSHO | Site Safety and Health Officer |
| SSHP | Site Safety and Health Plan |
| SWMU | Solid Waste Management Units |
| T | Township |
| TECOM | Test Evaluation Command |
| TEU | Technical Escort Unit |
| TM | Technical Management |
| TNT | Trinitrotoluene |
| TP | Target Practice |
| USA | United States of America |
| USACE | U.S. Army Corps of Engineers |
| USADACS | U.S. Army Defense Ammunition Center and School |
| USAED | U.S. Army Engineer District |
| USAESCH | U.S. Army Engineering and Support Center, Huntsville, Alabama |
| USATHMA | U.S. Army Toxic and Hazardous Materials Agency |
| USC | United States Code |
| USDA | U.S. Department of Agriculture |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| UXO | Unexploded Ordnance |

| | |
|--------------|------------------------------------|
| W | West |
| WAA | War Assets Administration |
| WD | War Department |
| WNRC | Washington National Records Center |
| WW II | World War II |

APPENDIX C
TEXTS/MANUALS

APPENDIX C – TEXTS/MANUALS

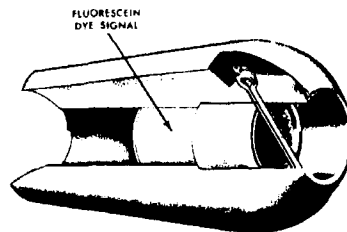
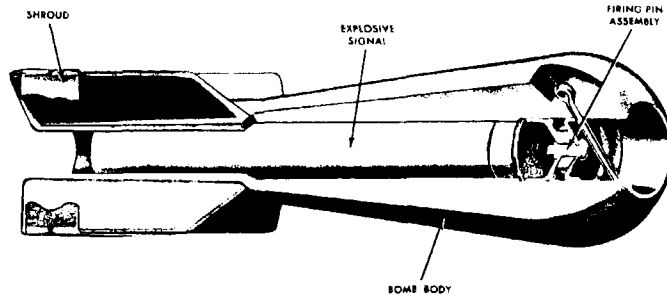
- C-1 Miniature Practice Bomb, AN-Mk 5 Mod 1, An-Mk 23, AN-Mk 43
-) C-2 Bomb, Practice, 100-lbs., Mk 15
- C-3 Signal, Practice Bomb, Mk 6 Mod 0
- C-4 Signal, Practice Bomb, Mk 7 Mod 0
- C-5 Signal, Practice Bomb, AN-Mk 4
- C-6 Signal, Practice Bomb, AN-Mk 5
- C-7 Small Arms, .50 Caliber

C-1

**Miniature Practice Bomb, AN-Mk 5 Mod 1, AN-Mk
23, AN-Mk 43**

MINIATURE PRACTICE BOMBS

AN-Mk 5 Mod 1, AN-Mk 23, AN-Mk 43



ORD D1160

Description. These bombs are used for low-altitude horizontal, or dive-bombing practice. The three bombs are similar in physical appearance, but differ basically in the metal used to cast the body. Bombs are used with the AN-Mk 4 practice bomb signal that is a blank 10-gauge shotgun shell (extended length). Signals contain a black powder expelling charge and a red phosphorous pyrotechnic mixture. These bombs also are used with the MK5 signal that contains a fluorescein dye and is actuated by impact on water. When the Mk5 signal is installed, the firing pin assembly is not used.

| | |
|------------------------------|--|
| Over-all length | 8.25 inches |
| Body Diameter | 2.18 inches |
| Fin Dimension | 2.5 inches |
| Weight | AN-Mk 5 Mod 1 - 2 lb. 11 oz. \pm 1 oz |
| | AN-Mk 23 - 3 lb. \pm 2 oz |
| | AN-Mk 43 - 4 lb. 7 oz. \pm 2 oz. |
| Signal | AN-Mk 4, Black powder/pyro- Technic charge Mk 5, Fluorescein dye |

Reference: OP 1280, *Aircraft Bombs*, February 1945; TM 9-1325-200, *Bombs and Bomb Components*, April 1966

C-2

Bomb, Practice, 100-lbs. Mk 15

BOMB, PRACTICE, 100-POUND, MK15

TM 9-1325-200/NAVWEPS OP 3530/TO 11-1-28, April 1966

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

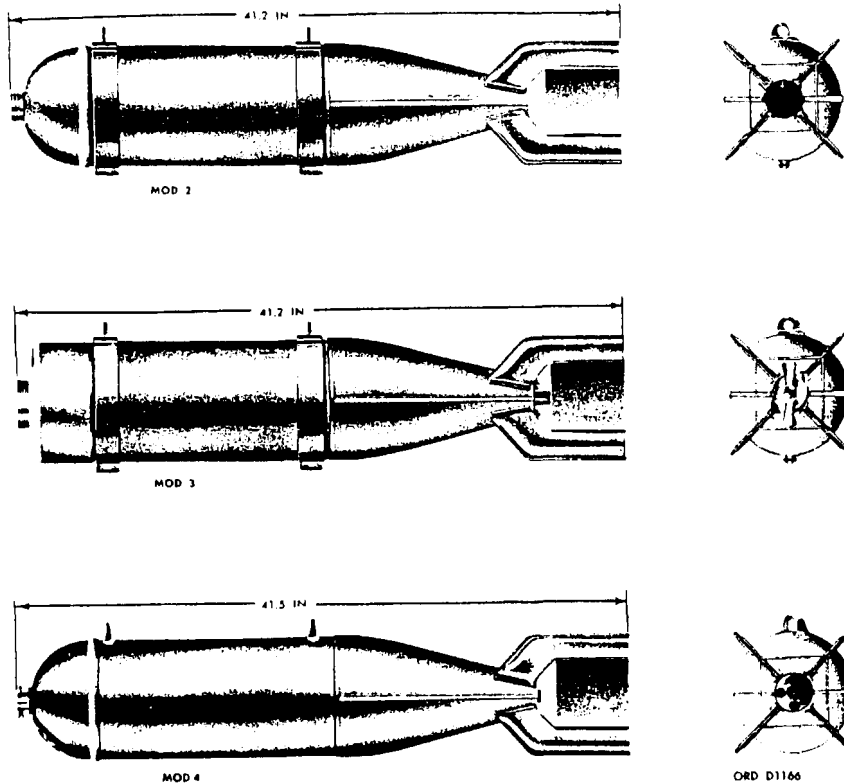


Figure 2-62 Bomb, practice 100-pound, MK15 Mods 2, 3, and 4

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

| Mark Mod | 15 2 | 15 3 | 15 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..... | MK 7 Mod 0..... | MK 4 Mods 0,1,2,3,4 |
| Fuze..... | None..... | MK 247 Mod 0..... | None |
| Firing-Pin Assembly..... | None..... | None..... | MK 1 Mod 0 |
| Arming-Wire Assembly..... | MK 1 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: MK 15 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.

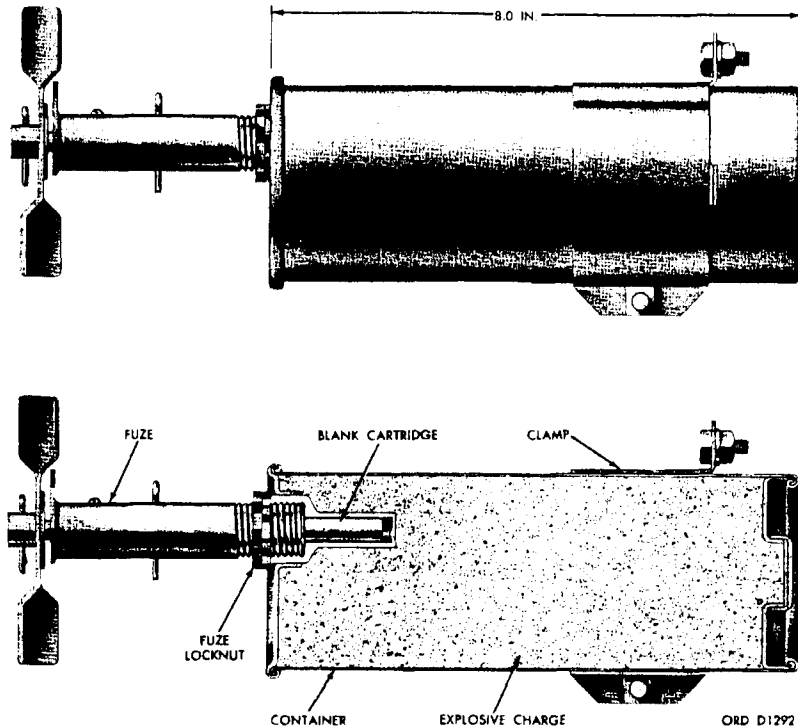
c. *Bomb, Practice, 100-pound: MK15 Mod 4.* The practice bomb MK15 Mod 4 is a light-cased, cylindrical bomb with a round nose and an integral box fin and cone. A flash tube, extending throughout its transverse axis, housed a pyrotechnic signal and firing-pin assembly. Two suspension lugs are welded to 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 housed 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.

C-3

Mk 6 Mod 0, Practice Bomb Signal

SIGNAL, PRACTICE BOMB, Mk 6 Mod 0



Description. Practice bomb signal Mk 6 Mod 0 consists of a can of black powder fitted with inert fuze AN-Mk 247 Mod 0 and a blank .38-caliber cartridge used as a detonator. The signal is used with practice bombs for observation of bombing accuracy. The Mk 6 is generally the same as the Mk 7 signal except that the fuze is mounted off-center in the Mk 6 and the black-powder filling weighs about 1 pound more.

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 over-comes 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.

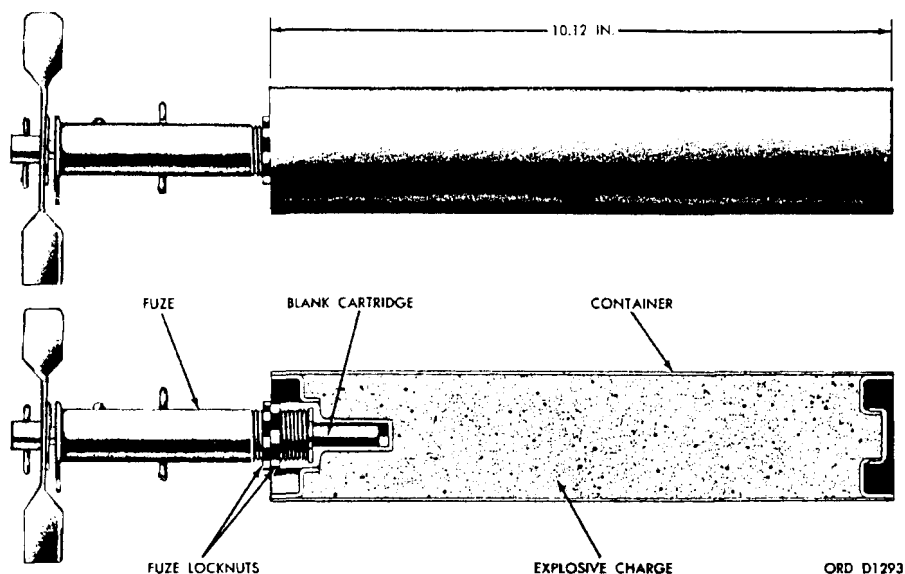
| | |
|---|-----------------------|
| Length | 8.0 in |
| Diameter | 3.0 in |
| Weight of assembled signal | 3.7 lbs |
| Container Material | Steel |
| Explosive Charge | Black Powder, 2.0 lbs |

Reference: TM 9-1325-200, *Bombs and Bomb Components*, April 1966

C-4

Mk 7 Mod 0, Practice Bomb Signal

SIGNAL, PRACTICE BOMB, Mk 7 Mod 0



Description. Practice bomb signal Mk 7 Mod 0 consists of a can of black powder fitted with inert fuze AN-Mk 247 Mod 0 and a blank .38-caliber cartridge used as a detonator. The signal is used with practice bombs for observation of bombing accuracy. The Mk 7 is generally the same as the Mk 6 signal except that the fuze is mounted off-center in the Mk 6 and its black-powder filling weighs about 1 pound more.

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 over-comes 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.

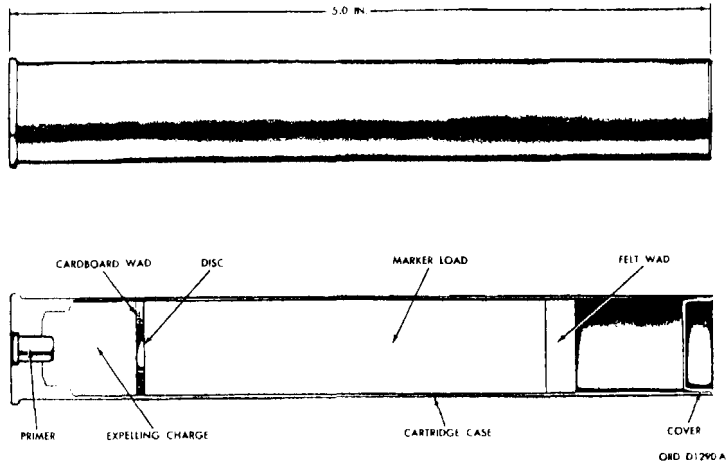
| | |
|---|-----------------------|
| Length | 10.12 in |
| Diameter | 2.0 in |
| Weight of assembled signal | 2.5 lbs |
| Container Material | Steel |
| Explosive Charge | Black Powder, 1.0 lbs |

Reference: TM 9-1325-200, *Bombs and Bomb Components*, April 1966

C-5

Mk 4, Practice Bomb Signal

SIGNAL, PRACTICE BOMB, Mk 4 Mod 3 & 4



Description. Practice Bomb signals Mk 4 Mods 3 and 4 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. Felt gun wads that are cemented to the cover close the end of the shell.

Use. The signals are used in either the miniature 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.

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.

Differences. Signals Mk 4 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 contain inert materials that produce very little flash and are markedly inferior to the Mod 0. Mod 3 is similar to the Mod 0 but differs in that the cartridge case of the Mod 3 is extruded aluminum instead of paper; a primer mixture with improved storage characteristics has been used, a new pyrotechnic load has been incorporated. The Mod 4 signal is similar to the 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.

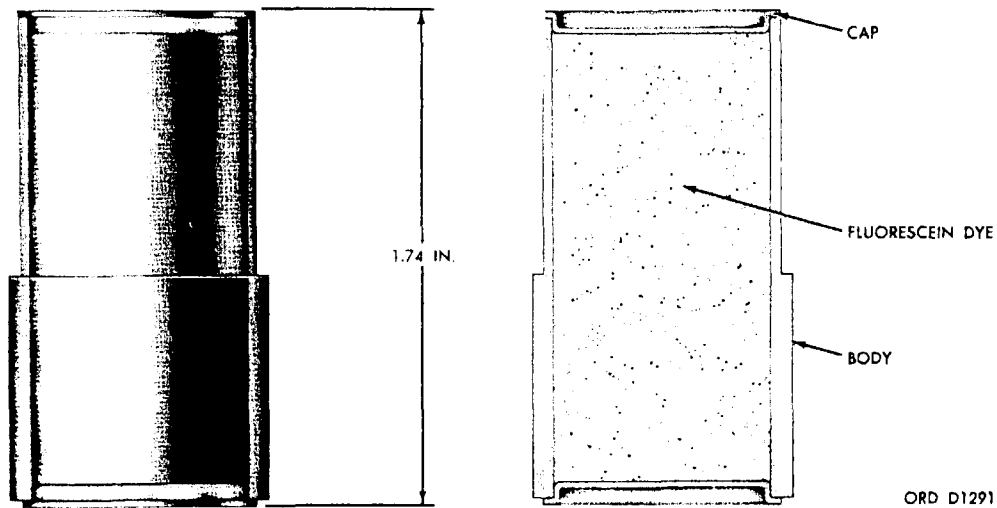
| | |
|----------------------------------|----------------------------------|
| Length and diameter | 6.0 in by 0.85 in |
| Expelling charge | Smokeless powder |
| Marker load | Mod 3 Stabilized Red Phosphorous |
| | Mod 4 Zinc Oxide |

Reference: TM 9-1325-200, *Bombs and Bomb Components*, April 1966

C-6

Mk 5, Practice Bomb Signal

SIGNAL, PRACTICE BOMB, Mk 5 Mod 0



Description. Practice bomb signal Mk 5 Mod 0 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.

Use. The signal, for use in dive-bombing practice, can be used in any miniature practice bomb in which Mk 4 can be used. It is dropped only on water targets during daylight. The slick from the Mk 5 signal can be seen from an altitude of 15,000 feet.

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.

| | |
|----------------------------------|-------------|
| Length and diameter | 1.74 in |
| Diameter | 0.93 in |
| Cylinder material | Plastic |
| Dye filler | Fluorescein |

Reference: TM 9-1325-200, *Bombs and Bomb Components*, April 1966

C-7

Small Arms General

SMALL-ARMS AMMUNITION

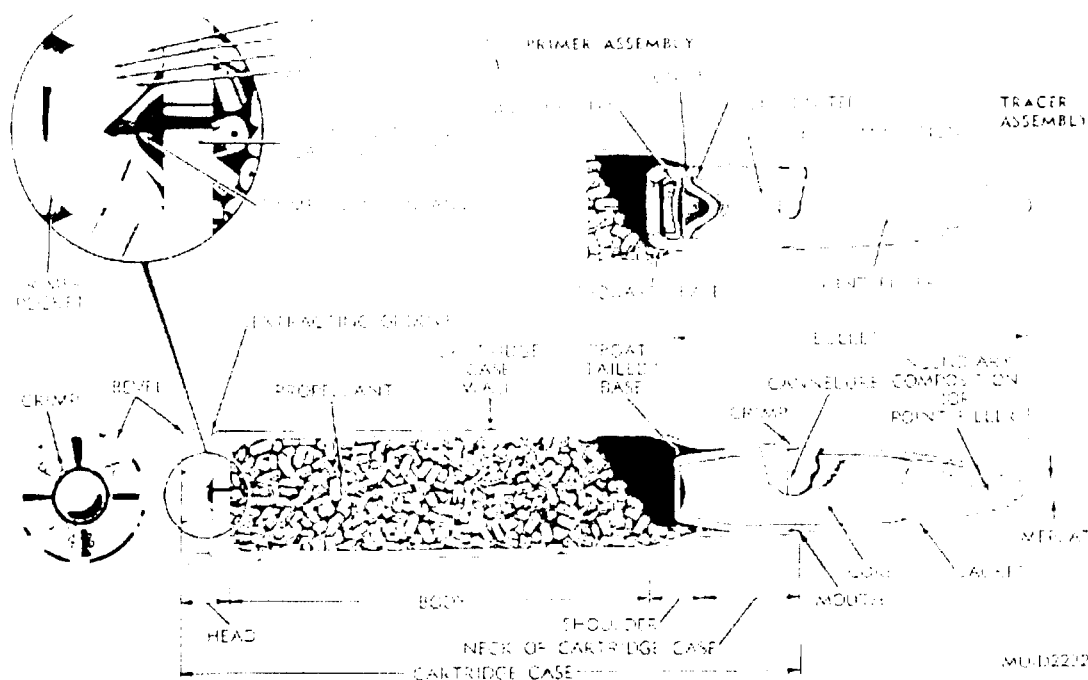


Figure 1. Typical cartridge (sectional)

General. Small-arms ammunition, as used herein, describes a cartridge or families of cartridges intended for use in various types of hand-held or mounted weapons through 30 millimeter. Within a caliber designation, these weapons may include one or more of the following: rifles (except recoilless), carbines, pistols, revolvers, machineguns and shotguns. For purposes of this publication, small-arms ammunition may be grouped as cartridges intended primarily for combat or training purposes (API, HEI, tracer or ball); for training purposes only (blank or dummy); or for special purposes (rifle grenade or spotter-tracer). Refer to TM 9-1306-200 for more detailed information on small-arms ammunition.

Cartridges. In general, a small-arms cartridge is identified as an assembly of a cartridge case, primer, a quantity of propellant within the cartridge case, and a bullet or projectile. Blank and rifle grenade cartridges are sealed with paper closure disks in lieu of bullets. Dummy cartridges are composed of a cartridge case and a bullet. Some dummy cartridges contain inert granular materials to simulate the weight and balance of live cartridges. A typical cartridge and the terminology of its components are shown in figure 1.

Case. Although steel, aluminum, zinc and plastic materials have been used experimentally, brass, a composition of 70 percent copper and 30 percent zinc, is the most commonly used material for cartridge cases. Steel, as well as brass, is an approved material for caliber .45 cartridge cases. Brass, paper and plastic are used for 12 gage shotshell bodies. Aluminum is used for military-type .410 gage shotshell bodies. Configurations of cartridges and bullets are illustrated in figures 2 through 11.

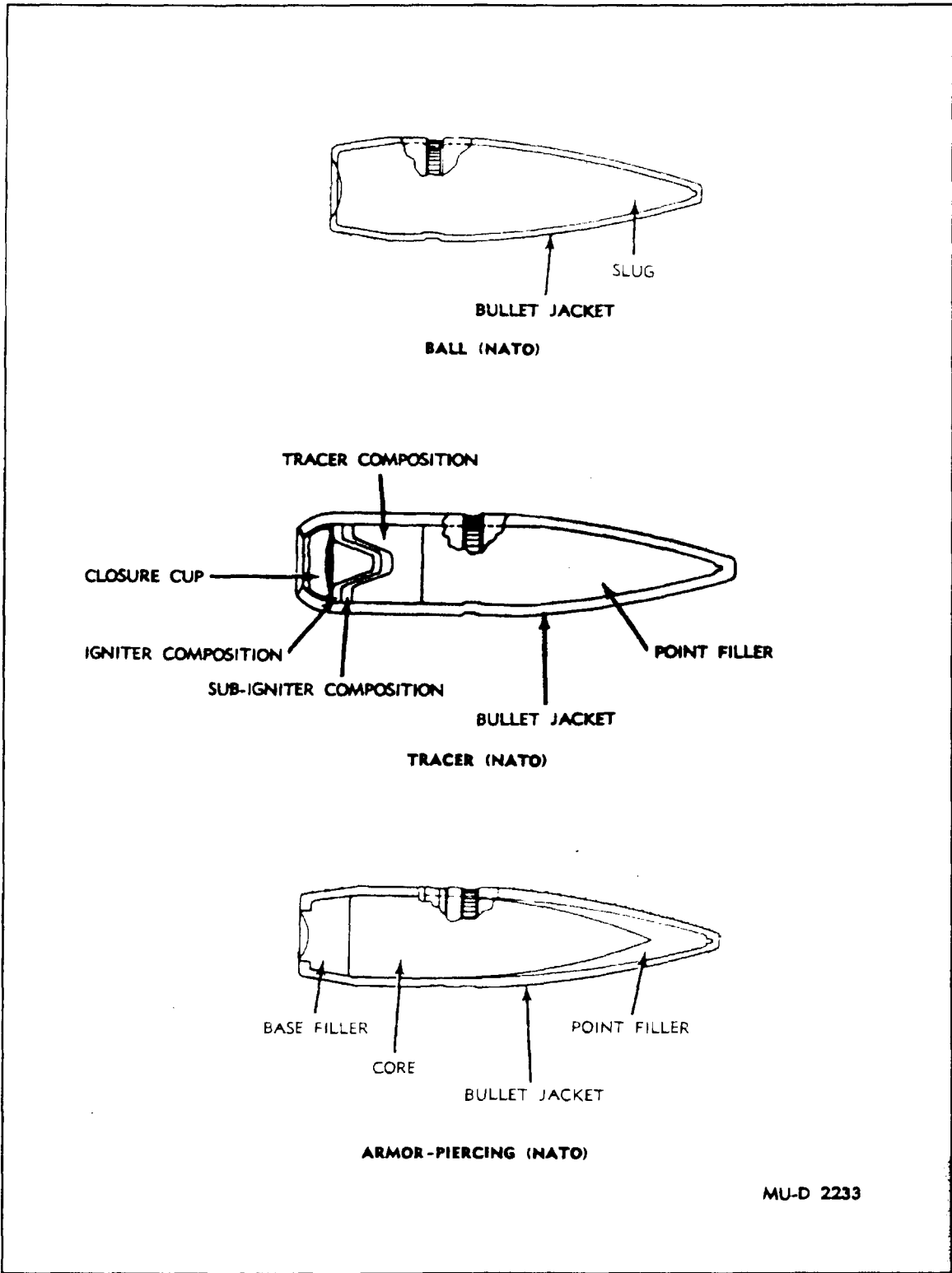


Figure 2. 7.62 mm bullets (sectional)

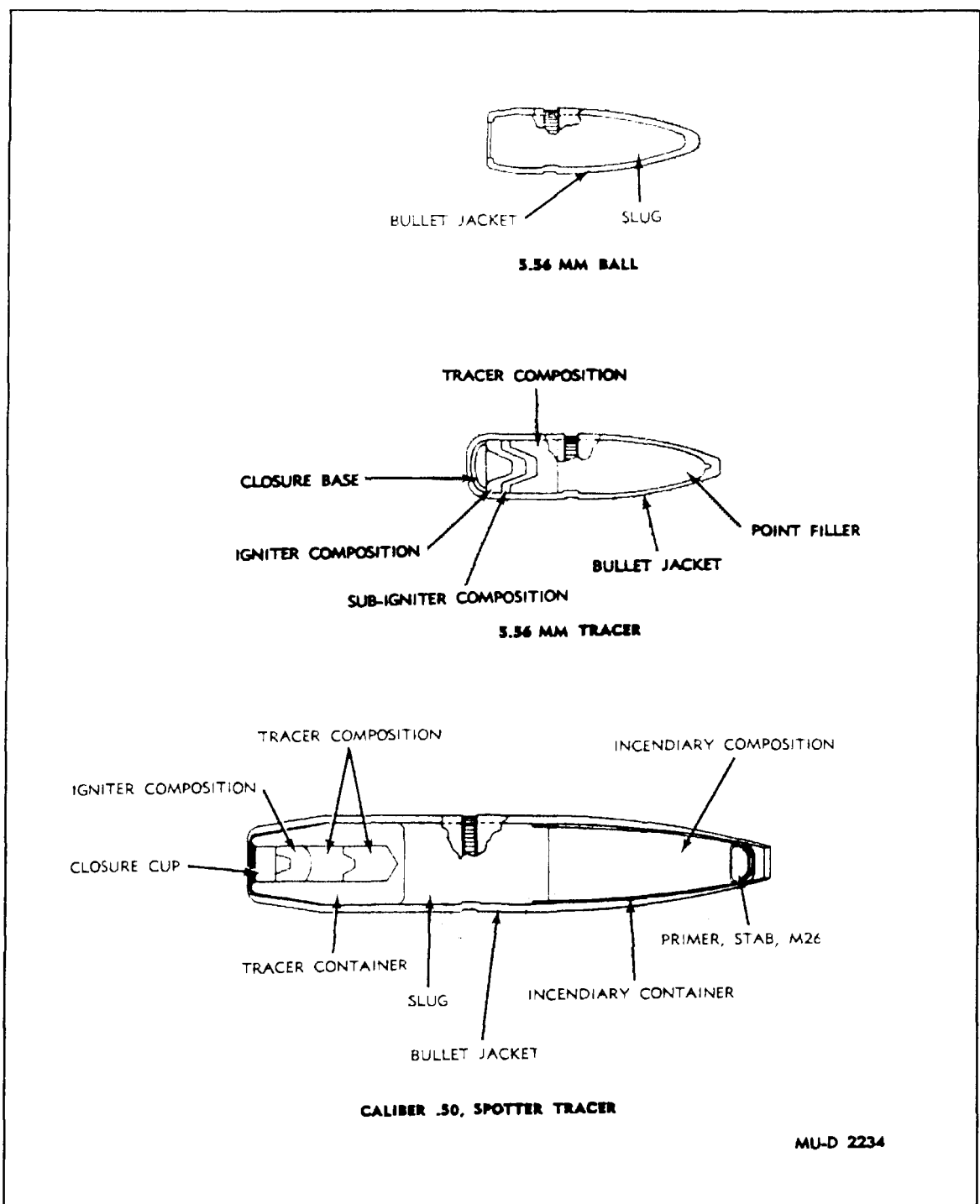


Figure 3. 5.56mm and caliber .50 spotter tracer bullets (sectioned)

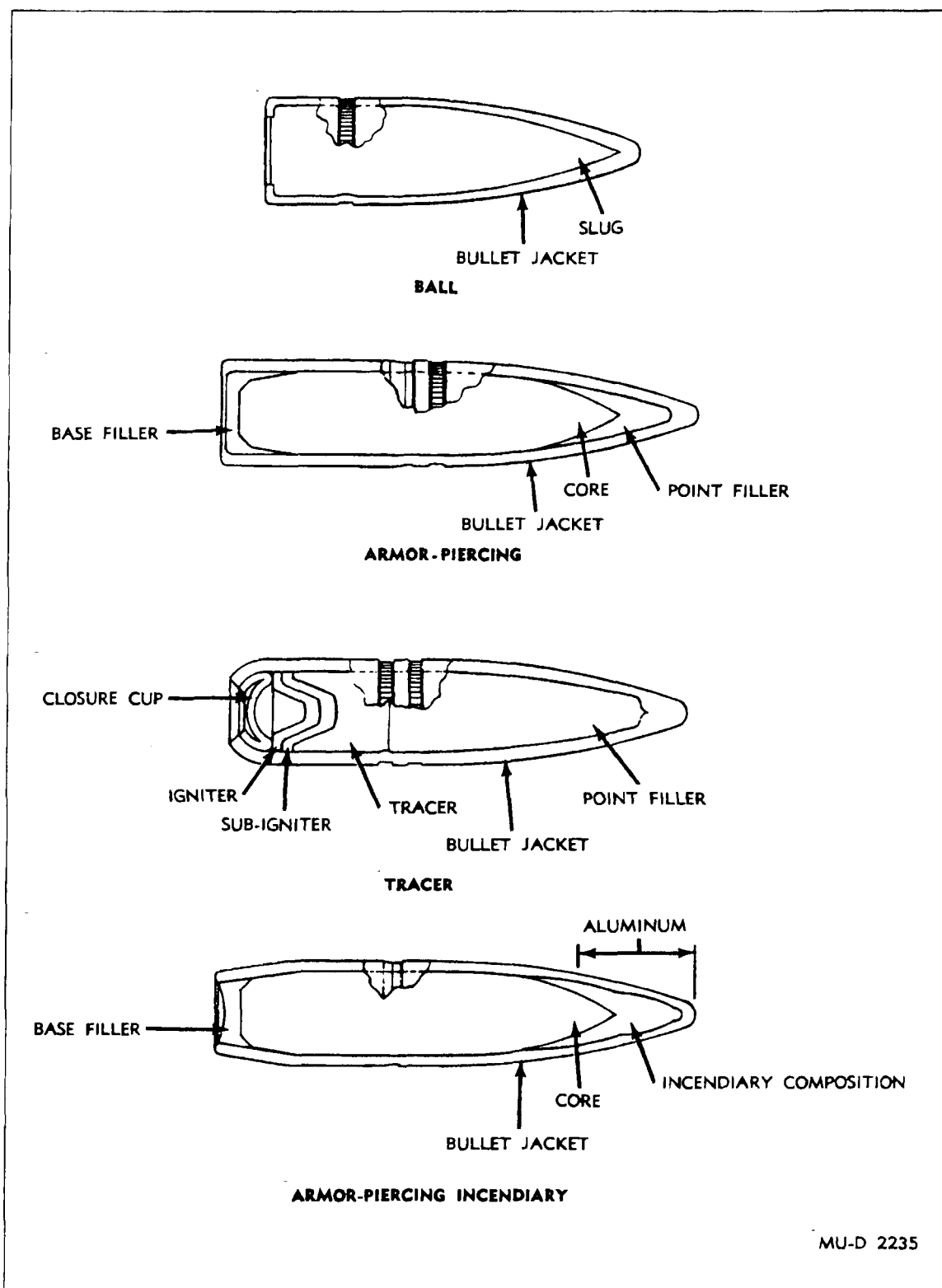


Figure 4. Caliber .30 bullets (sectional)

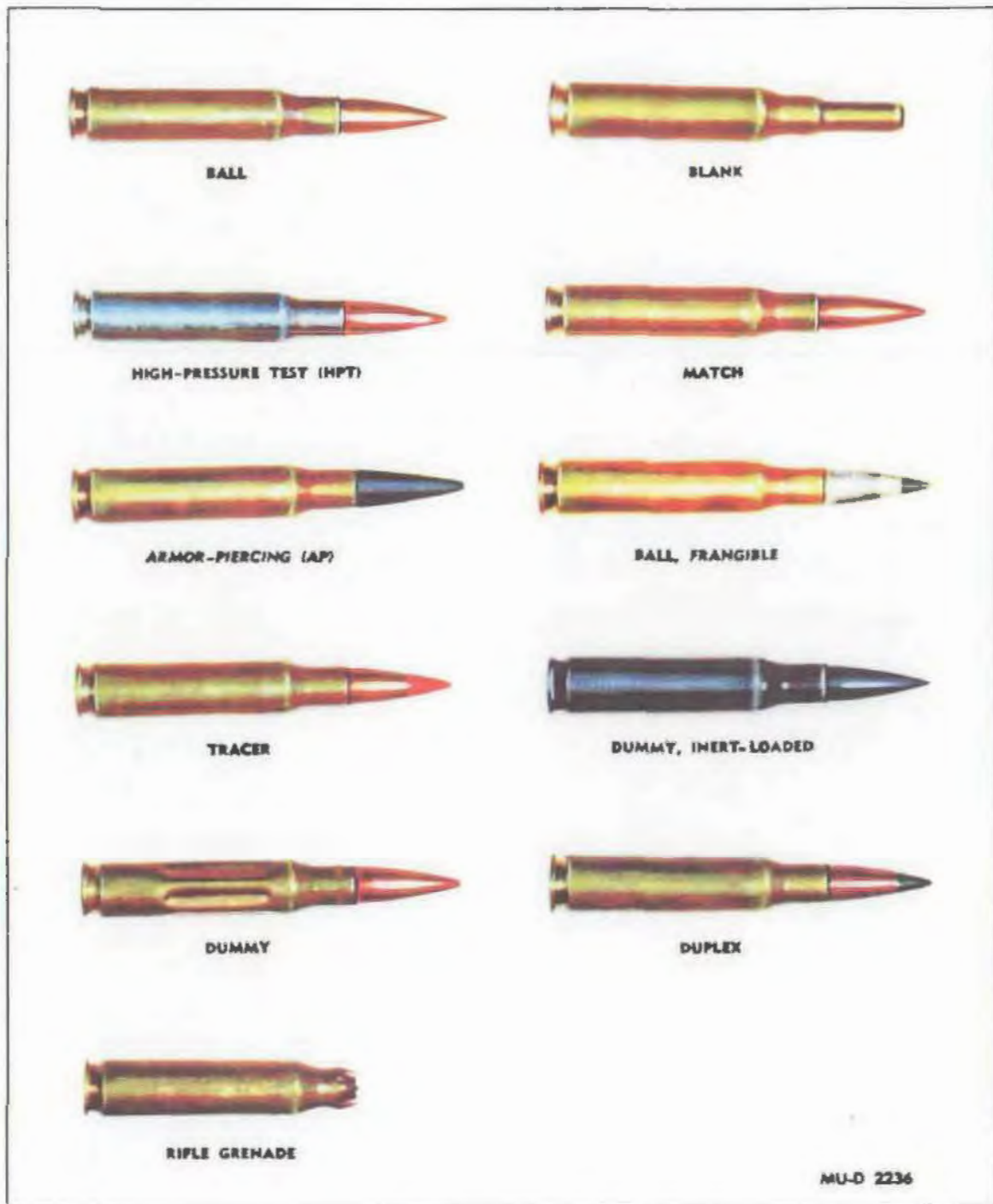


Figure 5. 7.62mm cartridges

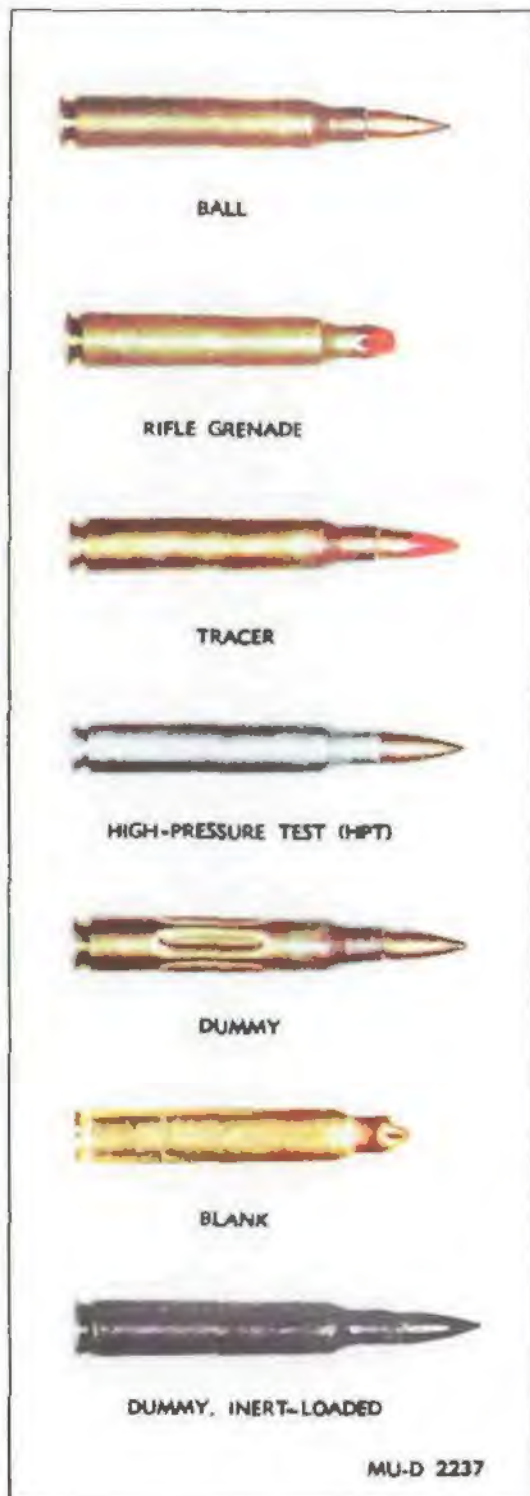
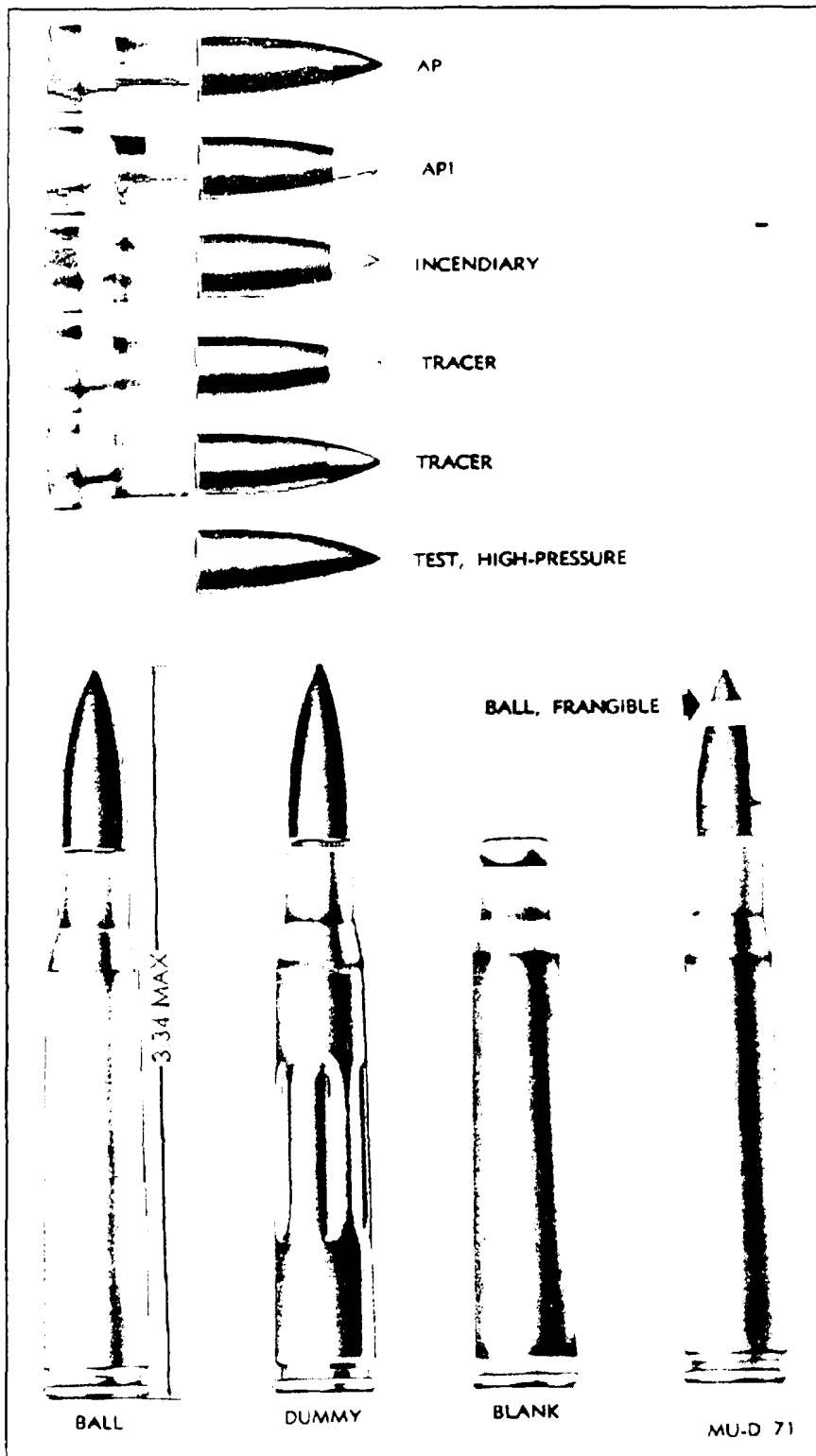


Figure 6. 5.56mm cartridges

Propellant. Cartridges are loaded with varying weights of propellant. This is to impart sufficient velocity (within safe pressures) to the projectile to obtain the required ballistic performance. These propellants are either of the single-base (nitrocellulose) or double-base (nitrocellulose and nitroglycerine) type. The propellant grain configuration may be cylindrical with a single, lengthwise perforation, spheroid (ball) or flake. Most propellants are coated with a deterrent (to assist in controlling the rate of combustion) and with a final coating of graphite (to facilitate flow of propellant and eliminate static electricity in loading cartridges).

Primer. Small-arms cartridges contain either a percussion or electric primer. The percussion primer consists of a brass or gilding metal cup that contains a pellet of sensitive explosive material secured by a paper disk and a brass anvil. The electric primer consists of an electrode button in contact with the priming composition, a primer cup assembly and insulator. A blow from the firing pin of the weapon on the center of the percussion primer cup base compresses the primer composition between the cup and the anvil. This causes the composition to explode. The function of the electric primer is accomplished by a firing pin with electrical potential, which contacts the electrode button. This allows current to flow through the energy-sensitive priming composition to the grounded primer cup and cartridge case, exploding the priming composition. Holes or vents in the anvil or closure cup allow the flame to pass through the primer vent in the cartridge case and ignite the propellant. Rimfire ammunition, such as the caliber .22 cartridge, does not contain a primer assembly. Instead, the primer composition is spun into the rim of the cartridge case and the propellant is in intimate contact with the composition. On firing, the firing pin strikes the rim of the cartridge case, compressing the primer composition and initiating its explosion.



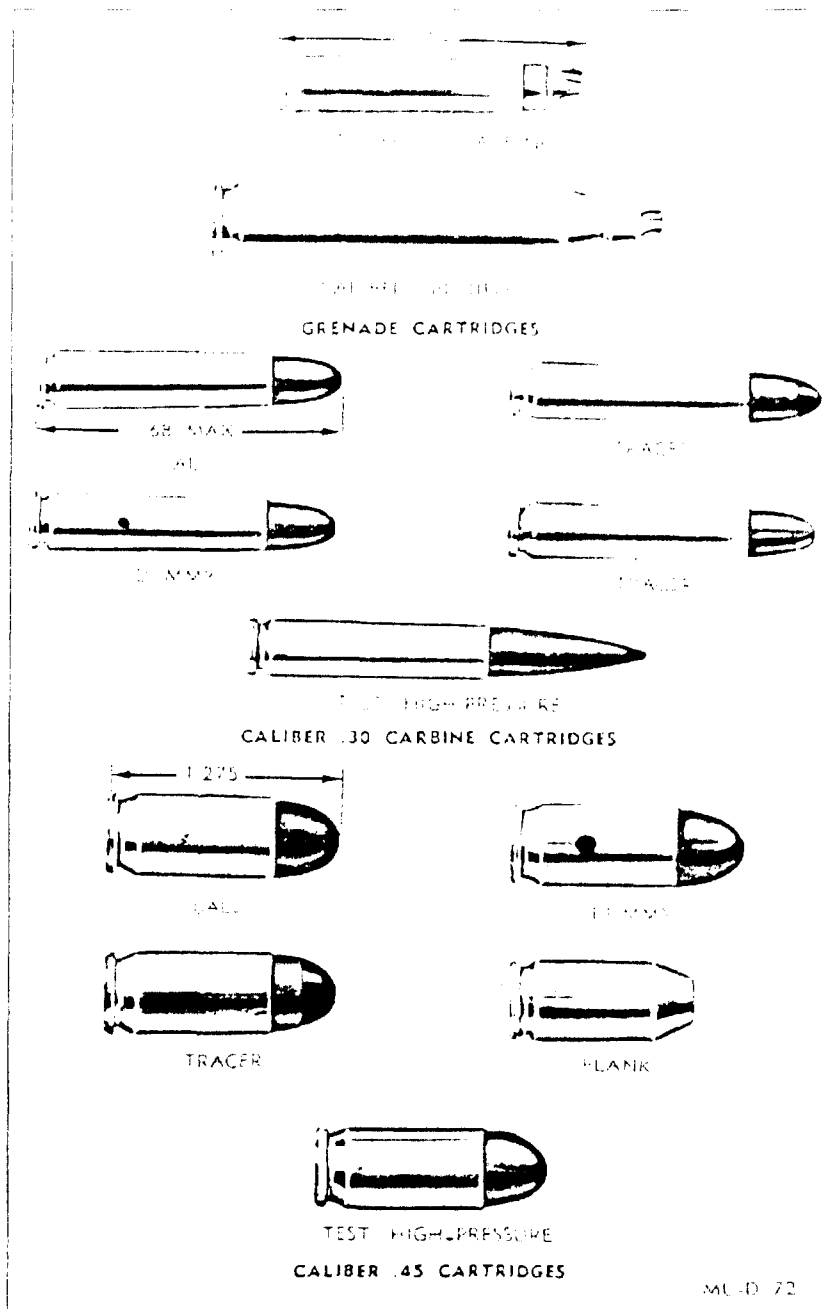


Figure 8. Caliber .30 carbine and caliber .45 cartridges

Bullet. With few exceptions, bullets through caliber .50 are assemblies of a jacket and a lead or steel core. They may contain other components or chemicals which provide the terminal ballistic characteristics of the bullet type. The bullet jacket may be either gliding metal, gliding-metal clad steel, or copper plated steel. Caliber .30 and 7.62mm frangible bullets are molded of powdered lead and a friable plastic which pulverizes into dust upon impact with the target. The pellets used in the shotgun shells are spheres of lead alloys varying from 0.08 inch to 0.33 inch in diameter.



Figure Calibe 50 cartridg

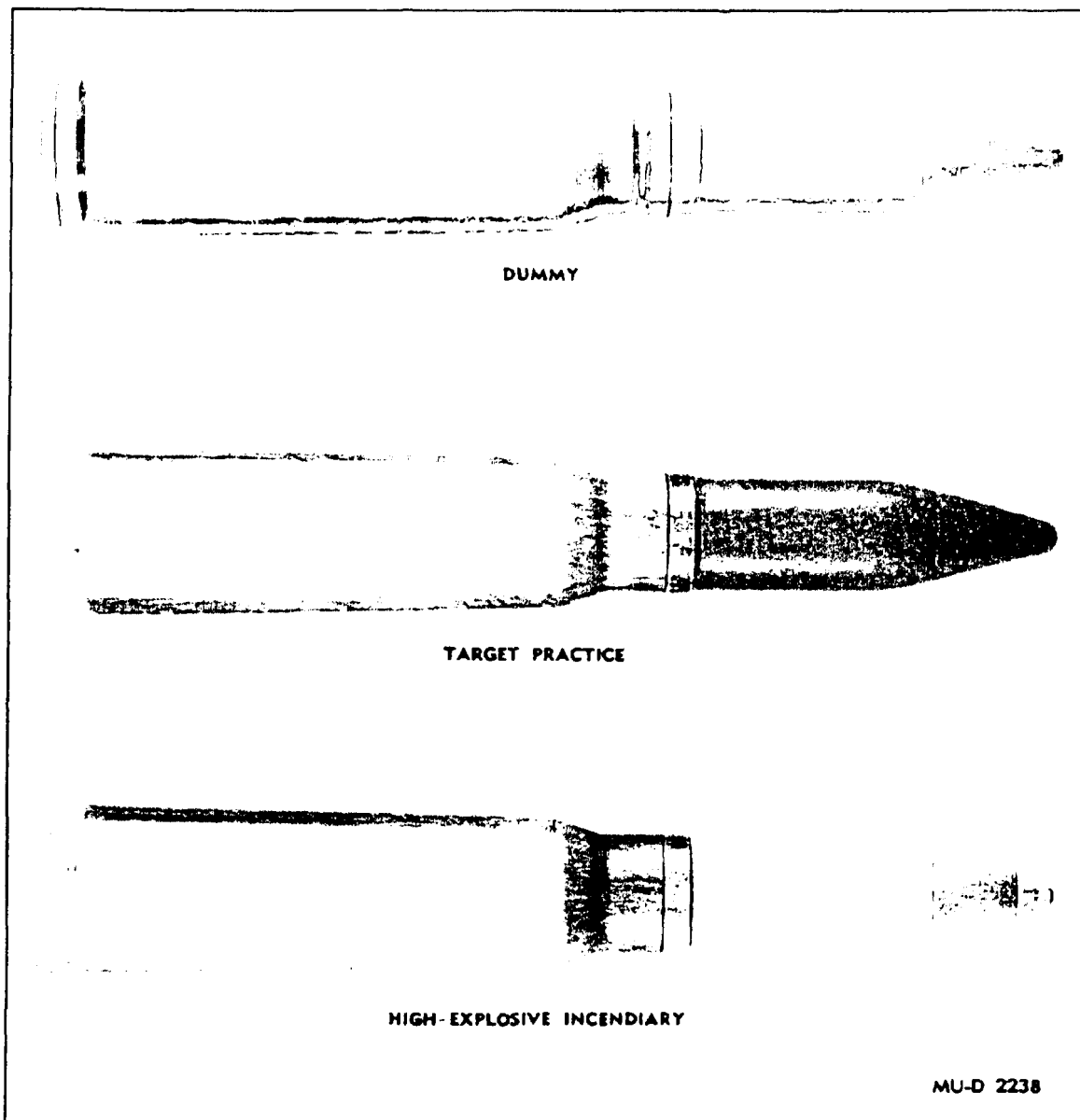


Figure 10. 20mm cartridges

Ball Cartridge. The ball cartridge is intended for use in rifles, carbines, pistols, revolvers and/or machineguns against personnel and unarmored targets. The bullet, as designed for general purpose combat and training requirements, normally consists of a metal jacket and a lead slug. Caliber .50 ball bullet and 7.62-mm, Ball M59 bullet contain soft steel cores.

Tracer Cartridge. By means of a trail of flame and smoke, the tracer cartridge is intended to permit visible observation of the bullet's in-flight path or trajectory and the point of impact. It is used primarily to observe the line of fire. It may also be used to pinpoint enemy targets to ignite flammable materials and for signaling purposes. The tracer element consists of a compressed, flammable, pyrotechnic composition in the base of the bullet. This composition is ignited by the propellant when the cartridge is fired. In flight, the bullet emits a bright flame which is visible to the gunner. Trace burnout occurs at a range between 400 and 1,600 yards, depending upon the caliber of ammunition.

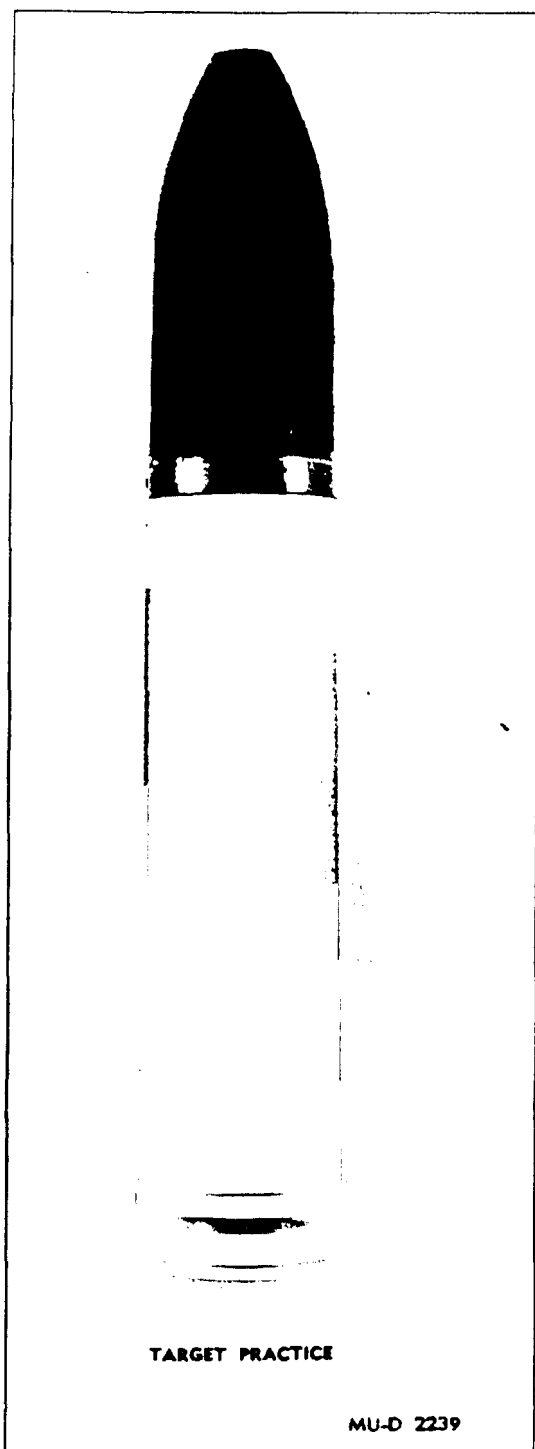


Figure 11. Typical 30mm projectile

Match Cartridge. The match cartridge is used in National and International Match Shooting competitions. The bullet consists of a gliding-metal jacket over a lead slug.

The cartridges are identified on the head face with the designation NM (National Match) or Match.

Armor-Piercing Cartridges. The armor-piercing cartridge is intended for use in machine-guns or rifles against personnel and light armored and unarmored targets, concrete shelters, and similar bullet-resisting targets. The bullet consists of a metal jacket and a hardened steel-alloy core. In addition, it may have a base filler and/or a point filler of lead.

Armor-Piercing-Incendiary Cartridge. The armor-piercing-incendiary cartridge is used in rifles or machineguns as a single combination cartridge in lieu of separate armor-piercing and incendiary cartridges. The bullet is similar to the armor-piercing bullet, except that the point filler is incendiary mixture instead of lead. Upon impact with the target, the incendiary mixture burst into flame and ignites flammable material.

Armor-Piercing-Incendiary Tracer Cartridge. The bullet of the armor-piercing-incendiary-tracer cartridge combines the features of the armor-piercing, incendiary, and tracer bullets and may be used to replace those cartridges. The bullet consists of a hard steel core with compressed pyrotechnic mixture in the cavity in the base of the core. The core is covered by a gliding-metal jacket with incendiary mixture between the core point and jacket. This cartridge is for use in caliber .50 weapons only.

Duplex Cartridge. The duplex cartridge contains two special ball type bullets in tandem. The front bullet is positioned partially in the case neck, similarly to a standard ball bullet. The rear bullet, positioned completely within the case, is held in position by a compressed propellant charge. The base of the rear bullet is angled so that in flight, it follows a path slightly dispersed from that of the front bullet.

Spotter-Tracer Cartridge. The spotter-tracer cartridge is intended for use in coaxially mounted caliber .50 spotting rifles. The bullet trajectory closely approximates that of 106mm projectiles. Thus, this cartridge serves as a fire control device to verify weapon sight settings before firing 106mm weapons. The bullet contains an impact detonator and incendiary composition which identify the point of impact by flash and smoke.

Blank Cartridge. The blank cartridge is distinguished by absence of a bullet. It is used for simulated fire, in training maneuvers, and for saluting purposes. It is fired in rifles and machineguns equipped with blank firing attachments.

Grenade Cartridge. The grenade cartridge is used to propel rifle grenades and ground signals from launchers attached to rifles or carbines. All rifle grenade cartridges are distinguished by the rose petal (rosette crimp) closure of the case mouth.

Frangible Cartridge. The caliber .30 frangible cartridge, designed for aerial target training purposes, is also used in rifles and machineguns for target shooting. Caliber .30 and 7.62mm frangible cartridges are used in tank machineguns, firing single shot, for training in tank gunnery. At its normal velocity, the bullet, which is composed of powdered lead and friable plastic, will completely disintegrate upon striking a 3/16-inch aluminum alloy plate at 100 yards from the muzzle of the gun. These cartridges are not to be used on any but well ventilated indoor ranges to preclude buildup of toxic bullet dust. Inhalation of bullet dust may be injurious to health.

Incendiary Cartridge. The incendiary cartridge was designed for aircraft and ground weapon use to ignite combustible targets (e.g., vehicular and aircraft fuel tanks). The bullet contains a compressed incendiary mixture which ignites upon impact with the target. The incendiary cartridge has been superseded by the API

and APIT cartridges because of their improved terminal ballistic effects.

Target-Practice Cartridge. The 20mm target-practice cartridge is the conventional steel shell with steel nose plug. It is used primarily for training purposes. This is not a combat cartridge; hence, no fuze is used in the assembly.

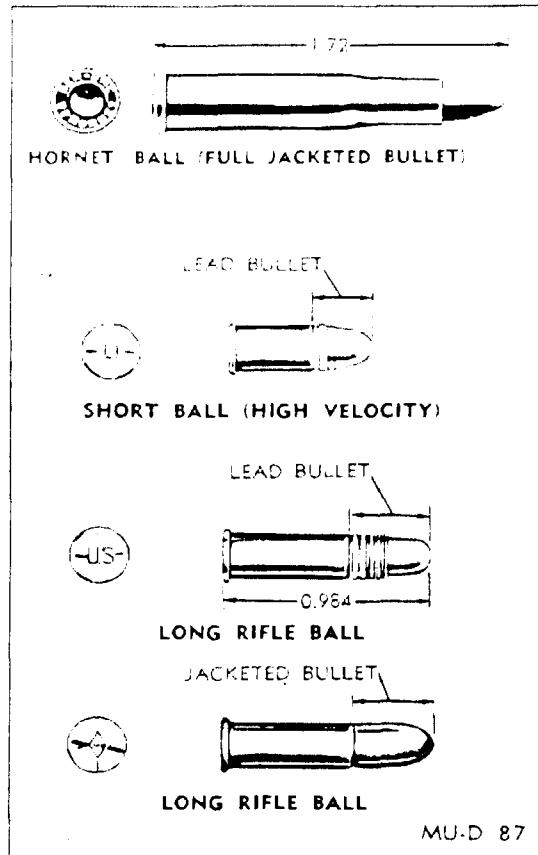


Figure 12. Caliber .22 cartridges

Special Purpose Cartridge

Cartridges of various calibers (figures 11 through 14), which consist of different types of projectiles and bullets, are used for training and special purposes. They include the following:

- (1) Caliber .22 long rifle and caliber .38 and .45 wad-cutter cartridge for target shooting.

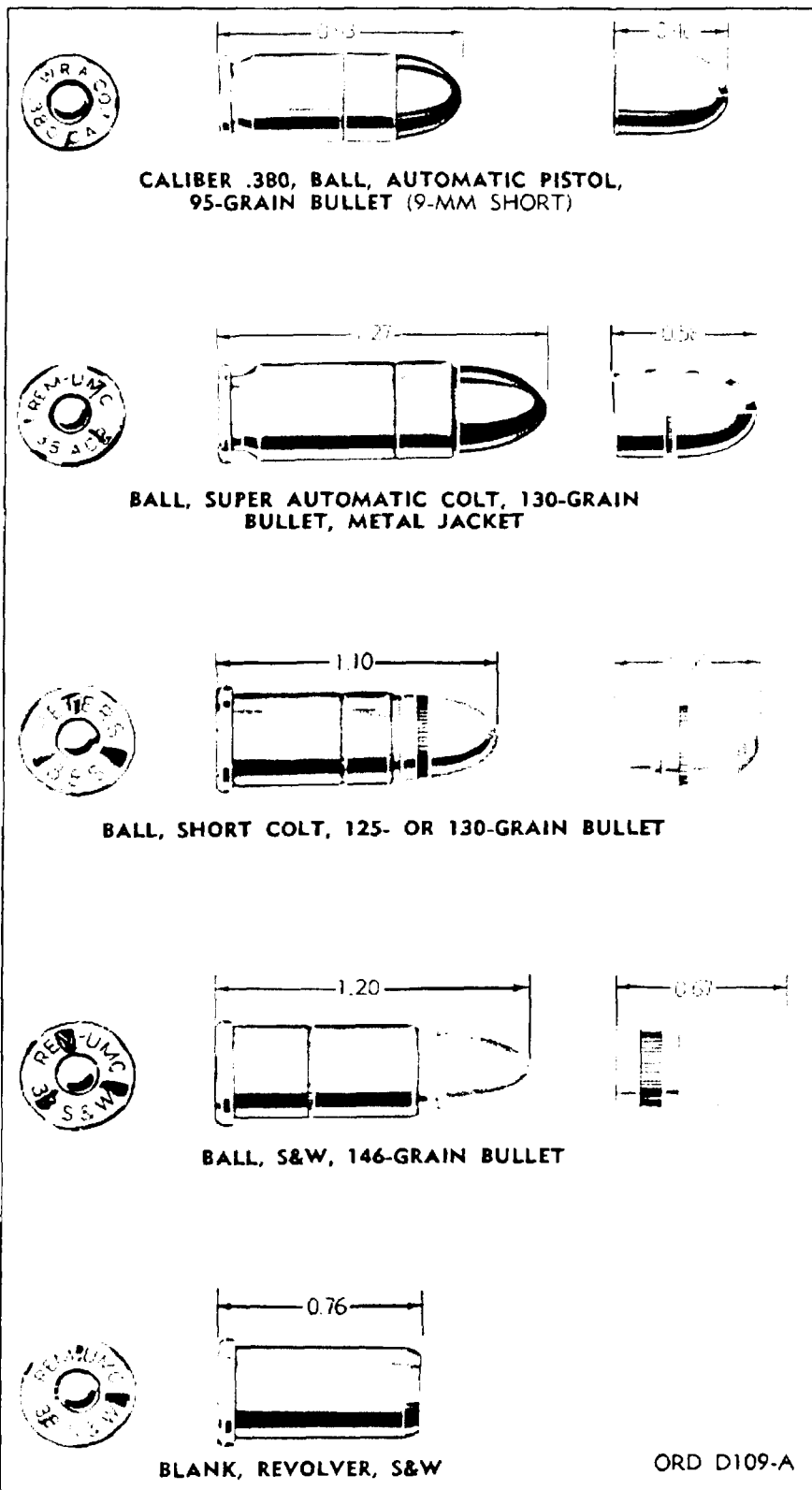


Figure 13. Caliber .38 cartridges

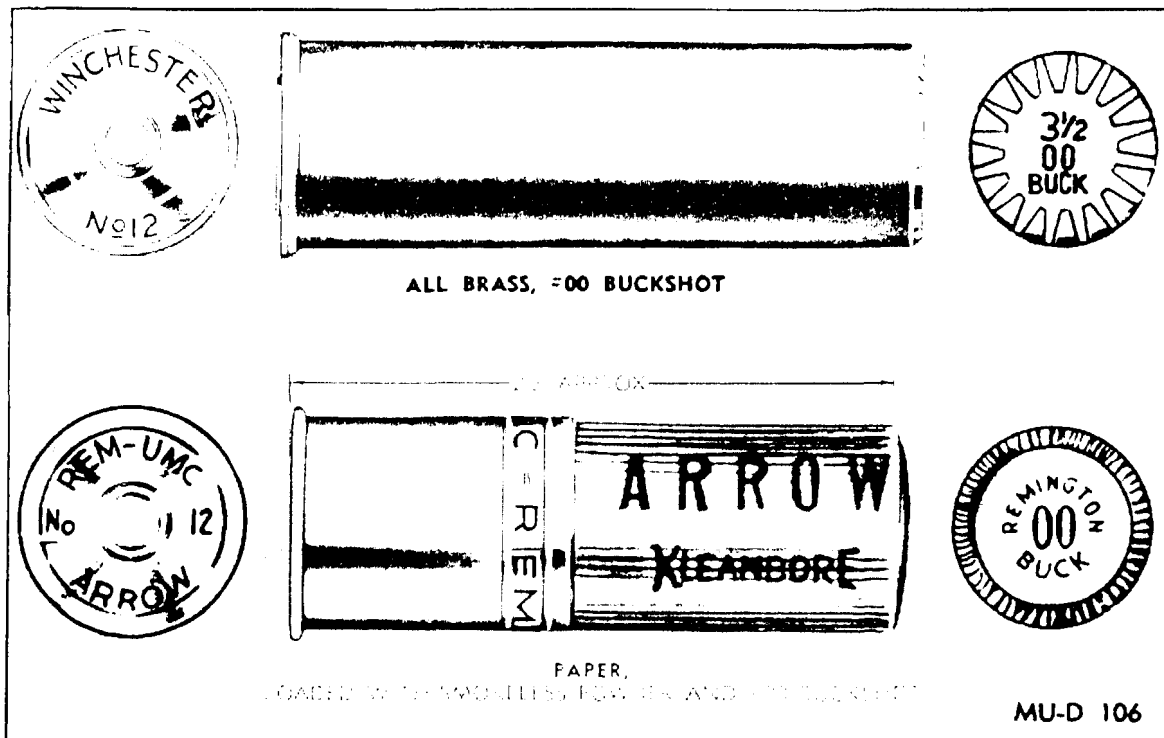


Figure 14. 12 gage shotgun shells

(2) Caliber .45 blank cartridges fired in exercises to condition dogs to gun fire.

(3) Caliber .22 hornet and .410 shotgun cartridges for firing in Air Force combination (survival) weapons for hunting purposes.

(4) Caliber .45 line-throwing cartridges for firing in caliber .45 line-throwing rifles. The Navy uses these for throwing lines from ship-to-ship. The Army Signal Corps uses these for projecting signal wires over elevated terrain.

(5) Shotshells containing the designated shot sizes as required for the following:

- 12 gage #00 Buck for guard duty
- 12 gage #4 Buck for guerrilla purposes.
- 12 gage #6, 7½ and 8 shot for clay target shooting for training purposes.
- .410 gage #7 shot for caliber .22/.410 survival weapons maintained by aircraft

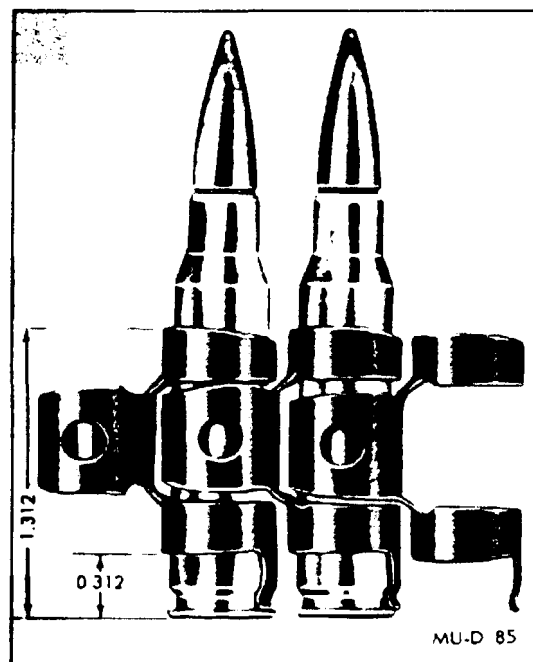


Figure 15. Linked 7.62-mm cartridges

Special purpose cartridges These also include the following types of military cartridges:

(1) *Dummy*. The dummy cartridge is used for practice in loading weapons and simulated firing to detect flinching of personnel when firing weapons. It consists of a cartridge case and a ball bullet. Cartridge identification is by means of holes through the side of the case or longitudinal corrugations in the case and by the empty primer pocket.

(2) *Dummy inert-loaded*. This cartridge consists of a cartridge case, a ball bullet and inert granular material in the case simulating the weight and balance of a live cartridge. The exterior of the cartridge is identified by a black chemical finish and by the absence of a primer. This cartridge is used by installations for testing weapon function, linkage and feed chutes.

(3) *High-pressure test*. High-pressure test ammunition is specially loaded to produce pressures substantially in excess of the maximum average or individual pressures of the corresponding service cartridge. This cartridge is not for field issue. It is used only by armorers and weapons mechanics for proof firing of weapons (rifles, pistols, machine guns) at place of manufacture, test and repair. Because of excessive pressures developed by this type of ammunition, and the potential danger involved in firing, proofing of weapons is conducted only by authorized personnel from fixed and shielded rests by means of a lanyard or other remote control methods.

Metallic Links and Clip

Metallic links. (figures. 15 and 16) are used with caliber .30, caliber .50, 5.56mm, 7.62mm and 20mm cartridges in machine guns. The links are made of steel, surface treated for rust prevention. They are used to assemble cartridges into linked belts of 100 to 750 cartridges per belt. The links must meet specific test and dimension requirements to assure satisfactory ammunition feed and functioning in the machine gun under all training and combat service conditions.

Different configurations of cartridge clips. These permit unitized packages of ammunition. This facilitates transfer of cartridges to appropriate magazines for caliber .30, 7.62mm and 5.56mm rifles. The caliber .30 eight-round clip feeds eight cartridges as a unit into the receiver of the rifle. The caliber .45 clip feeds three cartridges as a unit into the revolver cylinder. Five-round and eight-round clips are used with caliber .30 cartridges; five-round clips with 7.62mm cartridges; ten-round clips with caliber .30 carbine and 5.56-mm cartridges; and three-round clips with caliber .45 cartridges.

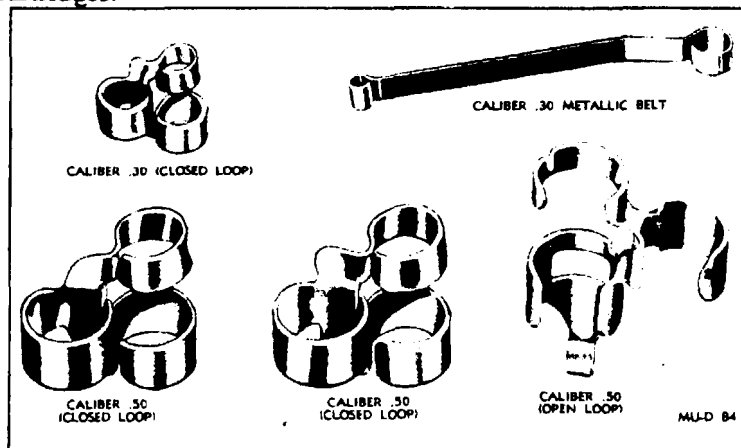


Figure 16. Links for caliber .30 and caliber .50 ammunition

Identification Markings. Each outer shipping container and all inner containers are fully marked to identify the ammunition. Wire-bound boxes are marked in black and ammunition boxes are painted olive drab, with markings in yellow. When linked ammunition is functionally packed, component lot numbers are replaced by a functional lot number. Typical packing and identification markings are illustrated in figures 17 through 19.

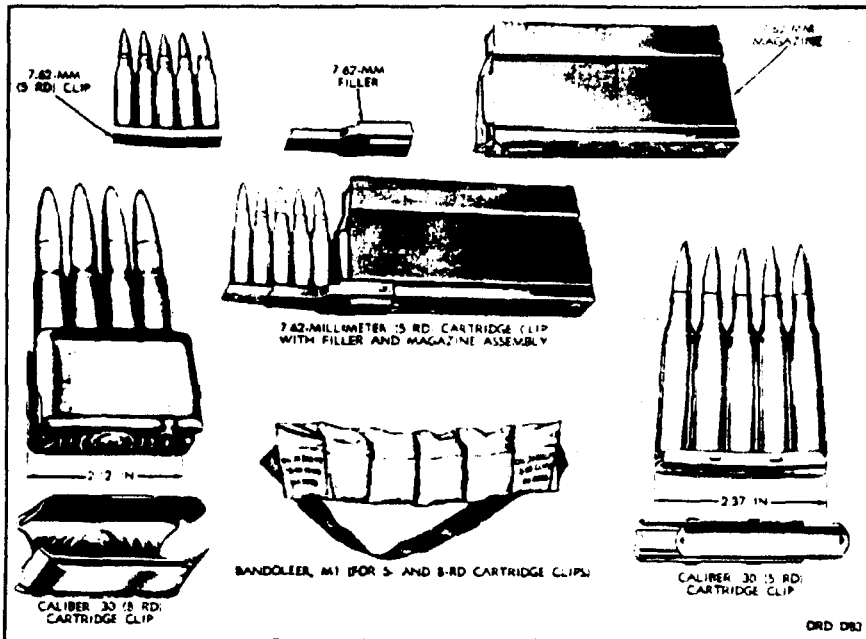


Figure 17. Cartridges, links, belt, cartons, bandoleers and ammunition box

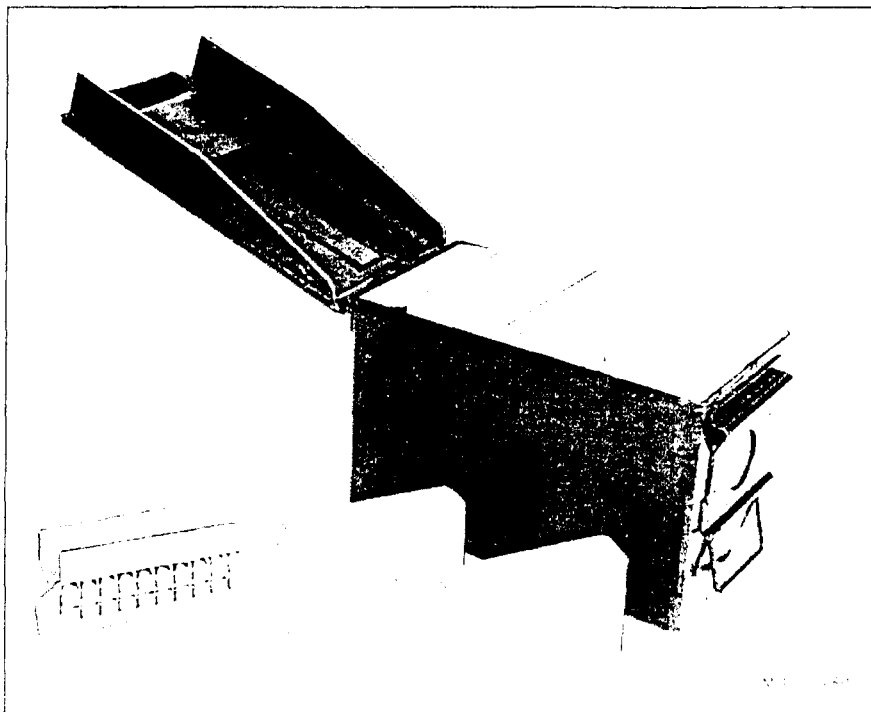


Figure 18. Cartridges, link belt, cartons, bandoleers and ammunition box

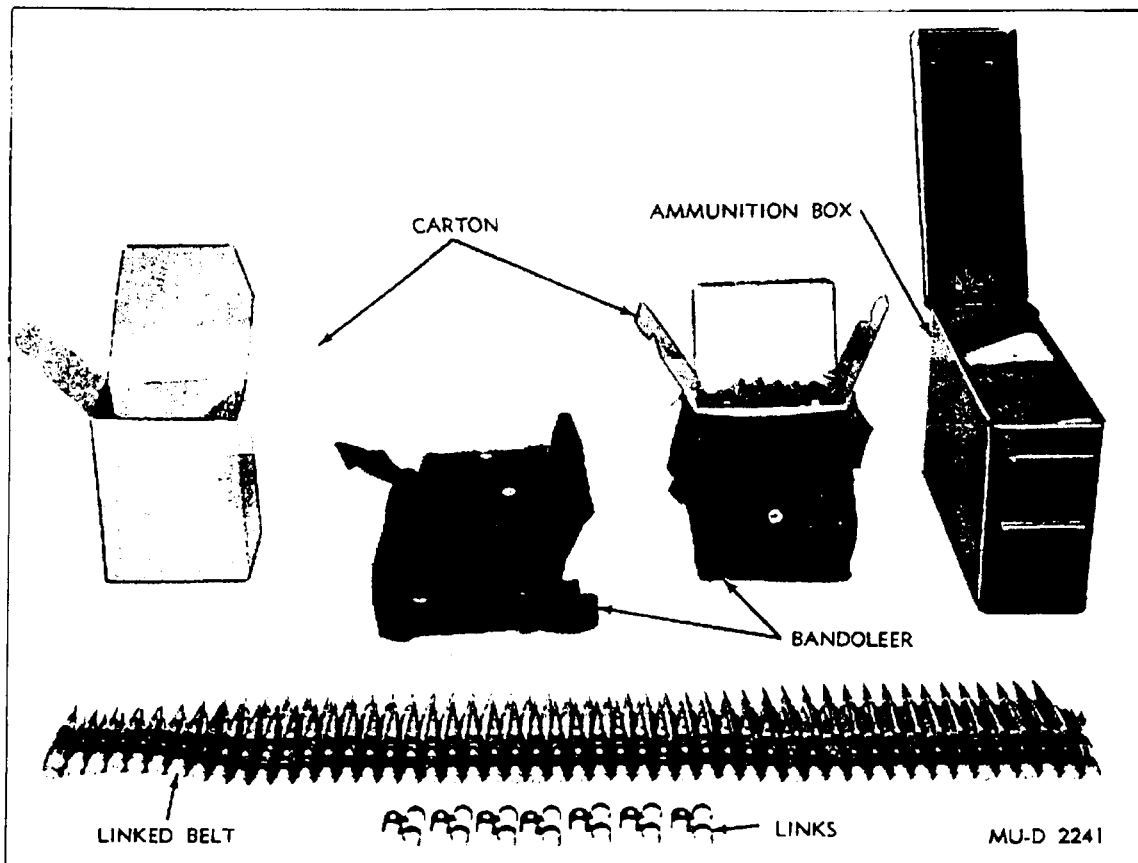


Figure 19. Cartridges, link belt, cartons, bandoleers and ammunition box

Care, Handling and Preservation

Small-arms ammunition is comparatively safe to handle. It is packed to withstand transportation, handling and storage conditions normally encountered in the field. However, consideration should be given to general handling precautions pertaining to ammunition and explosives.

Reference: This data is a reprint of Chapter 3, TM 9-1300-200, *Ammunition General*, October 1969

APPENDIX D
REPORTS/STUDIES

APPENDIX D – REPORTS/STUDIES

D-1 U.S. Army Corps of Engineers, Jacksonville District

1994 Under the Defense Environmental Restoration Program (DERP), the Jacksonville District prepared an Inventory Project Report (INPR), which includes a Findings and Determination of Eligibility (FDE), for the Mill Cove Bombing Site, dated 15 September 1994.

D-2 1996 Memorandum signed by Billy D. McPherson for Karl E. Blankinship, Group Leader, Design Management Group, Huntsville Division, for Commander, HQUSACE, ATTN: CEMP-RF, 4 May 1996, subject: DERP-FUDS Inventory Project Report (INPR) Requiring an Ordnance and Explosives (OE) Engineering Evaluation and Cost Analysis (EE/CA). District Files. U.S. Army Corps of Engineers, Jacksonville District Office, Jacksonville, FL.

D-1

U.S. Army Corps of Engineers, Jacksonville District, 1996

Under the Defense Environmental Restoration Program (DERP), the Jacksonville District prepared an Inventory Project Report (INPR), which includes a Findings and Determination of Eligibility (FDE), for the Mill Cove Bombing Site, dated 15 September 1994.



DEPARTMENT OF THE ARMY

SOUTH ATLANTIC DIVISION, CORPS OF ENGINEERS

ROOM 313, 77 FORSYTH ST., S.W.

ATLANTA, GEORGIA 30335-6801

REPLY TO
ATTENTION OF:

10-189

15 SEP 1994

CESAD-PD-R (200)

MEMORANDUM FOR CDR, USACE, ATTN: CEMP-ZA, WASH DC 20314-1000

SUBJECT: DERP-FUDS Inventory Project Reports (INPR) for Five Sites

1. The "no further action" INPR for the subject sites have been signed and are enclosed for your files:

- a. Orla Vista Radar Camp, Site No. I04FL039700
- b. Mill Cove Bombing Site, Site No. I04FL037700
- c. Mile Branch Outlying Field, Site No. I04FL029900
- d. Bostwick Outlying Field, Site No. I04FL010700
- e. Fort Marion National Monument, Site No. I04FL012500

2. These sites were evaluated and determined to be eligible for the DERP-FUDS program, but no unsafe debris, hazardous/toxic waste, containerized hazardous/toxic waste, or ordnance/explosive waste problems resulting from Department of Defense use were found.

3. Copies of these reports are concurrently being sent to CEHND-ED-PM and CESAJ-PD-EE. In accordance with current guidance, the district will initiate the process of notifying the current owners of the "no further action" determinations by letter thirty days from the date of this memorandum.

4. The Division focal point is Gary Mauldin, CESAD-PD-R, at 404-331-6043.

5 Encls

Procurio
 RALPH V. LOCURCIO
 Brigadier General, USA
 Commanding

1994 SEP 19 PM 1:18

CF (w/encls):

- ✓ CDR, HUNTSVILLE DIVISION, ATTN: CEHND-ED-PM
- CDR, JACKSONVILLE DISTRICT, ATTN: CESAJ-PD-EE

**SITE SURVEY SUMMARY SHEET
FOR
DERP-FUDS SITE NO. I04FL037700
MILL COVE BOMBING SITE
ORANGE PARK, CLAY COUNTY, FLORIDA
22 July 1994**

SITE NAME(S). Mill Cove Bombing Site; Doctors Bomb Target.

LOCATION. The Mill Cove Bombing Site (the site) is located in the southern portion of Doctors Lake on the northern portion of Fleming Island, south of the city of Orange Park, in Section 29, Township 4 South, Range 26 East, Clay County, Florida (see Figure 1).

SITE HISTORY. The United States, acting through the Secretary of War, issued a Public Notice on April 10, 1941, to acquire an estimated 160 acres of submerged land for a naval bomb target site in Mill Cove, a portion of Doctors Lake. The Naval Air Advanced Training Command from the Jacksonville Naval Air Station utilized the site for training until late 1945 or early 1946. According to the available file material, in 1946, homeowners were planning to have Doctors Lake declared a fish preserve which would prohibit the continued use of the site as a bomb target. It is not known whether Doctors Lake was declared a fish preserve. Currently, the State of Florida owns the open water portion of Mill Cove in Doctors Lake which is used by the general public for boating, skiing and fishing. Pace Enterprises, which is owned by John and Gussie Pace, owns the land surrounding Mill Cove. Currently, this land is part of the Pace Island development which consists of homes, recreation areas and a wildlife conservation area. According to maps acquired from the U.S. Army Corps of Engineers office in Jacksonville, Florida, the site is located in the open water of Mill Cove. The site may possibly extend to the wildlife conservation area and residential areas in the Pace Island development.

SITE VISIT. On 1 June 1994, Dynamac Corporation (Dynamac) personnel, Charlotte M. Boulind and David L. Fortune, conducted a site visit. Dynamac personnel met with Geoff Wiemer, Foreman, of Whitney's Marine, which is located approximately 1.25 miles north of the Pace Island Development along U.S. Highway 17. Mr. Wiemer, who has lived in Orange Park for over 30 years, said that, while growing up in the area, he heard that there was a bomb target in Mill Cove. He said that he has not heard of anyone finding military debris, bombs or ordnance in Mill Cove. Mr. Wiemer stated that as a teenager he and his friends used to hunt alligators in Mill Cove, and that at some time in the past, an unknown party used to excavate mud from Mill Cove and sell it.

Later that afternoon, Dynamac personnel met with Susan Woods, Executive Director, of the Pace Island development. She said that John and Gussie Pace had purchased the property in 1950; however, she did not think that they had purchased the property from the military. She said that the developers have not found any military debris or ordnance. The entire project has not been completed; however, the development of the area surrounding Mill Cove is mostly completed. Ms. Woods said that a portion of the development, primarily wetlands located within the surrounding area of Mill Cove, was not to be developed. She said that she would notify the U.S. Army Corps of Engineers office in Jacksonville, Florida, if any military debris is found.

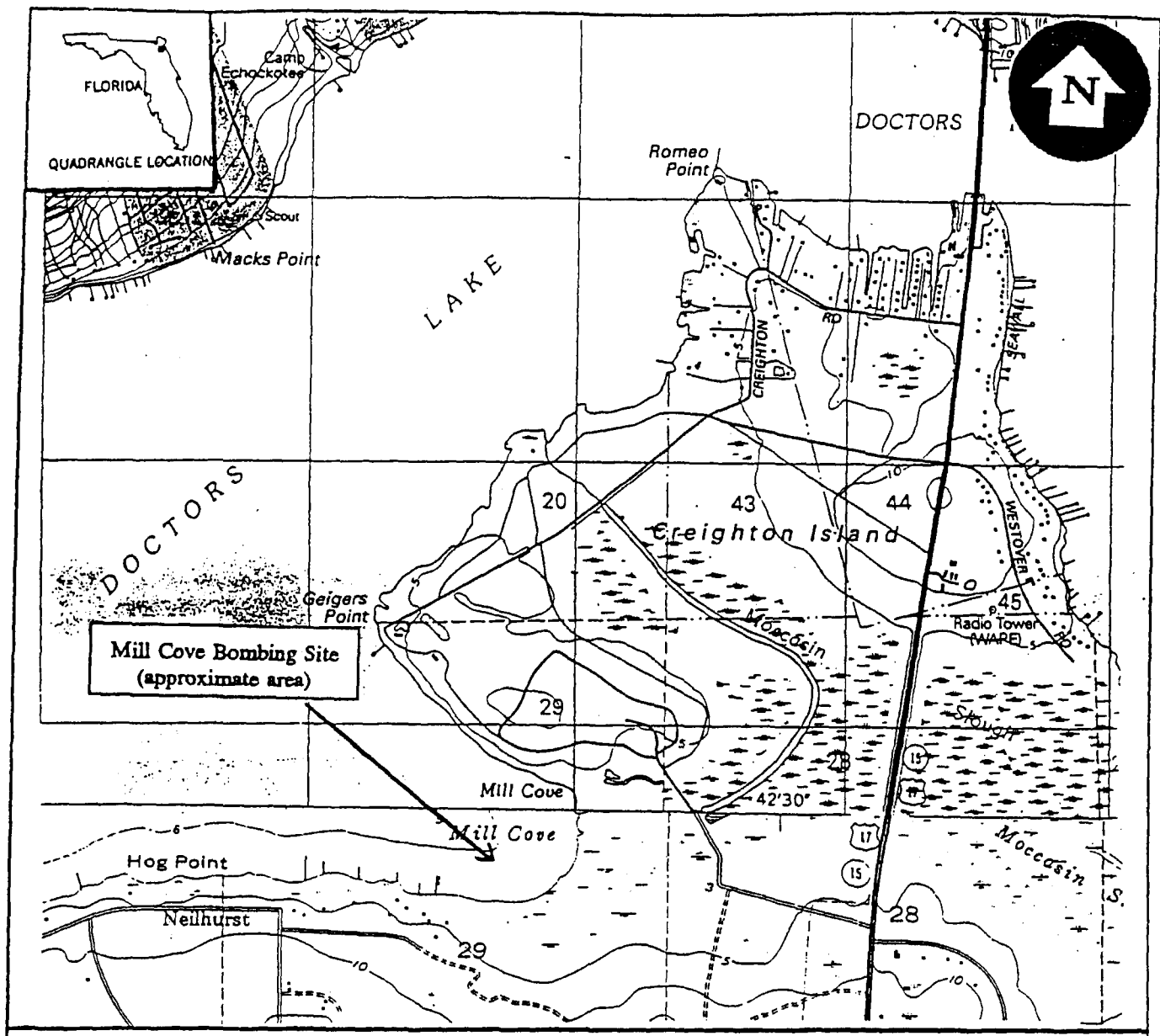
Dynamac observed that, on land, Mill Cove is accessible to residents and guests of Pace Island via nature trails; via water, Mill Cove is accessible to anyone. No military debris or waste was observed at the site;

however, no attempt to survey the site for ordnance was made due to accessibility and the limited scope of the investigation. The current site layout is shown in Figure 2.

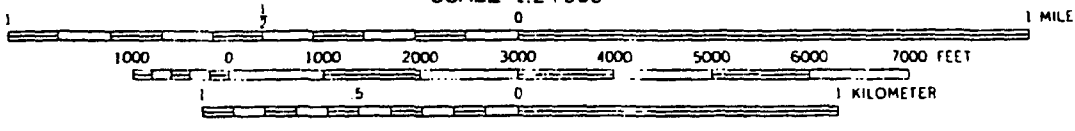
CATEGORY OF HAZARD. No hazards associated with the former military site were identified.

AVAILABLE STUDIES AND REPORTS. None identified.

PA POC. Russ Jones; (904) 232-2168.



SCALE 1:24 000

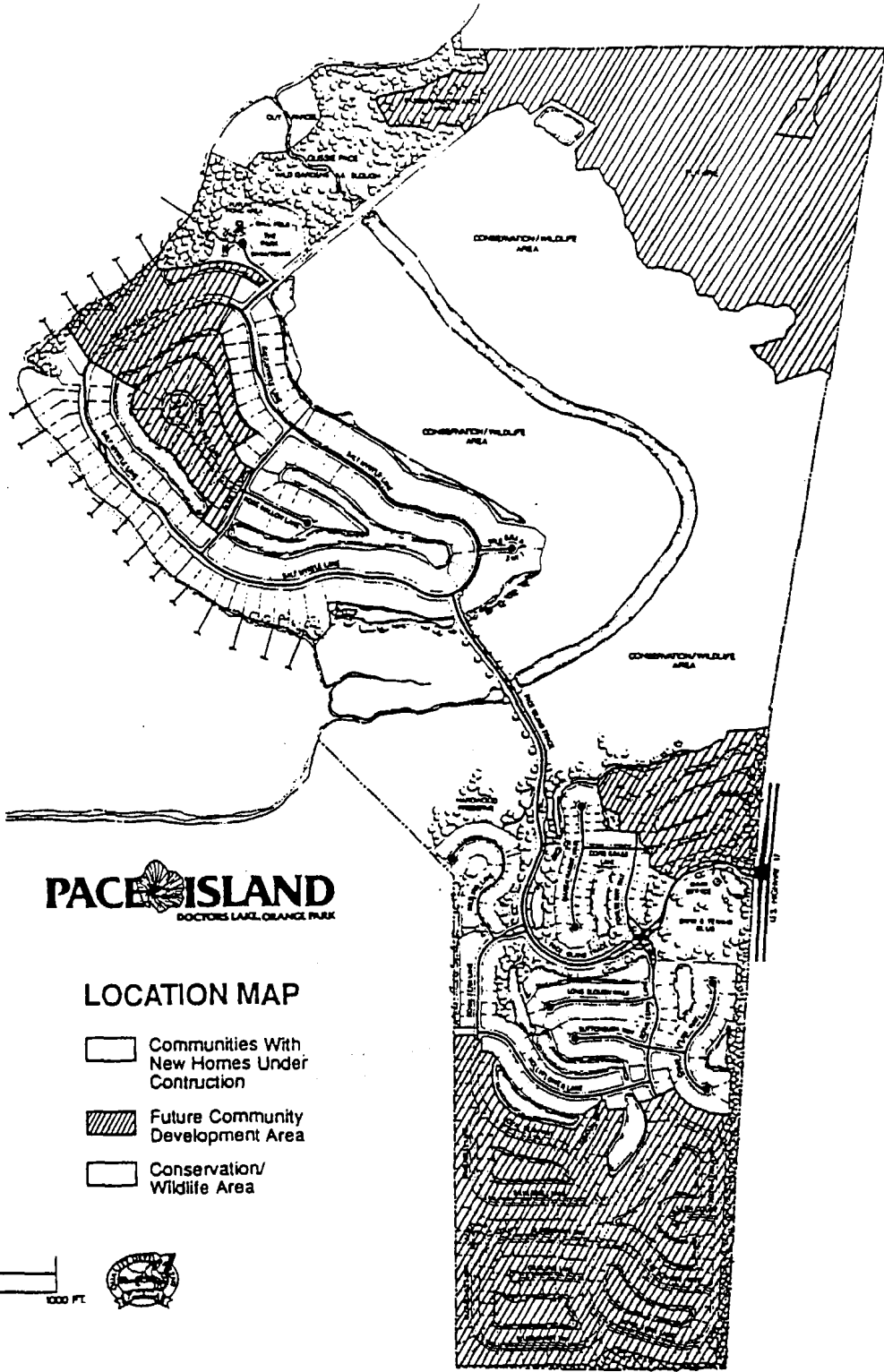


CONTOUR INTERVAL 5 FEET
 NATIONAL GEODETIC VERTICAL DATUM OF 1929

Source: Base map is a portion of the U.S. Geological Survey, 7.5-Minute Series Topographic Quadrangle Maps of Florida: Orange Park, 1993; Fleming Island, 1952 (Photorevised 1981).

DYNAMAC
CORPORATION
Environmental Services

Figure 1: Site Location Map
MILL COVE BOMBING SITE
 Orange Park, Clay County, Florida



Source: Pace Island, A Florida Quality Development, Doctors Lake, Orange Park, Florida, Location Map, undated.

DYNAMAC
CORPORATION
Environmental Services

Figure 2: Site Layout Map
MILL COVE BOMBING SITE
Orange Park, Clay County, Florida

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

Mill Cove Bombing Site, FL

Site No. I04FL037700

FINDINGS OF FACT

1. In the early part of World War II, the United States, acting through the Secretary of War, acquired by Public Notice issued 10 April 1941 an unspecified amount (estimated to be 160 acres) of submerged land for a Naval bomb target site in the Mill Cove area of Doctors' Lake. The site was located in Section 29, Township 4 South, Range 26 East, about four miles south of the town of Orange Park in Clay County, Florida. The site was developed and known as Doctors' Bomb Target. The target has also been referred to as the Mill Cove Bombing Site.


2. The Naval Air Advanced Training Command (NAATC) utilized the site for training operations associated with the Jacksonville Naval Air Station. There is no indication that the Navy constructed anything at this site other than a target. The site remained active until late 1945 or early 1946 when its functions were no longer required by the Navy.

3. After the conclusion of World War II, correspondence from the NAATC to the Chief of Naval Operations, dated 19 January 1946, stated the site would no longer be usable as the local land and home owners were planning to have the lake declared a fish preserve which would prohibit the continued use of the site as a target. A report on the status of real estate assigned to the Jacksonville Naval Air Station, dated 25 June 1946, stated the Navy had abandoned the use of this site. All acquisition and disposal information was taken from correspondence and reports in the records of the Jacksonville Naval Air Station and maps acquired from the Naval Construction Battalion Center in Port Hueneme, California. Currently, this open water site in Doctors' Lake is owned by the state of Florida and utilized by the general public for boating, skiing and fishing.

DETERMINATION

Based on the foregoing findings of fact, the Mill Cove Bombing Site, Florida, has been determined to be formerly used by the Department of Defense. It is therefore eligible for the Defense Environmental Restoration Program - Formerly Used Defense Sites established under 10 USC 2701 et seq.

9-15-94
DATE


RALPH V. LOCURCIO
Brigadier General, USA
Commanding

PROJECT SUMMARY SHEET
FOR
DERP-FUDS OEW PROJECT NO. I04FL037701
MILL COVE BOMBING SITE, FL
SITE NO. I04FL037700
23 OCTOBER 1995

PROJECT DESCRIPTION. The Naval Air Advanced Training Command from the Jacksonville Naval Air Station (NAS) used the Mill Cove Bombing Site as a naval bomb target. Although no ordnance has been found at the site, it is possible that ordnance is present, particularly in the wetland area of Mill Cove. Mr. Jerry Lahay, who worked at Jacksonville NAS during World War II, said that explosive bombs had been used at the site. The Mark 23 bombs were torpedo shaped, 8-10 inches long, and used a 12-gauge shotgun shell as a detonator. He said the current historian at Jacksonville NAS had one from a different site. The site is currently in a wildlife conservation area and it appears that the area will be left undisturbed.

PROJECT ELIGIBILITY. This project has been evaluated in accordance with the 16 March 1993 DERP-FUDS Standard Operating Procedures for Performing Preliminary Assessments at Potential Ordnance and Explosive Waste Sites. Although we have no evidence of ordnance being found at the site, it is possible that subsurface ordnance is present, particularly in the wetland area of Mill Cove. Any ordnance at the site would be the result of the Navy's use of the site.

POLICY CONSIDERATIONS. Currently, Department of Defense (DOD) policy permits removal of DOD-generated ordnance.

PROPOSED PROJECT. This Inventory Project Report should be referred to Huntsville Division for a determination of further action.

RISK ASSESSMENT CODE WORKSHEET. Attached.

PA POC. Russ Jones, CESAJ-PD-EE, (904) 232-2168.

17 March 1995
 Previous editions obsolete

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

Site Name MIL COVE BOMBING SITE Rater's Name Bill McPherson
 Site Location ORANGE PARK, FL Phone No. 205 895-1595
 DERP Project # 204 FLO 37700 Organization CEHND-06-ES
 Date Completed 4 MAR 96 Score 3

OEW RISK ASSESSMENT:

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

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

TYPE OF ORDNANCE

(Circle all values that apply)

| A. Conventional Ordnance and Ammunition | VALUE |
|---|----------|
| Medium/Large Caliber (20 mm and larger) | 10 |
| Bombs, Explosive | 10 |
| Grenades, Hand and Rifle, Explosive | 10 |
| Landmines, Explosive | 10 |
| Rockets, Guided Missiles, Explosive | 10 |
| Detonators, Blasting Caps, Fuzes, Boosters, Bursters | 6 |
| Bombs, Practice (w/spotting charges) | (6) |
| Grenades, Practice (w/spotting charges) | 4 |
| Landmines, Practice (w/spotting charges) | 4 |
| Small Arms, Complete Round (.22 cal - .50 cal) | 1 |
| Small Arms, Expended | 0 |
| Conventional Ordnance and Ammunition (Select the largest single value) | <u>6</u> |

What evidence do you have regarding conventional EXO PSS STATES PRACTICE
BOMBS WERE DROPPED

| | | |
|----|---|----------|
| B. | Pyrotechnics (For munitions not described above.) | VALUE |
| | Munition (Container) Containing White Phosphorus (WP) or other Pyrophoric Material (i.e., Spontaneously Flammable) | 10 |
| | Munition Containing A Flame or Incendiary Material (i.e., Napalm, Triethylaluminum Metal Incendiaries) | 6 |
| | Flares, Signals, Simulators, Screening Smokes (other than WP) | 4 |
| | Pyrotechnics <u>(Select the largest single value)</u> | <u>0</u> |
| | What evidence do you have regarding pyrotechnics? <u>none</u> | |

| | | |
|----|--|----------|
| C. | Bulk High Explosives (Not an integral part of conventional ordnance; uncontainerized.) | VALUE |
| | Primary or Initiating Explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.) | 10 |
| | Demolition Charges | 10 |
| | Secondary Explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.) | 8 |
| | Military Dynamite | 6 |
| | Less Sensitive Explosives (Ammonium Nitrate, Explosive D, etc.) | 3 |
| | High Explosives <u>(Select the largest single value)</u> | <u>0</u> |
| | What evidence do you have regarding bulk explosives? <u>none</u> | |

| | | |
|----|--|----------|
| D. | Bulk Propellants (Not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized) | VALUE |
| | Solid or Liquid Propellants | 6 |
| | Propellants | <u>0</u> |
| | What evidence do you have regarding bulk explosive <u>none</u> | |

E. Chemical Warfare Materiel and Radiological Weapons

| | VALUE |
|---|----------|
| Toxic Chemical Agents (Choking, Nerve, Blood, Blister) | 25 |
| War Gas Identification Sets | 20 |
| Radiological | 15 |
| Riot Control Agents (Vomiting, Tear) | 5 |
| Chemical and Radiological <u>(Select the largest single value)</u> | <u>0</u> |
| What evidence do you have of chemical/radiological OEW? <u>none</u> | |

TOTAL HAZARD SEVERITY VALUE

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

6

TABLE 1
HAZARD SEVERITY*

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

* APPLY HAZARD SEVERITY CATEGORY TO TABLE 3.

**IF HAZARD SEVERITY VALUE IS 0, YOU DO NOT NEED TO COMPLETE PART II. PROCEED TO PART III AND USE A RAC SCORE OF 5 TO DETERMINE YOUR APPROPRIATE ACTION.

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

AREA, EXTENT, ACCESSIBILITY OF OEW HAZARD
(CIRCLE ALL VALUES THAT APPLY)

A. Locations of OEW Hazards

| | VALUE |
|---|----------------------------|
| On the surface | 5 |
| Within Tanks, Pipes, Vessels or Other confined locations. | 4 |
| Inside walls, ceilings, or other parts of Buildings or Structures. | 3 |
| Subsurface | (2) |
| Location <u>(Select the single largest value)</u> | <u>2</u> |
| What evidence do you have regarding location of OEW? | <u>NO VISIBLE EVIDENCE</u> |
| <u>FOUND</u> | |

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

| | VALUE |
|---|-------------------------------------|
| Less than 1250 feet | (5) |
| 1250 feet to 0.5 miles | 4 |
| 0.5 miles to 1.0 mile | 3 |
| 1.0 mile to 2.0 miles | 2 |
| Over 2 miles | 1 |
| Distance <u>(Select the single largest value)</u> | <u>5</u> |
| What are the nearest inhabited structures? | <u>DEVELOPMENT SURROUNDING SITE</u> |

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

| | VALUE |
|--|-------|
| 26 and over | ⑤ |
| 16 to 25 | 4 |
| 11 to 15 | 3 |
| 6 to 10 | 2 |
| 1 to 5 | 1 |
| 0 | 0 |
| Number of Buildings <u>(Select the single largest value)</u> | 5 |
| Narrative <u>RESIDENTIAL</u> | |

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

| | VALUE |
|---|-------|
| Educational, Child Care, Residential, Hospitals, Hotels, Commercial, Shopping Centers | ⑤ |
| Industrial, Warehouse, etc. | 4 |
| Agricultural, Forestry, etc. | 3 |
| Detention, Correctional | 2 |
| No Buildings | 0 |
| Types of Buildings <u>(Select the largest single value)</u> | 5 |
| Describe types of buildings in the area. <u>RESIDENTIAL</u> | |

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

| BARRIER | VALUE |
|---|-------|
| No barrier or security system | 5 |
| Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing. | 4 |
| A barrier, (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site. | 3 |
| Security guard, but no barrier | 2 |
| Isolated site | 1 |
| A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility; or An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the facility). | 0 |

Accessibility (Select the single largest value)

5

Describe the site accessibility. OPEN TO PUBLIC

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

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

Describe the site dynamic WETLANDS NO PLANS TO DEVELOPE

TOTAL HAZARD PROBABILITY VALUE

(Sum of Largest Values for A through F—Maximum of 30)
Apply this value to Hazard Probability Table 2 to determine
Hazard Probability Level.

22TABLE 2
HAZARD PROBABILITY

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

* Apply Hazard Probability Level to Table 3.

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

TABLE 3

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

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by CEHND - Immediately call CEHND-OE-ES - Commercial 205-895-1582
- RAC 2 High priority on completion of INPR - Recommend further action by CEHND.
- RAC 3** Complete INPR - Recommend further action by CEHND.
- RAC 4 Complete INPR - Recommend further action by CEHND.
- RAC 5 Usually indicates that no further action (NOFA) is necessary. Submit NOFA and RAC to CEHND.

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

BASED upon PREVIOUS RACS AND A PSS DTD OCT 95

D-2

U.S. Army Corps of Engineers, Jacksonville District, 1996

Memorandum signed by Billy D. McPherson for Karl E. Blankinship, Group Leader, Design Management Group, Huntsville Division, for Commander, HQUSACE, ATTN: CEMP-RF, 4 May 1996, subject: DERP-FUDS Inventory Project Report (INPR) Requiring an Ordnance and Explosives (OE) Engineering Evaluation and Cost Analysis (EE/CA)



DEPARTMENT OF THE ARMY
 HUNTSVILLE DIVISION, CORPS OF ENGINEERS
 P. O. BOX 1600
 HUNTSVILLE, ALABAMA 35807-4301

REPLY TO
 ATTENTION OF

CEHNC-OE-PM (200-1c)

4 May 1996

MEMORANDUM FOR Commander, HQUSACE, ATTN: CEMP-RF,
 20 Massachusetts Avenue NW, Washington, DC
 20314-1000

SUBJECT: DERP-FUDS Inventory Project Report (INPR) Requiring an
 Ordnance and Explosives (OE) Engineering Evaluation and Cost
 Analysis (EE/CA)

1. The enclosed INPR has been submitted for further investigation or action by the Huntsville Engineering and Support Center. We have reviewed the INPR and recommend a phased EE/CA be scheduled for the following site:

| DIVISION | PROJECT NO. | RAC | SITE NAME |
|----------|-------------|-----|-------------------------------|
| SAD | I04FL037701 | 3 | Mill Cove Bombing Site (encl) |

2. A completed DD1391 cost estimate and risk assessment code score is included with the enclosure. The POC is Ms. Carrie Douglas at 205-895-1465 or Mr. Bill McPherson at 205-895-1595.

FOR THE DIRECTOR, ORDNANCE
 AND EXPLOSIVES TEAM:

Encl

Billy D. McPherson
 for KARL B. BLANKINSHIP, P.E.
 Group Leader, Design
 Management Group

CF:

Commander, U.S. Army Engineer Division, South Atlantic,
 ATTN: CESAD-PD-R, Room 322, 77 Forysth Street SW,
 Atlanta, GA 30303-3490
 Commander, U.S. Army Engineer District, Jacksonville,
 ATTN: CESAJ-PD-EE, P.O. Box 4970, Jacksonville, FL 32232-0019

✓

APPENDIX E

**LETTERS/MEMORANDUMS/
MISCELLANEOUS ITEMS**

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|----|--|---------------------|-----|--|-------------------------------|---|------------|---|--------|------------------------|----------------|--|----------|----------------|
| 1 | Repository | Site Name | RG | RG Description | Entry / Accession / Microfilm | Entry / Accession / Microfilm Description | Box / File | Box / File Description | Folder | Folder Description | Document | Document Description | Date | Document Notes |
| 2 | Army Corps of Engineers, Jacksonville, Florida (SAJ) Army Corps of Engineers, Jacksonville (SAJ), FL | Florida (Mill Cove) | | | | Planning Division | | PD-EE DERP-FUJDS files | | Mill Cove Bombing Site | SAJ-022701-121 | Memorandum from Russ G. Jones to Gary V. Mauldin, subject: Mill Cove Bombing Site, dated 3 Oct 1995. | 10/03/95 | |
| 3 | | | | | | | | | | | | | | |
| 4 | National Archives and Record Administration, College Park, Maryland (aerial) NARA College Park (aerial), MD | Florida (Mill Cove) | 18 | Records of the Army Air Corps | | | | | | | | | | Nothing copied |
| 5 | NARA College Park (aerial), MD | Florida (Mill Cove) | 30 | Records of the Bureau of Public Roads | | | | | | | | | | Nothing copied |
| 6 | NARA College Park (aerial), MD | Florida (Mill Cove) | 74 | Records of the Bureau of Ordnance | | | | | | | | | | Nothing copied |
| 7 | NARA College Park (aerial), MD | Florida (Mill Cove) | 373 | Records of the Defense Intelligence Agency | | | | | | | | | | Nothing copied |
| 8 | | | | | | | | | | | | | | |
| 9 | National Archives and Record Administration, College Park, Maryland (CP) NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Records of the Army Air Forces | 2 | Unclassified Records Section, Decimal File, June 1944-1946 | 2285 | 686 Florida 1945 | | | | | | Nothing copied |
| 10 | NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Records of the Army Air Force | 2 | Unclassified Records Section Decimal File, June 1944-1946 | 2285 | 686 Florida 1945 | | | | | | Nothing Copied |
| 11 | NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Records of the Army Air Forces | 46 | Office of the Air Inspector, Central decimal corresp files | 94 | 333.1 Inspection 9 Florida | | | | | | Nothing Copied |
| 12 | NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Records of the Army Air Forces | 46 | Office of the Air Inspector, Central decimal corresp files | 175 | 333.1 Inspection 9 Florida | | | | | | Nothing Copied |
| 13 | NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Records of the Army Air Forces | 46 | Office of the Air Inspector, Central decimal corresp files | 176 | 333.1 Inspection 9 Florida | | | | | | Nothing Copied |
| 14 | NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Records of the Army Air Forces | 46 | Office of the Air Inspector, Central decimal corresp files | 33 | 333.1 Inspection 9 Florida | | | | | | Nothing Copied |
| 15 | NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Records of the Army Air Forces | 46 | Office of the Air Inspector, Central decimal corresp files | 34 | 333.1 Inspection 9 Florida | | | | | | Nothing Copied |
| 16 | NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Records of the Army Air Forces | 294 | Bulky Files - 1942 Decimal Files "686" | 857 | Florida Misc. Sites | | | | | | Nothing Copied |
| 17 | NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Army Air Forces | 294 | Air Adj. Gen. Formerly Security Classified Bulky Files Oct. 1942 - 1944 | 857 | Florida Miscellaneous Sites | | | | | | Nothing Copied |
| 18 | | | | | | | | | | | | | | |
| 19 | NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Records of the Army Air Forces | 295 | Correspondence Relating to Airfields, 1939-1942 | 1170 | National Guard Files, 1939-1942 Delaware to Florida | | | | | | Nothing Copied |
| 20 | NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Records of the Army Air Forces | 1a | Air Adjutant General, Mail & Records Division, Unclassified Records Section, Decimal File, June 1944-1946 | 2284 | 686 Florida 1945 | | | | | | Nothing Copied |
| 21 | NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Records of the Army Air Forces | 1a | Air Adjutant General, Mail & Records Division, Unclassified Records Section, Decimal File, June 1944-1946 | 2286 | 686 Florida 1945 | | | | | | Nothing Copied |
| 22 | NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Records of the Army Air Forces | 2c | Air Adjutant General Decimal "686" | 2601 | 686 Florida | | | | | | Nothing Copied |
| 23 | NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Records of the Army Air Forces | 2e | Air Adjutant General Decimal "686" 1947 | 3193 | 686 Florida | | | | | | Nothing Copied |
| 24 | NARA College Park (CP), MD | Florida (Mill Cove) | 18 | Records of the Army Air Forces | 2e | Air Adjutant General Decimal "686" 1947 | 3194 | 686 Florida to Indiana | | | | | | Nothing Copied |
| 25 | NARA College Park (CP), MD | Florida (Mill Cove) | 30 | Records of the Bureau of Public Roads | 54 | Highway Traffic Advisory Committee to the Defense Department, 1941 - 1945 | | | | | | | | Nothing copied |
| 26 | NARA College Park (CP), MD | Florida (Mill Cove) | 38 | Records of the Office of the Chief of Naval Operations | 2 | General Correspondence, July 1942 - June 1944 | 1141 | | | | CP-030701-023 | Section of oversized map of Jacksonville Naval Air Station and Adjacent Facilities showing Mill Cove Bombing Site. | | |
| 27 | NARA College Park (CP), MD | Florida (Mill Cove) | 38 | Records of the Office of the Chief of Naval Operations | 269 | Base Maintenance Division, Minutes of Home Base Development Council | | | | | | | | Nothing copied |
| 28 | NARA College Park (CP), MD | Florida (Mill Cove) | 48 | Records of the Secretary of the Interior | 749b | Central Classified Correspondence, 1933 - 1953 | | | | | | | | Nothing copied |
| 29 | NARA College Park (CP), MD | Florida (Mill Cove) | 52 | Records of the Bureau of Medicine and Surgery | | Subject Files, 1941 - 1953 | | | | | | | | Nothing copied |
| 30 | NARA College Park (CP), MD | Florida (Mill Cove) | 57 | Records of the United States Geological Survey | 27 | Correspondence and Related Records, 1906 - 1945 | | | | | | | | Nothing copied |
| 31 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | 3305 | Unprocessed Naval property case files | 42 | Surplus Declarations | | | | | | Nothing copied |
| 32 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | 74a | Plans and Charts of Harbors, Naval Bases, and Airfields, 1938-1954 | 1 | Polloc Harbor, P.I. To Dapitan, P.I. | | | | | | Nothing copied |
| 33 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | 74a | Plans and Charts of Harbors, Naval Bases, and Airfields, 1938-1954 | 2 | Masbate Harbor, P.I. To La Pallice, France | | | | | | Nothing copied |
| 34 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | 74a | Plans and Charts of Harbors, Naval Bases, and Airfields, 1938-1954 | 3 | Casablanca to Pusan, Korea | | | | | | Nothing copied |
| 35 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | 74a | Plans and Charts of Harbors, Naval Bases, and Airfields, 1938-1954 | 5 | Habbakkuk | | | | | | Nothing copied |
| 36 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | 74a | Plans and Charts of Harbors, Naval Bases, and Airfields, 1938-1954 | 6 | Miscellaneous Bases, including Iceland | | | | | | Nothing copied |
| 37 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | 74a | Plans and Charts of Harbors, Naval Bases, and Airfields, 1938-1954 | | | | | | | | Nothing copied |
| 38 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | | Congressional Approvals of Projects, 1942-44 | 2 | House Approvals, 700a-891a thru Land-Senate | 1 | Senate Approvals | | | | Nothing copied |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|----|----------------------------|---------------------|----|--|-------------------------------|---|------------|--|--------|--------------------|---------------|---|----------|----------------|
| 1 | Repository | Site Name | RG | RG Description | Entry / Accession / Microfilm | Entry / Accession / Microfilm Description | Box / File | Box / File Description | Folder | Folder Description | Document | Document Description | Date | Document Notes |
| 39 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | | Congressional Approvals of Projects, 1942-44 | 2 | House Approvals, 700a-891a thru Land-Senate | 1 | Senate Approvals | | Nothing copied | | |
| 40 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | | Congressional Approvals of Projects, 1942-44 | 1 | House Approvals - Senate Approvals | 1 | House Approvals | | Nothing copied | | |
| 41 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | | Congressional Approvals of Projects, 1942-44 | 3 | Land-Senate, Folder 2 thru Land Approvals-House, Folder 2 | | | | Nothing copied | | |
| 42 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | | Congressional Approvals of Projects, 1942-44 | 4 | Land Approvals - Senate thru Senate Approvals 390a-690a | | | | Nothing copied | | |
| 43 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | | Congressional Approvals of Projects, 1942-44 | 5 | Senate Approvals 390a-689, Folder 2 thru Senate Approvals 901 | | | | Nothing copied | | |
| 44 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | | Prospectuses Submitted to the Navy for Offerings of Land in Florida, CA, and for Packard Motor Property, 1942-44 | 1 | Packard Field Sales & Service Bldgs. thru Shangri La Hotel, Santa Monica, CA | | | | Nothing Copied | | |
| 45 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | | Correspondence Regarding Inter-Federal Agency Transfers of Facilities to and from the Navy Department Report on Army Facilities Acquired in 1944. | | | | | | Nothing copied | | |
| 46 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | | Records of the Bureau of Yards and Docks | | | | | | Nothing copied | | |
| 47 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | | Navy Land Acquisition Report of the Real Estate Division, July 1, 1940 - December 31, 1943 | | | | | | Nothing copied | | |
| 48 | NARA College Park (CP), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | | Prospectuses Submitted to the Navy for Offerings of Land in Florida, CA, and for Packard Motor Property, 1942-44 | 1 | Packard Field Sales & Service Bldgs. thru Shangri La Hotel, Santa Monica, CA | | | | Nothing copied | | |
| 49 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 62 | General Correspondence, 1926 - 1947 | | | | | | Nothing copied | | |
| 50 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 67 | Confidential Correspondence, 1922 - 1947 | | | | | | Nothing copied | | |
| 51 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 67 | Confidential General Correspondence, 1922-1944 | 1185-1188 | NB Vol. 10 thru NB Vol 15 | | | | nothing copied | | |
| 52 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 67 | Confidential General Correspondence, 1922-1944 | 1180-1184 | NB 28-NB 47 | | | | nothing copied | | |
| 53 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 67 | Confidential General Correspondence, 1922-1944 | 1201-1202 | NC(1) thru ND 6 | | | | nothing copied | | |
| 54 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 1021 | Records Relating to Inactive Air Stations (Real Estate Files), 1943-1959 | | | | | | Nothing copied | | |
| 55 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 1001a | Unclassified General Correspondence, 1948 - 1949 | | | | | | Nothing copied | | |
| 56 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 1003a | Confidential Correspondence, 1948 - 1949 | | | | | | Nothing copied | | |
| 57 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 1004b | Secret Correspondence, 1948 | | | | | | Nothing copied | | |
| 58 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 67a | Confidential General Correspondence, 1922-1947 | 303 | NC1 (593) to ND8 | | | | nothing copied | | |
| 59 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Bureau of Aeronautics | 67a | Confidential Correspondence 1945 | 315 | N6/NA59 to N10/NA7 | | | | Nothing copied | | |
| 60 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Bureau of Aeronautics | 67a | Confidential Correspondence 1945 | 298 | NB 5 to NB 330 | | | | Nothing copied | | |
| 61 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 75a | Secret Correspondence, 1939-1947 | 1 | A1-3 and A8-5 | | | | Nothing copied | | |
| 62 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 75a | Secret Correspondence, 1939-1947 | 56 | N10-2/NA 50 to NA 34 | | | | Nothing copied | | |
| 63 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Bureau of Aeronautics | 75a | Secret Correspondence, 1939-47 | 63 | NT4 Vol 3 to OP aa A | | | | Nothing copied | | |
| 64 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 75a | Secret Correspondence 1939-1947 | 55 | KV to N 4 / NR 38 | | | | Nothing copied | | |
| 65 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 75a | Secret Correspondence 1939-1947 | 58 | NB 105 to NC 1(4) | | | | Nothing copied | | |
| 66 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 75a | Secret Correspondence 1939-1947 | 62 | NT4 Vol. 2 | | | | Nothing copied | | |
| 67 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 75a | Secret Correspondence 1939-1947 | 345 | N1-9 (5/6/43) to N39-1 (11/20/44) | | | | Nothing copied | | |
| 68 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | | Unclassified General Correspondence, 1950 | | | | | | Nothing copied | | |
| 69 | NARA College Park (CP), MD | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | | Unclassified General Correspondence, 1948 - 1949 | | | | | | Nothing copied | | |
| 70 | NARA College Park (CP), MD | Florida (Mill Cove) | 74 | Records of the Bureau of Ordnance | 25 | General Correspondence, 1926 - 1949 | 470 | | | | CP-030701-019 | Memorandum from A. Gavin, Commanding Officer, USNAS, Miami, Florida to Chief of the Bureau of Ordnance, 8 July 1943; subject: Report of Practice Bombs Expenditures for the Month Ending June 30, 1943. | 07/08/43 | |
| 71 | NARA College Park (CP), MD | Florida (Mill Cove) | 74 | Records of the Bureau of Ordnance | 25 | General Correspondence, 1926 - 1949 | 365 | | | | CP-030701-020 | Memorandum from A. Gavin, Commanding Officer, USNAS, Miami, Florida to Chief of the Bureau of Ordnance, 8 December 1943; subject: Ammunition Requirements for Jacksonville Area and AOTC Activities - January, February, and March, 1944. | | |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|-----|----------------------------|---------------------|-----|--|-------------------------------|--|------------|---|--------|--------------------|---------------|---|----------|----------------|
| 1 | Repository | Site Name | RG | RG Description | Entry / Accession / Microfilm | Entry / Accession / Microfilm Description | Box / File | Box / File Description | Folder | Folder Description | Document | Document Description | Date | Document Notes |
| 72 | NARA College Park (CP), MD | Florida (Mill Cove) | 74 | Records of the Bureau of Ordnance | 25 | General Correspondence, 1926 - 1949 | 202 | | | | CP-030701-021 | Memorandum from W.H.P. Blandy, Bureau of Ordnance to Chief of the Bureau of Aeronautics, Aug 27, 1942; subject: Live Bomb Requirements for Operational Training | 08/27/42 | |
| 73 | NARA College Park (CP), MD | Florida (Mill Cove) | 74 | Records of the Bureau of Ordnance | 25 | General Correspondence, 1926 - 1949 | 202 | | | | CP-030701-022 | Memorandum from J.D. Price, USNAS, Jacksonville, FL to Chief of the Bureau of Ordnance, November 20, 1942; subject: Ammunition Requirements for the Jacksonville area, Third Quarter fiscal year 1943-Request for | 11/20/42 | |
| 74 | NARA College Park (CP), MD | Florida (Mill Cove) | 74 | Records of the Bureau of Ordnance | 1001 | General Correspondence, 1907-1949 | | | | | | | | |
| 75 | NARA College Park (CP), MD | Florida (Mill Cove) | 74 | Records of the Bureau of Ordnance | 1014 | General Correspondence, 1948 - 1959 | | | | | | | | Nothing copied |
| 76 | NARA College Park (CP), MD | Florida (Mill Cove) | 74 | Records of the Bureau of Ordnance | 1002a | Construction and Procurement Subject Files, 1945 | 1205 | | | | CP-030701-018 | Memorandum from W.S. Libbey, Ordnance & Gunnery Officer to Chief of the Bureau of Ordnance, 12 May 1945; subject: Miniature Practice Bomb and Signals - Request for | 05/12/45 | |
| 77 | NARA College Park (CP), MD | Florida (Mill Cove) | 74 | Records of the Bureau of Ordnance | 1002b | Construction and Procurement Subject Files, 1946 | | | | | | | | Nothing copied |
| 78 | NARA College Park (CP), MD | Florida (Mill Cove) | 74 | Records of the Bureau of Ordnance | 1002c | Construction and Procurement Subject Files, 1947 | | | | | | | | Nothing copied |
| 79 | NARA College Park (CP), MD | Florida (Mill Cove) | 74 | Records of the Bureau of Ordnance | 1003a | General Correspondence, Unclassified and Confidential, 1947 - 1948 | | | | | | | | Nothing copied |
| 80 | NARA College Park (CP), MD | Florida (Mill Cove) | 77 | Records of the Chief of the Corps of Engineers | 1011 | Formerly Security Classified Subject File, 1940-1945 | 573 | Military Police 475 thru Mines Field, California | | | | | | Nothing copied |
| 81 | NARA College Park (CP), MD | Florida (Mill Cove) | 77 | Records of the Chief of the Corps of Engineers | 1011 | Formerly Security Classified Subject File, 1940-1945 | 573 | Military Police 475 thru Mines Field, California | | | | | | Nothing copied |
| 82 | NARA College Park (CP), MD | Florida (Mill Cove) | 77 | Records of the Chief of the Corps of Engineers | 1013 | General Correspondence with Districts, 1941-1945 | 114-119 | Jacksonville DO 160 thru Jacksonville DO 552.61 | | | | | | Nothing Copied |
| 83 | NARA College Park (CP), MD | Florida (Mill Cove) | 77 | Records of the Chief of the Corps of Engineers | 1013 | General Correspondence with Districts, 1941-1945 | 169 | Memphis DO 633 thru Miami DO 132 | | | | | | Nothing Copied |
| 84 | NARA College Park (CP), MD | Florida (Mill Cove) | 77 | Records of the Chief of the Corps of Engineers | 1013 | General Correspondence with Districts, 1941-1945 | 170-173 | Miami DO 132.2 thru Milwaukee DO 018.1 | | | | | | Nothing Copied |
| 85 | NARA College Park (CP), MD | Florida (Mill Cove) | 77 | Records of the Chief of the Corps of Engineers | 1013 | General Correspondence with Districts, 1941-1945 | 307 | San Francisco DO 676.9 thru Savannah DO 121.7 | | | | | | Nothing Copied |
| 86 | NARA College Park (CP), MD | Florida (Mill Cove) | 77 | Records of the Chief of the Corps of Engineers | 1013 | General Correspondence with Districts, 1941-1945 | 308-312 | Savannah DO 676.9 thru Seattle DO 019 | | | | | | Nothing Copied |
| 87 | NARA College Park (CP), MD | Florida (Mill Cove) | 77 | Records of the Chief of the Corps of Engineers | 1014 | General Correspondence with Divisions | 88-100 | South Atlantic Division | | | | | | Nothing Copied |
| 88 | NARA College Park (CP), MD | Florida (Mill Cove) | 77 | Records of the Chief of the Corps of Engineers | 391b | Construction Completion Reports | 30 | Fairmont Airfield to Florida, Vol. 1 | | | | | | Nothing Copied |
| 89 | NARA College Park (CP), MD | Florida (Mill Cove) | 77 | Records of the Chief of the Corps of Engineers | 391b | Construction Completion Reports | 31 | Florida Vols. 2-4 | | | | | | Nothing Copied |
| 90 | NARA College Park (CP), MD | Florida (Mill Cove) | 77 | Records of the Chief of the Corps of Engineers | 391b | Construction Completion Reports | 32 | Florida Vol 5 to Camp Forrest | | | | | | Nothing Copied |
| 91 | NARA College Park (CP), MD | Florida (Mill Cove) | 80 | General Records of the Department of the Navy, 1798 - 1947 | 16 | Formerly Security Classified General Correspondence of the CNO/Secretary of the Navy, 1940-1947 | | | | | | | | Nothing copied |
| 92 | NARA College Park (CP), MD | Florida (Mill Cove) | 80 | General Records of the Department of the Navy, 1798 - 1947 | 22 | General Correspondence, 1926-1942 | | | | | | | | Nothing copied |
| 93 | NARA College Park (CP), MD | Florida (Mill Cove) | 80 | General Records of the Department of the Navy, 1798 - 1947 | 256 | Index to Reports from Shore Establishments, December 1943-May 1944 | | | | | | | | Nothing copied |
| 94 | NARA College Park (CP), MD | Florida (Mill Cove) | 127 | Records of the U.S. Marine Corps | 18a | General Correspondence, Office of the Commandant, 1939-1956 | | | | | | | | Nothing copied |
| 95 | NARA College Park (CP), MD | Florida (Mill Cove) | 159 | Records of the Office Inspector General (Army) | 28d | General Correspondence, 1939-1947 | 554-556 | 333.1 Military Areas and Districts: 1st Military Area, Organized Reserves, Boston, Massachusetts to Wisconsin Military Area, Milwaukee, Wisconsin | | | | | | Nothing Copied |
| 96 | NARA College Park (CP), MD | Florida (Mill Cove) | 165 | Records of the War Dept. Generals and Special Staffs | 484c | Legislative and Liaison Division, Card Files and Approved WPA National Defense Projects, 1941-1942 | | | | | | | | Nothing copied |
| 97 | NARA College Park (CP), MD | Florida (Mill Cove) | 165 | Records of the War Dept. Generals and Special Staffs | 484d | Federal Works Agency Project Files, 1940-1946 | 13 | Florida | | | | | | Nothing copied |
| 98 | NARA College Park (CP), MD | Florida (Mill Cove) | 165 | Records of the War Dept. Generals and Special Staffs | 484d | Federal Works Agency Project Files, 1940-1946 | 15 | Florida | | | | | | Nothing copied |
| 99 | NARA College Park (CP), MD | Florida (Mill Cove) | 218 | Records of the Joint Chiefs of Staff | | Series 1942-1959 (Geographic Files) | | | | | | | | Nothing copied |
| 100 | NARA College Park (CP), MD | Florida (Mill Cove) | 225 | Records of Joint Army and Navy Boards | 4a | Army and Navy Munition Board Central Files, 1922-1941 | | | | | | | | Nothing copied |
| 101 | NARA College Park (CP), MD | Florida (Mill Cove) | 269 | Records of the General Services Administration | 62 | Real Property Disposal Case Files, 1945-1953 | | | | | | | | Nothing copied |
| 102 | NARA College Park (CP), MD | Florida (Mill Cove) | 270 | Records of War Assets Administration | 3 | Office of Information Subject Files, 1946-1949 | | | | | | | | Nothing copied |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|-----|--|---------------------|-----|---|-------------------------------|---|------------|--|--------|--------------------|----------|----------------------|------|----------------|
| 1 | Repository | Site Name | RG | RG Description | Entry / Accession / Microfilm | Entry / Accession / Microfilm Description | Box / File | Box / File Description | Folder | Folder Description | Document | Document Description | Date | Document Notes |
| 103 | NARA College Park (CP), MD | Florida (Mill Cove) | 291 | Records of the Federal Property Resources Service | 5 | Real Property Disposal Case Files, 1962 | | | | | | Nothing copied | | |
| 104 | NARA College Park (CP), MD | Florida (Mill Cove) | 291 | Records of the Federal Property Resources Service | 5 | Real Property Disposal Case Files, 1962 | 46-51 | NN3-94-001 | | | | Nothing copied | | |
| 105 | NARA College Park (CP), MD | Florida (Mill Cove) | 334 | Records of Interservice Agencies | 15 | Records of the Armed Services Explosives Safety Board - Explosive Reports, 1939-1948 | | | | | | Nothing copied | | |
| 106 | NARA College Park (CP), MD | Florida (Mill Cove) | 341 | Records of Hdq. US. Air Force | 494 | Office of the Asst Chief of Staff, Installations 1948-55 | 36 | Field-Maxwell Field, Ala 1948 thru Field-Misc Coarres on SAC HQ 1948 | | | | Nothing copied | | |
| 107 | NARA College Park (CP), MD | Florida (Mill Cove) | 341 | Records of Hdq. US. Air Force | 494 | Office of the Asst Chief of Staff, Installations 1948-55 | 18 | State-Colorado 1948 thru State - Illinois 1948 | | | | Nothing copied | | |
| 108 | NARA College Park (CP), MD | Florida (Mill Cove) | 341 | Records of Hdq. US. Air Force | 494 | Office of the Asst Chief of Staff, Installations 1948-55 | 73 | State-District of Columbia 1949 thru State-Florida 1949 | | | | Nothing copied | | |
| 109 | NARA College Park (CP), MD | Florida (Mill Cove) | 428 | General Records of the Department of the Navy | 4 | Formerly Security Classified DCNO 05 (Air) Chronological File (Pinks), January 1949-June 1950 | | | | | | Nothing copied | | |
| 110 | NARA College Park (CP), MD | Florida (Mill Cove) | 428 | General Records of the Department of the Navy | 5 | Formerly Security Classified Chronological File, 1948-1950 | | | | | | Nothing copied | | |
| 111 | NARA College Park (CP), MD | Florida (Mill Cove) | 429 | Records of the Organizations in the Executive Office of the President | 12 | Central Real Property Surveys | | | | | | Nothing copied | | |
| 112 | NARA College Park (CP), MD | Florida (Mill Cove) | 429 | Records of the Organizations in the Executive Office of the President | 17 | Records of the Federal Property Council | | | | | | Nothing copied | | |
| 113 | National Archives and Record Administration, College Park, Maryland (Film) | | | | | | | | | | | | | |
| 114 | NARA College Park (Film), MD | Florida (Mill Cove) | 330 | Records of the Office of the Secretary of Defense | | | | | | | | Nothing copied | | |
| 115 | NARA College Park (Film), MD | Florida (Mill Cove) | 428 | General Records of the Department of the Navy | | | | | | | | Nothing copied | | |
| 116 | National Archives and Record Administration, College Park, Maryland (Photos) | | | | | | | | | | | | | |
| 117 | NARA College Park (Photos), MD | Florida (Mill Cove) | 30 | Records of the Bureau of Public Roads | | | | | | | | Nothing copied | | |
| 118 | NARA College Park (Photos), MD | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | | | | | | | | Nothing copied | | |
| 119 | NARA College Park (Photos), MD | Florida (Mill Cove) | 74 | Records of the Bureau of Ordnance | | | | | | | | Nothing copied | | |
| 120 | NARA College Park (Photos), MD | Florida (Mill Cove) | 80 | General Records of the Department of the Navy | | | | | | | | Nothing copied | | |
| 121 | NARA College Park (Photos), MD | Florida (Mill Cove) | 181 | Records of the Naval Districts and Shore Establishments | | | | | | | | Nothing copied | | |
| 122 | NARA College Park (Photos), MD | Florida (Mill Cove) | 428 | General Records of the Department of the Navy | | | | | | | | Nothing copied | | |
| 123 | National Archives and Record Administration, Washington, DC (NARA) | | | | | | | | | | | | | |
| 124 | NARA Downtown (NARA), DC | Florida (Mill Cove) | 26 | Records of the U.S. Coast Guard | 100 | Real Property Surveys | | | | | | Nothing copied | | |
| 125 | NARA Downtown (NARA), DC | Florida (Mill Cove) | 26 | Records of the U.S. Coast Guard | 82c | Central Correspondence, 1942 - 1953 | | | | | | Nothing copied | | |
| 126 | NARA Downtown (NARA), DC | Florida (Mill Cove) | 49 | Records of the Bureau of Land Management | | Land Entry Papers | | | | | | Nothing copied | | |
| 127 | NARA Downtown (NARA), DC | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | 45 | Contract Correspondence, 1927 - 1942 | | | | | | Nothing copied | | |
| 128 | NARA Downtown (NARA), DC | Florida (Mill Cove) | 71 | Records of the Bureau of Yards and Docks | | General Correspondence, Shore Establishments, 1925 - 1942 | | | | | | Nothing copied | | |
| 129 | NARA Downtown (NARA), DC | Florida (Mill Cove) | 72 | Records of the Bureau of Aeronautics | 62 | General Correspondence, 1925 1942 | | | | | | Nothing copied | | |
| 130 | NARA Downtown (NARA), DC | Florida (Mill Cove) | 74 | Records of the Bureau of Ordnance | 25 | General Correspondence, 1936 - 1942 | | | | | | Nothing copied | | |
| 131 | Washington Navy Yard, Washington, DC (NAVHIST) | | | | | | | | | | | | | |
| 132 | Washington Navy Yard (NAVHIST), DC | Florida (Mill Cove) | | Command Histories | | | | | | | | Nothing copied | | |
| 133 | Washington Navy Yard (NAVY Library), DC | Florida (Mill Cove) | | United States Naval Administrative Histories of WWII | | | | | | | | Nothing copied | | |

**U.S. ARMY CORPS OF ENGINEERS,
JACKSONVILLE DISTRICT, FLORIDA (SAJ)
DOCUMENTS**

E-1
MEMORANDUM FROM RUSS G. JONES TO GARY V.
MAULDIN, 3 OCT 1995; SUBJECT: MILL COVE BOMBING
SITE
(SAJ-022701-121)

LESAD-EP-PR

MAIL LISTING FOR Russ G Jones

October 3, 1995

- - Route - -

September 8, 1995 5:02pm MAIL IS -
FROM: Russ G Jones Delvry&View Private
TO: GARY V MAULDIN
SUBJECT: MILL COVE BOMBING SITE
COPY: James McAdams
Russ G Jones

I got a call back today from the veteran I had spoke to about this site. He said they had used explosive bombs at this site. They were Mark 23 bombs, torpedo shaped, 8-10" long, and used a 12-gauge shotgun shell as a detonator. He said the historian at Jacksonville Naval Air Station had one from a different site. We previously submitted a Project Summary Sheet on this site although we didn't recommend a project. Huntsville has already revised the RAC sheet. What do we have to do now?

~~Also, did you get the information I sent you in the mail on St. George Island Bombing Range?~~

Also, at Real Estate's request, we are sending you a memo on the hotels.



10/18/95 Carrie Douglas

Fax her the PSS with a note that this was a disputed site that we have found additional info on & are providing to her for action.

SAS-022701-12/

MAIL LISTING FOR Russ G Jones

October 3, 1995

=====

- - Mail - -

September 5, 1995 2:44pm MAIL IS -
FROM: Russ G Jones Delvry&View Private
TO: GARY V MAULDIN
SUBJECT: MILL COVE BOMBING SITE
COPY: Russ G Jones

Reference your 17 Aug 95 fax on this subject.

I gave a copy of the INPR to a veteran who had worked at the Jacksonville Naval Air Station during World War II. He said he would bring it to a meeting of veterans he will be attending in October to see if anyone can remember anything about the bombing site. I put this on hold until I hear back from him.

**NATIONAL ARCHIVES AND RECORDS
ADMINISTRATION
COLLEGE PARK, MARYLAND (CP)
DOCUMENTS**

E-2

**MEMORANDUM FROM W.S. LIBBEY, ORDNANCE & GUNNERY
OFFICER TO CHIEF OF BUREAU OF ORDNANCE, 12 MAY 1945;
SUBJECT: MINIATURE PRACTICE BOMB AND SIGNALS –
REQUEST FOR
(CP-030701-018)**

IN REPLY
REFER TO NA 29/F41-6/bc
Address
The Commandant
Naval Air Station

UNITED STATES NAVAL AIR STATION
JACKSONVILLE, FLORIDA

12 May 1945

FILED

Chief of the Bureau of Ordnance
Navy Department
Washington, D.C.

*NA 29/F41
Mm 2*

Subj: Miniature Practice Bomb &
Signals - Request for.

1. It is requested that the following miniature practice bombs and signals be furnished to this station for use by the Naval Air Operational Training Command. Arrival at this point prior to 9 June 1945 is desired.

| <u>ITEM</u> | <u>NOMENCLATURE</u> | <u>QUANTITY</u> |
|-------------|---|-----------------|
| 1. | Signal, Bomb, Practice, Miniature, AN Mk 4, Code: 207100-A | 75,000 |
| 2. | Bomb, Practice, Miniature, Empty, (with fin shroud) AN Mk 43 Mod 1, Code: 600130-A. . . . | 25,000 |
| 3. | Bomb, Practice, Miniature, Empty, (with fin shroud) AN Mk 23 Mod 1, Code: 600120-A. . . . | 60,000 |

051445 1809

2. These quantities are the minimum required to continue to support the program which has been in effect for several months.

By direction of the Commanding Officer.

[Signature]

W. S. LIBBEY
Ordnance & Gunnery Officer.

CNO
NAOTC(Ord.Mat'l.Officer).
Station Supply Div. "J", NAS, Jax.

*RG 74
E 1002A
B 1205
32*

CP-030701-018.1

E-3

**MEMORANDUM FROM A. GAVIN, COMMANDING OFFICER,
USNAS, MIAMI, FLORIDA TO CHIEF OF THE BUREAU OF
ORDNANCE, 8 JULY 1943; SUBJECT: REPORT OF PRACTICE
BOMBS EXPENDITURES FOR THE MONTH ENDING JUNE 1943
(CP-030701-019)**

DECLASSIFIED
Authority MVD745081
By WJH NARA Date 12/1/23

IN REPLY REFER TO
NO. NAO/AD-4
T-Ord/RHH/lms
3702

U. S. NAVAL AIR STATION
MIAMI, FLORIDA

6 July 1945

To: Chief of the Bureau of Ordnance.
Subj: Report of Practice Bombs Expenditures for the Month Ending
June 30, 1943.
Ref: (a) BuOrd Ltr. (Mn2d) dated 12 December 1942.

1. In accordance with reference (a), the following report is hereby
submitted:

| <u>ITEM</u> | <u>DESCRIPTION</u> | <u>AVERAGE STUDENT LOAD</u> | <u>EXPENDI- TURES</u> |
|-------------|------------------------|---------------------------------|---------------------------|
| 1 | 3 lb. Cast Iron | 112 | 6797 |
| 2 | 13 lb. Lead | 112 | 0 |
| 3 | 100 lb. Water-fillable | 112 | 0 |
| 4 | 500 lb. Water-fillable | 112 | 0 |


J. GAVIN,
Commanding Officer.

CP-030701-019

070743 0966

RG74
E25
B470
-21

E-4

**MEMORANDUM FROM A. GAVIN, COMMANDING OFFICER,
USNAS, MIAMI, FLORIDA TO CHIEF OF THE BUREAU OF
ORDNANCE, 6 DECEMBER 1943; SUBJECT: AMMUNITION
REQUIREMENTS FOR JACKSONVILLE AREA AND AOTC
ACTIVITIES – JANUARY, FEBRUARY, AND MARCH 1944
(CP-030701-020)**

To: NA29/S78
Ser. C-255
The Commandant
Naval Air Station

UNITED STATES NAVAL AIR STATION
JACKSONVILLE, FLORIDA

NA29
MN2

PRINT

6 December 1943

121143 40038

To: The Chief of the Bureau of Ordnance
Subj: Ammunition Requirements for Jacksonville Area
and AOTC Activities - January, February, and March,
1944.

1. It is requested that the items listed below be made available to NAS., Jacksonville for use during January, February, and March, 1944.
2. Small arms ammunition requirements are being ordered direct from NAD., Crane, Indiana.

| <u>DESCRIPTION</u> | <u>QUANTITY</u> |
|--|-----------------|
| 1 Aircraft Engine Starter Cartridges, Type C | 100,000 |
| 2 Aircraft Engine Starter Cartridges, Type D | 150,000 |
| 3 Aircraft Engine Starter Cartridges, Type E | 100,000 |
| 4 Signal Cartridges, Two star, AN-M28 to 33 Series (Each Type) | 1,440 |
| 5 Signal Cartridges, Two Star, AN-M37 to 43 Series (Each Type) | 1,440 |
| 6 Signal Cartridges, Two Star, MK 4 Series (Each Type) | 1,440 |
| 7 Aircraft Emergency Identification Signals, MK 6 (Each Type) | 240 |
| 8 Aircraft Emergency Identification Signals, MK 7 (Each Type) | 240 |
| 9 Miniature Practice Bombs, MK 5 | 50,000 |
| 10 Miniature Practice Bombs, MK 23 | 100,000 |
| 11 Miniature Practice Bombs=Signals MK 4 | 200,000 |
| 12 Shotgun Shells, 7 1/2 C or 9C | 600,000 |
| 13 Targets, clay | 650,000 |

9,000 MK 5
20,000 MK 23
20,000
Total 24,000 targets

3. The Miniature Practice Bombs, MK 5 and MK 23 are the anticipated needs in excess of the present contracts for monthly shipments direct from the factory. The additional signals are needed as only 60,000 signals were received to 112,216 Miniature Practice Bombs during the first quarter of the present fiscal year.

FORWARDED TO BUREAU

CP-030701-0201

R674
E25
B365
35

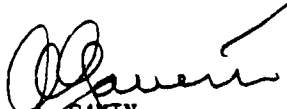
Authority ~~www~~
By ~~WJL~~ NARA Date ~~12/1/22~~

NA29/S78
Ser. ~~C-255~~

NP
M

Subj: Ammunition Requirements for Jacksonville Area and
AOTC Activities - January, February, and March, 1944.

4. It is presumed that in addition to the above, approximately 300,000 rounds of Shotgun Shells and Clay Targets for use in NATTC, Jacksonville, Florida will be continued without further request to the Bureau.


A. GAVIN
Commandant.

121148 40088

E-5

**MEMORANDUM FROM W.H.P. BLANDY, BUREAU OF ORDNANCE
TO CHIEF OF THE BUREAU OF AERONAUTICS, AUG 27, 1942;
SUBJECT: LIVE BOMB REQUIREMENTS FOR OPERATIONAL
TRAINING
(CP-030701-021)**

BB

F41-6(1)

(File) NA 29 / F41

AUG 27 1942

From: The Chief of the Bureau of Ordnance.
 The Chief of the Bureau of Aeronautics.

To:

Subject: Live Bomb Requirements for Operational Training.

(a) NAB Jacksonville mailgram 201945 of August
 (b) BuAer conf. ltr. Aer-TR-43-ER A16 (O-Ammunition) P11-1 of March 25, 1942.

1. By reference (a) the Bureau of Ordnance was requested to provide 100-lb. live bombs for use in operational training during the fiscal year, 1943. The requirements for the 100 lb. live bombs were:

| <u>Planes</u> | <u>No. of Personnel</u> | <u>No. of Bombs</u> |
|---------------|-------------------------|---------------------|
| VF | 2656 | 2656 |
| VAB | 2656 | 2656 |
| VOS | 830 | 830 |

2. No information, including a copy of the training syllabus, pertaining to the requirements for live bombs other than the 100-lb. bombs has been received by the Bureau of Ordnance. Such information has been requested.

3. It is requested that the Bureau of Ordnance be informed at an early date of the requirements for other live bombs in order that proper and timely distribution may be made to the interested activities. Unless advised to the contrary all of the 830 live 100-lb. bombs for the VOS airplanes will be made available to the Naval Air Station, Jacksonville, Florida for use by the VOS Operational Training Unit.

Copy to:
 Cominch (Readiness)
 Mn2d

W. E. P. BLANDY

A. G. Noble
By Direction

082342

CP-030701-021

052732 90055

E-6

**MEMORANDUM FROM J.D. PRICE, USNAS, JACKSONVILLE,
FLORIDA TO CHIEF OF BUREAU OF ORDNANCE, NOVEMBER 20,
1942; SUBJECT: AMMUNITION REQUIREMENTS FOR THE
JACKSONVILLE AREA THIRD QUARTER FISCAL YEAR 1943 –
REQUEST FOR
(CP-030701-022)**

NA29/S78
Serial C-232
The Commandant
Naval Air Station

UNITED STATES NAVAL AIR STATION
JACKSONVILLE FLORIDA

November 20, 1942

From: The Commandant
To: The Chief of the Bureau of Ordnance
Subject: Ammunition Requirements for the Jacksonville area, Third Quarter fiscal year 1943-Request for.

NAS
Lake
City
Fla.

Reference: (a) BuOrd Confidential letter NA29/S78 dated September 22, 1942.
(b) BuOrd Confidential letter A12-42 dated August 22, 1942.
Enclosure: (A) List of ammunition and ammunition details for January, February, and March, 1943, for AOTC, NAS Jacksonville, Lee and Cecil Fields, Service Schools, Ground Training, and Security.

1. It is requested that the ammunition and ammunition details listed below be made available to this station for use during January, February, and March, 1943.

2. The attention of the Bureau is invited to the fact that the greater part of the ammunition requested is the estimated requirements of the Air Operational Training Command, which includes the requirements for air schedules at Jacksonville, Vero Beach, Daytona Beach, Melbourne, Sanford, and Lake City in accordance with reference (b).

3. .30 caliber and .50 caliber ammunition is being requested direct from Inspector of Ordnance in Charge, Naval Ammunition Depot, Burns City, Indiana, in accordance with reference (a).

DESCRIPTION

QUANTITY

| | |
|--|-----------|
| .30 Cal Links, Metallic Belt | 5,240,000 |
| .50 Cal Links, Metallic Belt | 5,030,000 |
| MK. 4 Aircraft Float Lights | 33,675 |
| MK. 4-4 Aircraft Parachute Flares MK4-1 | 1,116 |
| MK. 4 Signals, Miniature Practice Bomb | 172,225 |
| Cartridges, Very's Signal Pistol Mk. 3 Red | 3,300 |
| Green | 3,300 |
| White | 3,300 |

CP-030701-022

112342 40060

IN REPLY
REFER TO
Address
Commanding Officer
Naval Air Station

UNITED STATES NAVAL AIR STATION
JACKSONVILLE, FLORIDA

Estimated requirements of ammunition and ammunition details for January, February, and March, 1943, in accordance with Bureau of Ordnance Confidential Letter A12-42 dated August 22, 1942:

| Description | NAS Jackson ville Fla. | NAS Vero Beach Fla. | NAS Daytona Beach Fla. | NAS Mel- bourne Fla. | NAS San- ford Fla. | NAS Lake City Fla. |
|-------------------------------|---------------------------------|------------------------------|---------------------------------|-------------------------------|-----------------------------|-----------------------------|
| Float Lights | 16240 | 671 | 984 | 180 | 7800 | 7800 |
| Flares parachute aircraft | 377 | 174 | 265 | | 150 | 150 |
| Mk 23 miniature bombs | 56345 | 20655 | 23500 | 6000 | | |
| Mk 5 miniature bombs | 25815 | 6885 | 7860 | 6000 | | |
| Mk 19 practice bombs | 500 | | | | 9750 | 9750 |
| 100 lb water fillable bombs | 27034 | 918 | 1048 | 6000 | 9750 | 9750 |
| 100 lb live load bombs | | | | 6000 | | |
| 500 lb water fillable bombs | 1784 | 918 | 1048 | | | |
| 500 lb live load bombs | | 918 | 1048 | | | |
| 325 lb depth bombs | | | | | 780 | 780 |
| H. C. Smoke Grenades | 405 | 174 | 265 | 180 | 150 | 150 |
| Very's Cartridges, each color | 1510 | 420 | 670 | | 350 | 350 |
| Starter Cartridges, type A | 20000 | | | | | |
| Starter Cartridges, type B | 111120 | | | 18880 | | |
| Starter Cartridges, type C | 25000 | | | 20000 | | |
| Mk 4 Signals, miniature bombs | 172225 | | | | | |

November 20, 1942

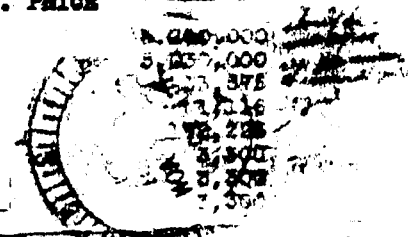
Subject: Ammunition Requirements for the Jacksonville area, Third Quarter fiscal year 1943-Request for. (continued)

| DESCRIPTION | QUANTITY |
|--|----------|
| Smoke Grenade HC M-8 | 1,324 |
| Starter Cartridges, Type "A" | 20,000 |
| Starter Cartridges, Type "B" | 130,000 |
| Starter Cartridges, Type "C" | 45,000 |
| MK. 17-1 Aircraft Depth Bombs, 325 lb. | 1,500 |
| MK. 4-1 Aircraft Demolition Bombs, 100 lbs. | 6,000 |
| MK. 19 Aircraft Bomb Fuze | 6,000 |
| MK. 12-2 Aircraft Demolition Bombs, 500 lbs. (with Trunnion Bands) | 400 |
| MK. 21 Aircraft Bomb Fuze | 400 |
| MK. 23 Aircraft Bomb Fuze | 400 |
| MK. 24-1 Aircraft Bomb Fuzes, (Hydrostatic) | 1,500 |
| Arming Wires | 7,900 |
| Fahnestock Clips | 20,000 |
| MK. 5-1 Miniature Practice Bombs, 1943. | 46,560 |
| MK. 23 Miniature Practice Bombs | 106,500 |
| MK. 19-1 Miniature Practice Bombs, 13 lb. | 20,000 |
| MK. 15-2 Water Fillable Bombs, 100 lb. | 54,500 |
| MK. 21 Water Fillable Bombs, 500 lb. | 3,750 |
| .22 Caliber Cartridges, LR Target | 500,000 |
| .12 Gauge Shot Gun Shells, "00" Buck Shot | 10,000 |
| .12 Gauge Shot Gun Shells, 7/8 Shot | 500,000 |
| .12 Gauge Shot Gun Shells, # Shot | 800,000 |

3. .30 caliber and .50 caliber ammunition requested direct from Inspector Ordnance in Charge, Ammunition Depot, Burns City, and in accordance with reference (a).

J. D. Price
 J. D. PRICE

| DESCRIPTION | QUANTITY |
|---|-----------|
| .30 Cal Links, Metallic Belt | 5,000,000 |
| .50 Cal Links, Metallic Belt | 5,000,000 |
| MK. 4 Aircraft Flight Lights | 375 |
| MK. 4-4 Aircraft Parachute Flares | 1,116 |
| MK. 4 Signals, Miniature Practice Bomb Cartridges | 1,500 |



11-20-42 1942

APPENDIX F
REAL ESTATE DOCUMENTS

APPENDIX F – REAL ESTATE DOCUMENTS

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

APPENDIX G
NEWSPAPERS/JOURNALS
NOT USED

APPENDIX H
SUMMARY OF INTERVIEWS
NOT USED

APPENDIX I

PRESENT SITE PHOTOGRAPHS



Photo 1
Eastern entrance to Mill Cove from Pace Island Development

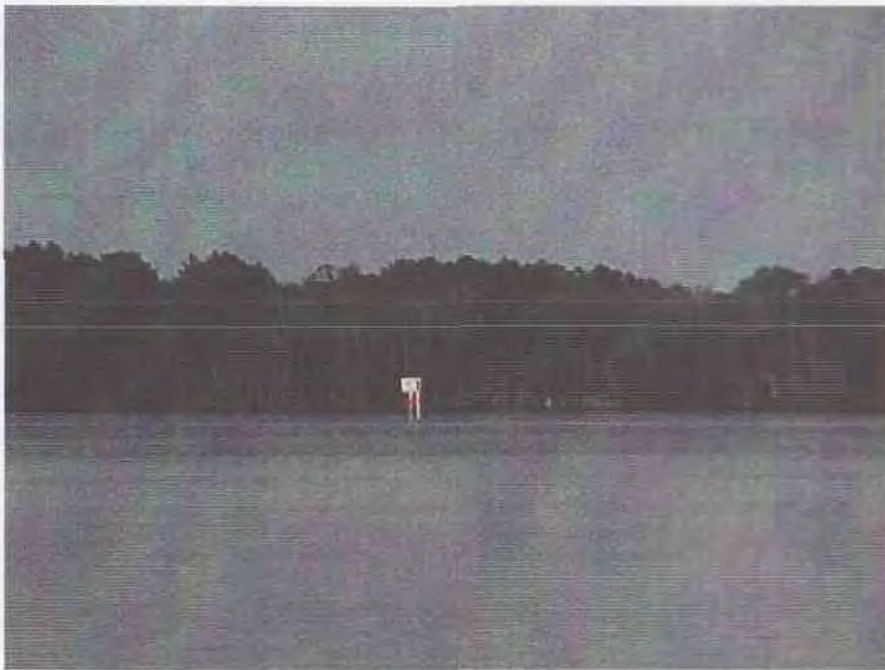


Photo 2
Approximate location of Bomb Target with eastern shoreline in background
(Back of cove).



Photo 3
Eastern shoreline (back of cove)



Photo 4
Most easterly private dock along northern shoreline



Photo 5
Southern shoreline near former bomb target site



Photo 6
Private docks along northern shoreline



Photo 7
Approximate location of Target with eastern shoreline in background



Photo 8
Private docks immediately southwest of Target Site



Photo 9
Shoreline southwest of Target Site

APPENDIX J
HISTORICAL PHOTOGRAPHS
NOT USED

APPENDIX K
HISTORICAL MAPS/DRAWINGS

APPENDIX K – HISTORICAL MAPS/DRAWINGS

- K-1** Section of oversized map of Jacksonville Naval Air Station and Adjacent Facilities showing Mill Cove Bombing Site. No author and undated. (CP-030701-023)

K-1

Section of oversized map of Jacksonville Naval Air Station and
Adjacent Facilities showing Mill Cove Bombing Site. No
author and undated. (CP-030701-023)



CP-030701-023

APPENDIX L

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

APPENDIX L -- SITE SAFETY AND HEALTH PLAN/SITE INSPECTION REPORT

L-1 Site Safety and Health Plan

L-2 Site Inspection Report

APPENDIX L-1

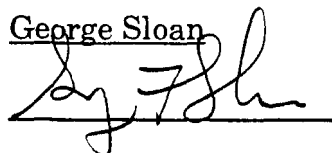
Site Safety and Health Plan

**SITE SAFETY AND HEALTH PLAN (SSHP)
for
MILL COVE BOMBING SITE
CLAY COUNTY, FL
SITE # I04FL037700**

The purpose of this site visit is to reconnoiter, document, and photograph areas on Mill Cove Bombing Target suspected to be contaminated with unexploded ordnance and/or toxic chemical munitions.

| | |
|---------------|--------------------------------------|
| PREPARED BY: | <u>Randy Fraser</u> |
| OFFICE | <u>USACE, CEMVS-ED-P</u> |
| ADDRESS | <u>1222 Spruce St. St. Louis, Mo</u> |
| PHONE | <u>(314) 331-8268</u> |
| DATE PREPARED | <u>03-13-0</u> |

REVIEWED/APPROVED BY: George Sloan



NOTE This SSHP is to be used only for non-intrusive site visits and must be approved by safety prior to the start of the field visit. All team members must read, and comply with the SSHP, and attend the safety briefings. The Site Safety and Health Officer (SSHO) shall ensure the Safety Briefing Checklist and the SSHP acceptance form (Appendix C) is filled out prior to the start of the site visit.

A. SITE DESCRIPTION AND PREVIOUS INVESTIGATIONS

1. Site Description

a. Size Approximately 160 acres

b. Present Usage (check all that apply)

- | | | |
|---------------------------------------|---------------------------------------|---|
| <input type="checkbox"/> Military | <input type="checkbox"/> Recreational | <input checked="" type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Residential | <input type="checkbox"/> Commercial | <u>Open water</u> |
| <input type="checkbox"/> Natural Area | <input type="checkbox"/> Industrial | <u>wildlife conservation area</u> |
| <input type="checkbox"/> Agricultural | <input type="checkbox"/> Landfill | |

Secured Active Unknown Unsecured Inactive

2. Past Uses In early part of World War II, the U.S., acting through the Secretary of War, acquired an unspecified amount of submerged land for a Naval bomb target site in the Mill cove area of Doctors Lake. The Naval Air Advanced Training Command utilized the site for training operations associated with the Jackson Naval Air Station. There is no indication that the Navy constructed anything at this site other than a target. The site remained active until late 1945 or early 1946. Reports indicate the Navy discontinued the use of the site prior to June 1946

3. Surrounding Population (check all that apply)

- | | | |
|-------------------------------------|---|--|
| <input type="checkbox"/> Rural | <input checked="" type="checkbox"/> Residential | <input type="checkbox"/> Urban |
| <input type="checkbox"/> Commercial | <input type="checkbox"/> Industrial | <input type="checkbox"/> Other (specify) _____ |

4. Ordnance/Explosives (OE) Potential There are no known reports of ordnance being found in this area. According to a former employee at Jacksonville NAS, (during WWII), they did drop practice bombs (identified as Mk 23). There is a potential for individual bombs to remain buried in the mud at the bottom of the lake and buried in the surrounding wetlands. Being submerged for this many years, it highly unlikely that any hazards from the spotting charges remain.

B. DESCRIPTION OF ON-SITE ACTIVITIES (check all that apply)

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Walk-through | <input type="checkbox"/> Drive-through | <input type="checkbox"/> Other (specify) |
| <input type="checkbox"/> On-Path | <input type="checkbox"/> On-road | _____ |
| <input checked="" type="checkbox"/> Off-Path | <input type="checkbox"/> Off-road | |

C. SITE PERSONNEL AND RESPONSIBILITIES

1. Responsibilities

a. Project Manager The Corps of Engineers Project Manager (PM) is overall responsible for the site visit. He will assign a Team Leader, (most situations will be the PM). The PM will ensure that the SSHP is completed. Coordinates and executes the site visit.

b. Site Safety and Health Officer Individual designated to conduct safety, enforce the SSHP, conduct safety briefings, and ensure that the team leader can safely fulfill his objectives. The SSHO will maintain the safety gear, and monitor on-site operations. The SSHO is responsible for identifying, marking, and reporting any unexploded ordnance and explosives.

2. Team Members

| <u>NAME</u> | <u>POSITION</u> | <u>ADDRESS</u> | <u>PHONE</u> |
|--------------|-----------------|----------------------|----------------|
| Tom Freeman | PM/Team Leader | USACE, St. Louis, MO | (314) 331-8785 |
| Randy Fraser | SSHO/UXO Spec. | USACE, St. Louis, MO | (314) 331-8268 |

D. OVERALL HAZARD EVALUATION (check one)

High Moderate Low Unknown

This assessment was developed using the Site Investigation Hazard Analysis and Risk Assessment Code Matrix.

E. GENERAL PRECAUTIONS Prior to the on-site visit, all team members are required to read this SSHP and sign the form acknowledging that they have read and will comply with it. In addition, the SSHO shall hold a brief tailgate meeting in which site specific topics regarding the days activities will be discussed. If unanticipated hazardous conditions arise, team members are to stop work, leave the immediate area and notify the SSHO. The buddy system will be enforced at all times.

F. STANDARD OPERATION SAFETY PROCEDURES, ENGINEERING CONTROLS AND WORK PRACTICES

1. Site Rules/Prohibitions At any sign of unanticipated hazardous conditions, stop tasks, leave the immediate area and notify the SSHO. Smoking, eating and drinking allowed in designated areas only.

2. Material Handling Procedures Do not handle.

3. Drum Handling Procedures Do not handle.

4. Confined Space Entry An area identified as a Permit Required Confined space will not be entered. All confined spaces shall be considered permit required confined spaces until the pre-entry procedures demonstrate otherwise. Confined spaces may be entered without a written permit or attendant provided the space is determined not to be a permit required confined space as specified in 29 CFR 1910.146.

5. Electrical Protection Overhead power lines, downed electrical wires and buried cables pose a danger of shock and electrocution. In addition, buildings may contain exposed wiring that may hold a potential load. Workers should avoid contact with any and all exposed wire and cables

6. Spill Containment N/A

7. Excavation Safety Do not enter trenches/excavations.

8. Illumination Site visits will be conducted during daylight hours only.

9. Sanitation Use existing sanitary facilities.

10. Buddy System Individuals will maintain constant contact with other personnel at all times. No one will work alone at any time during the site visit.

11. Engineering Controls N/A

12. Insects Wearing light colored clothing and tucking in the pant legs can reduce contact. In severely infested area it may be necessary to tape all openings. Apply repellents to both clothing and bare skin. Diethyltoluamide (DEET) is an active ingredient in many repellents, which are effective against ticks and other insects. Repellents containing DEET can be applied on exposed areas of skin and clothing. However, repellents containing permethrin should be used on only clothing. For more information on insect bites, refer to APPENDIX B of this SSHP.

13. Poisonous Vegetation Recognition and avoidance is the best protection. Cover all exposed skin. If it is known or suspected that an individual has been exposed, wash the effected area with soapy water.

14. Inclement Weather When there are warnings or indications of impending severe weather (heavy rains, strong winds, lightning, tornadoes, etc.), weather conditions shall be monitored and appropriate precautions taken to protect personnel and property from the effects of the severe weather.

15. Hot Weather In hot environments, cool drinking water shall be made available and workers shall be encouraged to frequently drink small amounts, e.g., one cup every 15 - 20 minutes; the water shall be kept reasonably cool. In those situations where heat stress may impact worker safety and health, work regimens shall be established. For more information on Heat Stress refer to APPENDIX A of this SSHP.

16. Cold Weather Cold injury (frost bite and hypothermia) and impaired ability to work are dangers at low temperatures and when the wind-chill factor is low. To guard against them; wear appropriate clothing; have warm shelter readily available; carefully schedule work and rest periods, and monitor workers' physical conditions.

17. Off-Road Driving Ensure all emergency equipment is available with the vehicle, i.e., tire changing equipment. Drivers shall familiarize themselves with the procedures for engaging four-wheel drive systems before the need for added traction arises. Vehicles will not be driven into an environment that is unknown, such as deep water, or an unstable surface. Vehicles will not be driven into a suspected ordnance impact area.

18. Ordnance

a. General Information

(1) The cardinal principle to be observed involving explosives, ammunition, severe fire hazards or toxic materials is to limit the exposure to a minimum number of personnel, for the minimum amount of time, to a minimum amount of hazardous material consistent with a safe and efficient operation.

(2) The age or condition of an ordnance item does not decrease the effectiveness. Ordnance that has been exposed to the elements for extended periods of time become more sensitive to shock, movement, and friction, because the stability agent in the explosives may be degraded.

(3) When chemical agents may be present, further precautions are necessary. If the munitions item has green markings leave the area immediately, since it may contain a chemical filler.

(4) Consider ordnance that has been exposed to fire as extremely hazardous. Chemical and physical changes may have occurred to the contents which render it more sensitive than it was in its original state.

b. On-Site Instructions

- (1) DO NOT TOUCH or MOVE any ordnance items regardless of the markings or apparent condition.
- (2) DO NOT conduct a site visit during an electrical storm or an approaching electrical storm. If a storm approaches during the site visit leave the site immediately and seek shelter.
- (3) DO NOT use a radio or cellular phone in the vicinity of a suspect ordnance item.
- (4) DO NOT walk across an area where the ground cannot be seen.
- (5) DO NOT drive a vehicle into a suspected OE area; use clearly marked lanes.
- (6) DO NOT carry matches, cigarettes, lighters or other flame producing devices into an OE site.
- (7) DO NOT rely on color code for positive identification of ordnance items or their contents.
- (8) Approach ordnance items from the side; avoid approaching from the front or rear.
- (9) Always assume ordnance items contain a live charge until it can be determined otherwise.
- (10) Dead vegetation and animals may indicate potential chemical contamination. If a suspect area is encountered, personnel should leave the immediate area and evaluate the situation before continuing the site visit.

c. Specific Action Upon Locating Ordnance

- (1) DO NOT touch, move or jar any ordnance item, regardless of its apparent condition.
- (2) DO NOT be misled by markings on the ordnance item stating "practice", "dummy", or "inert". Practice munitions may contain an explosive charge used for spotting the point of impact. The item may also be mismarked.
- (3) DO NOT roll the item over or scrape the item to read the markings.

(4) The location of any ordnance items found during site investigations should be clearly marked so it can be easily located and avoided.

(5) Reporting will be conducted in accordance with CEMVS-ED-P, Standard Operating procedure for Reporting Ordnance and Unexploded Ordnance (UXO), dated 19 January 1995.

19. Other (specify) _____

G. SITE CONTROL AND COMMUNICATIONS

1. **Site Map** Maintained on site by the PM or Safety Officer.
2. **Site Work Zones** N/A
3. **Buddy System** Individuals will maintain constant contact with other personnel at all times. No one will work alone at any time during the site visit.

4. Communications

a. **On-Site** Verbal communications will be used among team members.

b. **Off-Site** Communications shall be established on every site. Communications may be established by using a cellular phone or by public or private phone which may be readily accessible. (specify below)

Cellular phone

Public/private phone (location) _____

Other _____

c. **Emergency Signals** In the case of small groups, a verbal signal for emergencies will suffice. An emergency signal for large groups (i.e. air horn, whistle) should be incorporated at the discretion of the SSHO. (specify below)

Verbal

Nonverbal (specify) _____

H. EMERGENCY RESPONSE Team members are to be alert to the dangers associated with the site at all times. If an unanticipated hazardous condition arises, stop work, evacuate the immediate area and notify the SSHO. A First Aid Kit and emergency eye wash (if applicable) will be located in the SSHO's field vehicle. If qualified persons (i.e. fire department, medical facility or physician) are not accessible within five minutes of the site at least two team members shall be qualified to administer first aid and CPR.

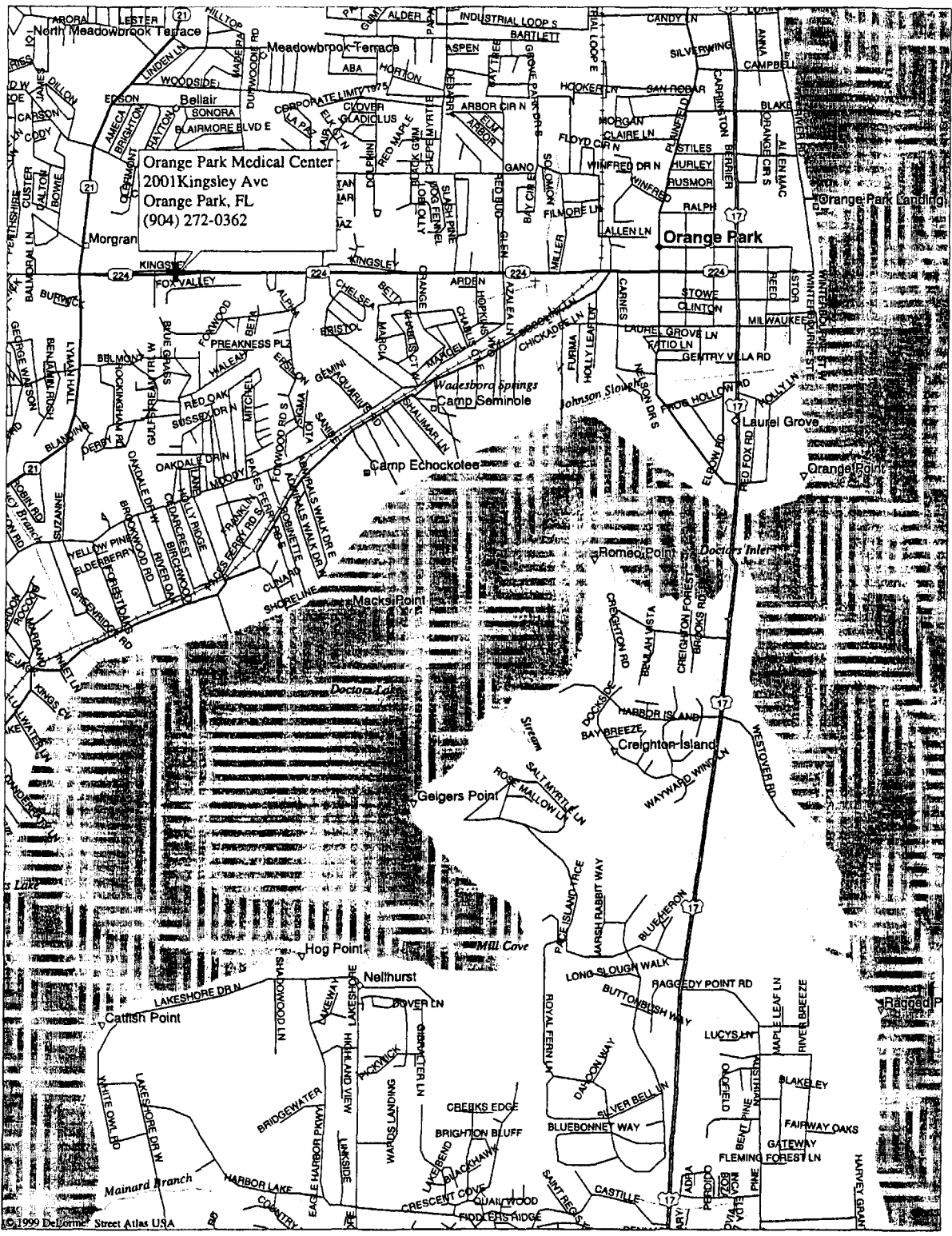
1. Emergency/Important Telephone Numbers

- Emergency..... 911
- Orange Park Police Department..... (904) 264-5555
- Orange Park Medical Center..... (904) 272-0362
- 184th Ord Bn (EOD)..... (404) 363-7126/8
- 38th Ord Co (EOD) (912) 767-8717/8
- Huntsville Safety Office..... (205) 895-1582/1579
- Huntsville Safety (after hours)..... (205) 895-1180
- On-site cellular phone..... (314) 606-4960
- St. Louis Corps of Engineers (314) 331-8036

2. Hospital/Medical Facility Information

Name: Orange Park Medical Center
Address: 2001 Kingsley Ave.
Orange Park, FL
Phone: (904) 272-0362

Route to Medical Facility: Refer to the Site Map on following pages



Orange Park Medical Center
2001 Kingsley Ave
Orange Park, FL
(904) 272-0362

Orange Park

Orange Park Landing

Orange Point

Doctors Island

Hog Point

Mill Cove

Cattish Point

Mainard Branch

I. MONITORING EQUIPMENT AND PROCEDURES

1. Exposure Monitoring For non-intrusive on-site activities such as site visits, air monitoring is typically not required. However, if the site situation dictates the need for monitoring, complete the following information on a separate page and attach the page to the SSHP.

a. Monitoring Equipment To Be Utilized N/A

b. Equipment Calibration Results N/A

c. Action Levels N/A

2. Heat/ Cold Stress Monitoring

a. Heat Stress monitoring criteria published in Chapter 8 of the NIOSH/OSHA/USCG/EPA "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities" shall be followed.

b. Cold Stress monitoring shall be conducted in accordance with the most current published American Conference of Governmental Industrial Hygienists (ACGIH) cold stress standard.

J. PERSONAL PROTECTIVE EQUIPMENT Typically, for non-intrusive site visits, Level D is required. If a higher level of protection is to be used initially or as contingency, a brief discussion will be attached. At a minimum personnel shall wear clothing suitable for the weather and work condition. The minimum for fieldwork shall be short sleeved shirt, long trousers, and leather or other protective work shoes or boots. If a higher level of protection is to be used initially or as contingency, a brief discussion will be attached.

1. Footwear Footwear providing protection against puncture shall meet the applicable requirements as stated in EM 385-1-1, paragraph 05.A.07. All activities which personnel are potentially exposed to foot hazards will be identified and documented in a hazard analysis.

2. Hand Protection Persons involved in activities which subject the hands to injury (e.g., cuts, abrasions, punctures, burns) shall use leather gloves.

3. Head Protection Hardhats shall be worn when personnel are subject to potential head injury. The identification and analysis of head hazards will be documented in a hazard analysis.

4. Eye Protection Personnel will wear eye protection when activities present potential injuries to the eyes. All eye protection equipment shall meet the requirements as stated in EM 385-1-1, paragraph 05.B.

K. DECONTAMINATION PROCEDURES Decontamination procedures are not anticipated for this site investigation. Team members are cautioned not to walk, kneel or sit on any surface with potential leaks, spills or contamination.

L. TRAINING All site personnel shall have completed the training required by EM 385-1-1 and 29 CFR 1910.120 (e). The U.S. Army Corps of Engineer (USACE) Project Manager shall ensure, and the SSHO shall verify, that all on-site personnel have completed appropriate training. Additionally, the SSHO shall inform personnel before entering, of any potential site-specific hazards and procedures.

M. MEDICAL SURVEILLANCE PROGRAM The USACE Project Manager shall ensure, and the SSHO shall verify, that all on-site personnel are on the Medical Surveillance Program meeting the requirements of 29 CFR 1910.120, and ANZI Z-88.2, as appropriate, depending on the PPE and site specific tasks.

| <u>NAME</u> | <u>HAZWOPER (ref)</u> | <u>PROVIDER</u> | <u>MEDICAL DATE</u> |
|-----------------------|-----------------------|------------------------|---------------------|
| <u>Thomas Freeman</u> | <u>05-00</u> | <u>Corps of Engrs.</u> | <u>03-99</u> |
| <u>Randy Fraser</u> | <u>10-00</u> | <u>Corps of Engrs.</u> | <u>07-00</u> |

N. LOGS, REPORTS AND RECORD KEEPING Site logs are maintained by the Project Manager and SSHO. This is to include historical data, personnel authorized to visit the site, all records, standard operating procedures, air monitoring logs and the SSHP.

O. GENERAL The number of personnel visiting the site shall be a limited to a minimum of two, maximum of eight. The more personnel on-site, greater the potential for an accident. The SSHO may modify this SSHP if site conditions warrant it and without risking the safety and health of the team members. This modification will be coordinated with the team members. The SSHO shall notify Corps of Engineers Safety Office in Huntsville, AL. of the change as the situation allows.

APPENDIX A

HEAT- RELATED INJURIES

Once the signals of a heat-related illness begin to appear, the victim's condition can quickly get worse. A heat related illness can result in death. If you see any of the signals of sudden illness, and the victim has been exposed to extremes of heat, suspect a heat-related illness.

People at risk for heat-related illness include those who work or exercise outdoors, elderly people, young children, and people with health problems. Also at risk are those who have had a heat-related illness in the past, those with medical conditions that cause poor blood circulation, and those who take medications to get rid of water from the body (diuretics).

People usually try to get out of extreme heat before they begin to feel ill. However, some people do not or can not. Those that work outdoors often keep working even after they begin to feel ill. Many times, they might not even recognize that they are in danger of becoming ill.

Heat-cramps, heat-exhaustion, and heat-stroke, are conditions caused by overexposure to heat. You can help prevent heat-stress emergencies by recognizing and properly treating symptoms. Below is a quick reference guide to heat-related emergencies:

HEAT CRAMPS Heat cramps are the least severe, and often are the first signals that the body is having trouble with the heat. *Symptoms* include: Muscle twitching; painful spasms in the legs, arms or abdomen.

WHAT TO DO:

- Have the individual rest in a cool place.
- Give cool water or a commercially available sports drink.
- lightly stretch the muscle and gently massage the area.

HEAT EXHAUSTION Heat exhaustion is a more severe condition than heat cramps. *Symptoms*: cool, moist, pale, or flushed skin, headache, nausea, dizziness, weakness, and exhaustion.

HEAT STROKE Heat stroke is the least common but most severe heat emergency. It most often occurs when people ignore the signals of heat exhaustion. Heat stroke develops when the body systems are overwhelmed by heat and begin to stop functioning. **Heat stroke is a serious medical emergency.** *Symptoms* include:

red, hot, dry skin; changes in consciousness; rapid, weak pulse; and rapid, shallow breathing.

WHAT TO DO: When you recognize a heat-related illness in its early stages, you can usually reverse it.

- Get the victim out of the heat.
 - Loosen any tight clothing and apply cool, wet cloths, such as towels or sheets.
 - If the victim is conscious, give cool water to drink. Do not let the conscious victim drink too quickly. Give about 1 glass (4 ounces) of water every 15 minutes.
 - Let the victim rest in a comfortable position, and watch carefully for changes in his or her condition. The victim should not resume normal activities the same day.
- **Refusing water, vomiting, and changes in consciousness mean that the victim's condition is getting worse. Call for an ambulance immediately if you have not already done so.**
- If the victim vomits, stop giving fluids and position them on their side.
 - Watch for signals of breathing problems.
 - Keep the victim lying down and continue to cool the body any way you can. If you have ice packs or cold packs, place them on each of the victim's wrists and ankles, on the groin, in each armpit, and on the neck to cool the large blood vessels.

APPENDIX B

BITES AND STINGS

Scorpions, Bees and Spiders

Bee stings are painful, but rarely fatal. Some people, however have a severe allergic reaction to an insect sting. This allergic reaction may result in a breathing emergency. If someone is stung by an insect, remove the stinger. Scrape it away with from the skin with your fingernail or plastic car, such as a credit card, or use tweezers. If you use the tweezers, grasp the stinger, not the venom sac. Wash the site with soap and water. Cover it to keep it clean. Apply a cold pack to the area to reduce the pain and swelling. Watch the victim for signals of an allergic reaction.

Scorpions live in dry regions of the southwestern United States and Mexico. They live under rocks, logs, and the bark of certain trees and are most active at night. Only a few species of scorpions have a sting that can cause death.

Spiders; there are also only two spiders in the United States whose bite can make you seriously sick or be fatal. These are the black widow spider and the brown recluse. The black widow is black with a reddish hourglass shape on the underside of its body. The brown recluse is light brown with a darker brown, violin-shaped marking on the top of its body. Both spiders prefer dark, out of the way places. Often, the victim will not know that he or she has been bitten until he or she starts to feel ill or notices a bite mark or swelling.

Symptoms: include nausea and vomiting, difficulty breathing or swallowing, sweating and salivating much more than normal, severe pain in the sting or bite area, a mark indicating a possible bite or sting, and swelling of the area.

First Aid: if someone has been stung by a scorpion or bitten by a spider he or she thinks is a black widow or brown recluse, wash the wound, apply a cold pack to the site, and get medical help immediately.

Lyme Disease

Lyme Disease is an illness that people get from the bite of an infected tick. Lyme disease is affecting a growing number of people in the United States. Everyone should take precautions against it. Not all ticks carry Lyme disease. Lyme disease is spread mainly by a type of tick that commonly attaches itself to field mice and deer. It is sometimes called a deer tick. This tick is found around beaches and in wooded and grassy areas. Like all ticks, it attaches itself to any warm-blooded animal that brushes by. Deer ticks are very tiny and difficult to see. They are

much smaller than the common dog tick or wood tick. They can be as small as a poppy seed or the head of a pin. Adult deer ticks are only as large as a grape seed.

Symptoms: The first signal of infection may appear a few days or a few weeks after a tick bite. Typically, a rash starts as a small red area at the site of the bite. It may spread up to 7 inches across. In fair-skinned people the center is lighter in color and the outer edges are red and raised. This sometimes gives the rash a bull's-eye appearance. In dark skinned people the area may look black and blue, like a bruise.

Other symptoms include fever, headache, weakness, and joint and muscle pain similar to the pain of "flu". These symptoms might develop slowly and might not occur at the same time as a rash. In fact you can have Lyme disease without developing a rash.

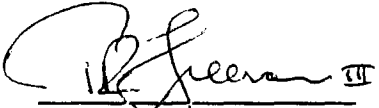
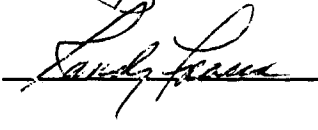
First Aid: If you find a tick, remove it by pulling steadily and firmly. Grasp the tick with fine-tipped tweezers, as close to the skin as possible, and pull slowly. If you do not have tweezers, use glove, plastic wrap, or a piece of paper to protect you finger. If you use your bare fingers, wash your hands immediately. Do not try to burn a tick or use other home remedies, like coating the tick with Vaseline or nail polish or picking it with a pin. Once the tick is removed, wash the area with soap and water. If available, apply antiseptic or antibiotic ointment. If you can not remove the tick or parts of the tick stay in your skin, obtain medical care. If a rash or flu like symptoms develop, seek medical attention.

APPENDIX C

SSHP ACCEPTANCE FORM

ABBREVIATED SITE SAFETY AND HEALTH PLAN

I have read and agree to abide by the contents of the Site Safety and Health Plan.

| <u>NAME</u> | <u>OFFICE</u> | <u>SIGNATURE</u> | <u>DATE</u> |
|-----------------------|-------------------|---|----------------|
| <u>Thomas Freeman</u> | <u>CEMVS-ED-P</u> |  | <u>5/16/01</u> |
| <u>Randy Fraser</u> | <u>CEMVS-ED-P</u> |  | <u>5/16/01</u> |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |

SITE SURVEY SAFETY BRIEFING

(Check subjects discussed)Date

5/21/01

SITE SPECIFIC INFORMATION

- Purpose of Visit
- Identify Key Site Personnel
- Site Description/Past Use
- Results of Previous studies
- Potential Site Hazards
- OE Safety Procedures
- Site SOP
- Site Control and Communications
- Emergency Response
 - Location of First aid Kit
 - Emergency Phone Numbers
 - Map to Facility
- PPE
- Weather Precautions
 - Cold/Heat
 - Severe Weather

Safety Briefing Attendance

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

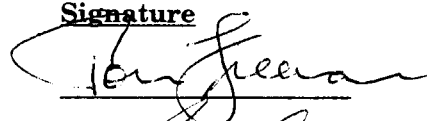
Name (Print)

Organization

Signature

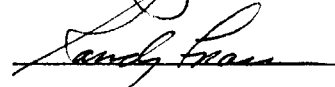
Thomas Freeman

CEMVS-ED-P



Randy Fraser

CEMVS-ED-P



APPENDIX L-2

Site Inspection Report

TRIP REPORT for 21 May 2001

SUBJECT: Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS), Site Inspections for Mill Cove Bombing Target (I04FL037701)

Personnel from the St. Louis District, Corps of Engineers, listed below, traveled to the Jacksonville, Florida area to inspect the subject site as part of the DERP-FUDS archives search report process.

Tom Freeman, Project Manager
Randy Fraser, Site Safety Specialist

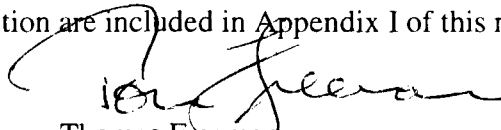
The plan was to gain access to the shoreline via the residential area east of the site. On arrival the team discovered that the subdivision was in fact a secured community with controlled access. At the entrance the team was introduced to the Director of the Security Committee, Mr. Lee Southwell who agreed to escort them through the area.

6.1.1 Site Inspection

After the appropriate site safety briefing, the team joined Mr. Southwell as he drove through the subdivision. It immediately became apparent that there was no public access to the lake from this side of the cove. All along the waterfront, nearest the target are privately owned lots with established homes and docks. The team proceeded along the entire length of the cove, however nowhere was the team allowed access to the waterfront. During the drive, Mr. Southwell made mention to the fact that he was unaware of any residents ever finding ammunition or other evidence from the former bomb target.

The eastern entrance to the cove consisted of dense marshland, which denied access by foot. The team was able to reach the waterfront utilizing a public landing on the southern shore. Again, the team was restricted from a thorough investigation due to the numerous private residences along the cove. Boat docks line the eastern and western shore. The shoreline immediately to the south of the target is marshland and inaccessible.

Photographs taken during the site inspection are included in Appendix I of this report.



Thomas Freeman
Project Manager

Randy Fraser
Site Safety Specialist

APPENDIX M

FINALIZATION DOCUMENTS

DISCLAIMER

As of the date of re-finalization of **Project Number I04FL037701-Mill Cove Bombing Site**, the U.S. Army Engineering and Support Center, Huntsville's (USAESCH) Technical Advisory Group (TAG) Risk Assessment Code (RAC) has not been located in the USAESCH files or in the U.S. Army Engineer District, St. Louis's files.

For the purpose of re-finalization, the original ASR RAC, dated 18 June 2001, prepared by Thomas Freeman and Randy Fraser, CEMVS-EC-P, will be used. The RAC score of "4" has remained the same between the ASR RAC and the TAG RAC, as listed on page 1 of the Project Fact Sheet, dated 6 June 2002. The Design Review Comments/Form 7, dated 10 April 2002 states "Concur with ASR and HNC Safety for RAC 4, but think NDAI should be considered."



DEPARTMENT OF THE ARMY
HUNTSVILLE CENTER, CORPS OF ENGINEERS
P.O. BOX 1600
HUNTSVILLE, ALABAMA 35807-4301

REPLY TO
ATTENTION OF:

CEHNC-OE-CX (200-1C)

19 August 2002

MEMORANDUM FOR Commander, U.S. Army Engineer District, Saint Louis
(CEMVS-PM-M/Mr. Mike Dace), 1222 Spruce Street, Saint Louis, MO 63103-2833

SUBJECT: Results of the Technical Advisory Group (TAG) Review of Archives Search
Reports (ASR) and Fact Sheets for Defense Environmental Restoration Program-Formerly Used
Defense Sites (DERP-FUDS)

1. The following ASRs and Fact Sheets have been finalized:

PROJECT NUMBER:

SITE NAME:

| | |
|--------------------|---|
| C03VA009800 | Oyster Point Backup Ammunition Storage Depot |
| J09AZ002301 | Kingman Army Airfield |
| J09AZ034501 | Douglas Army Airfield |
| J09AZ073601 | Yucca Air to Air Gunnery Range |
| J09AZ041001 | Kingman Air to Air Gunnery Range |
| J09CA017101 | Holtville Target (BT) No. 3 |
| J09AZ071501 | Williams Field Bomb Target Range #14 |
| J09CA055701 | Point Sal Air to Ground Gunnery Range |
| B07KS022101 | Great Bend Precision Bombing Range No. 3 |
| B07KS022001 | Great Bend Precision Bombing Range No. 2 |
| B07KS021901 | Great Bend Precision Bombing Range No. 1 |
| B07KS021801 | Great Bend Air-to-Ground Gunnery Range |
| B07KS021702 | Great Bend Army Air Field |
| C02NJ094501 | Tuckahoe Rocket Range |
| K06NM039601 | Deming Army Air Field, PBR No. 12 |
| G05IN008506 | Vigo Plant Chemical Warfare Vigo Ordnance Plant |
| I04FL089901 | 26-Mile Bend Bomb Target |
| C03MD036303 | Fort Washington Military Reservation |
| C02NY064503 | Mitchel Field |
| A04MS016901 | Smith County Bombing and Gunnery Range |
| F10OR002903 | Camp Adair |
| K06TX014401 | Pyote Army Airfield Target Range No. 1 |
| F10AK029102 | Kodiak Naval Station, Burma Road |
| I04AL325503 | Camp Sheridan Artillery Range |
| I04FL033701 | Mill Cove Bombing Site |

SUBJECT: Results of the Technical Advisory Group (TAG) Review of Archives Search Reports (ASR) and Fact Sheets for Defense Environmental Restoration Program-Formerly Used Defense Sites (DERP-FUDS)

| <u>PROJECT NUMBER:</u> | <u>SITE NAME:</u> |
|------------------------|--|
| K06NM034901 | Carlsbad Practice Bombing Range No. 4 |
| K06NM034801 | Carlsbad Practice Bombing Range No. 3 |
| K06NM034701 | Carlsbad Practice Bombing Range No. 2 |
| K06NM061101 | Kirtland PBR No. 2 (N-5) |
| K06OK011001 | Great Salt Plains Bombing Range |
| E05WI088301 | Edithton Beach Anti-Aircraft Artillery (AAA) Training Center |
| J09CA018201 | Salton Sea Bombing Target #52 |
| J09CA018801 | Salton Sea Bombing Target #58 |
| K06NM050601 | WAFB Roswell PBR #1 |
| K06NM052801 | WAFB Roswell PBR #34 |
| K06NM052501 | WAFB Roswell PBR #28 |
| K06NM052201 | WAFB Roswell PBR #22 |
| K06OK001301 | Cherokee National Wildlife Area (Camp Gruber Military Reservation) |
| I04FL112901 | Lake Wilmington Bomb (Blue Cypress Lake) Target |
| I04FL040101 | Passage Key Air-to-Ground Gunnery Range |
| J09CA706208 | Hamilton Army Airfield |
| J09AZ045901 | Luke Air Force Auxiliary Field No. 3 |
| J09CA730701 | Condor Field No. 4 |
| E05WI506903 | Camp Haven AAA Firing Range |
| I04FL034002 | Bartow Municipal Airport |
| K06TX020701 | McGee Bend Precision Bombing Range |
| K06TX101702 | Jefferson County Airport |
| K06AR005001 | Maumelle Ordnance Works |
| K06TX002709 | Webb Air Force Base |
| K06TX012802 | Stinson Field |

2. Recommended strategy for future actions to be taken by the Project Manager is included in the enclosed fact sheets. Supporting data for TAG decisions are also included with the fact sheets.

3. Fact sheets, supporting data and corrected pages, due to prior reviews, are to be distributed with the subject ASRs.

4. Subject ASRs are recommended to be final when enclosed fact sheets, supporting data and corrected pages are included as a part of the project package.

CEHNC-OE-CX (200-1C)

19 August 2002

SUBJECT: Results of the Technical Advisory Group (TAG) Review of Archives Search Reports (ASR) and Fact Sheets for Defense Environmental Restoration Program-Formerly Used Defense Sites (DERP-FUDS)

5. If you have any questions concerning this action, please call me at 256-895-1797, DSN 760-1797, or facsimile 256-895-1798.

FOR THE DIRECTOR OF ORDNANCE AND EXPLOSIVES DIRECTORATE:



DANNY R. MARDIS

Archive Search Report Manager
for Ordnance and Explosives Directorate

50 Encls
as

**RESTORATION INFORMATION MANAGEMENT SYSTEM
FORMERLY USED DEFENSE SITES (FUDS)
PROJECT FACT SHEET
21 June 2001
TAG REVIEW DATE: 6 JUNE 2002**

1. **SITE NAME:** Mill Cove Bombing Site

SITE NUMBER: I04FL033700

LOCATION:

City: Orange Park
County: Clay
State: Florida

PROJECT NUMBER: I04FL033701

CATEGORY: OE

INPR RAC: 3

ASR RAC: 4

TAG RAC: 4

2. **POC'S:**

GEOGRAPHIC DISTRICT:

Name: Robert
Bridgers
Office: CESAJ-DP-S
Phone: 904-232-3085

GEOGRAPHIC DIVISION:

Name: Sharon Taylor
Office: CESAD-PM-M
Phone: 404-562-5212

HEADQUARTERS:

Name: Dale Moeller
Office: CEMP-RF
Phone: 202-761-4694

ASR/INPR TEAM:

Name: Richard L. Pike
Office: CEHNC-OE-CX
Phone: 256-895-1559

ASR SUPPORT DISTRICT:

Name: Tom Freeman
Office: CEMVS-ED-P
Phone: 314-331-8788

ASR TECHNICAL REVIEWER:

Name: Michael Patterson
Office: SOSAC-ESL
Phone: 918-420-8763

3. **SITE DESCRIPTION:**

a. The Mill Cove Bombing Site is located in the southern portion of Doctor's Lake on the northern portion of Fleming Island, south of the City of Orange Park, in Section 29, Township 4 South, Range 26 east, Clay County, Florida. The site was also known as Doctor's Bomb Target. Nothing remains of the target.

b. Prior to use by the Navy, the site was open water utilized by the general public. The land surrounding this inlet was undeveloped.

c. Today, the State of Florida owns the water portion of Mill Cove in Doctors Lake with the land portion controlled by the Pace Enterprises. This land is part of the Pace Island Development that consists of homes, recreation areas and a wildlife conservation area.

4. **SITE HISTORY:**

a. In April 1941 the United States Secretary of War acquired 160 acres of submerged land in Doctors Lake that was known as the Mill Cove Bombing Site.

b. The Navy utilized this site for practice strafing and bombing operations associated with Jacksonville Naval Air Station. The target was composed of a pyramid shaped raft of palmetto logs, painted yellow. Caliber .50 ammunition was used in strafing runs. Practice bombs included the Mk 23 Miniature Practice Bomb and the Mk 15, 100-pound Practice Bomb (water-filled).

c. The dropping of practice bombs continued until either late 1945 or early 1946.

5. **PROJECT DESCRIPTION:**

| | |
|-------------------|---|
| Size: | 160 acres |
| Former Use: | Bomb Target |
| Present Use: | Fishing, Water Skiing |
| Possible End Use: | Same |
| OE Presence: | Potential |
| Type: | Mk 15 100-lb practice bomb: AN-Mk5, AN-Mk 23 and AN-Mk 43 practice bombs; Mk 6, Mk 7, AN-Mk 4 and An-Mk 5 Spotting charge for practice bombs |

6. **CURRENT STATUS:** The Archives Search Report (ASR) for the Mill Cove Bombing Site was completed by the U.S. Army Corps of Engineers, St. Louis District, in June 2001.

7. **STATEGY:** EE/CA

8. **ISSUES AND CONCERNS:**

a. The Huntsville Center Technical Advisory Group met and evaluated this ASR on 6 June 2002 and the consensus was RAC 4, EE/CA.

b. Based on the investigation of historical records reviewed, the results of the site survey and interviews, there is no evidence of CWM being stored or used at this FUDS.

c. There are known Federally-and State-listed species occurring in the site area. An on-site inspection by the appropriate federal and state personnel may be necessary to verify the presence, absence or location of listed species, or natural communities.

9. **SCHEDULE SUMMARY:**

| <u>Phase</u> | <u>Original Start</u> | <u>Scheduled Start</u> | <u>Actual Start</u> | <u>Original Complete</u> | <u>Scheduled Complete</u> | <u>Actual Complete</u> |
|--------------|-----------------------|------------------------|---------------------|--------------------------|---------------------------|------------------------|
| EE/CA | | | | | | |

RISK ASSESSMENT PROCEDURE FOR
 ORDNANCE AND EXPLOSIVE (OE) SITE

Site Name: **Mill Cove Bombing Site** Rater's Name: Freeman/Fraser
 Site Location: Clay County, Florida Phone No.: (314) 331-8785/8268
 DERP Project # **I04FL037701** Organization: CEMVS-ED-P
 Date Completed: 18 June 2001 Score: **4**

OE RISK ASSESSMENT:

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

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

TYPE OF ORDNANCE: (Circle all that apply)

| A. Conventional Ordnance and Ammunition: | VALUE |
|---|----------|
| Medium/Large Caliber (20mm and larger) | 10 |
| Bombs, Explosive | 10 |
| Grenades, Hand or Rifle, Explosive | 10 |
| Landmine, Explosive | 10 |
| Rockets, Guided Missile, Explosive | 10 |
| Detonators, Blasting Caps, Fuzes, Boosters, Burstors | 6 |
| Bombs, Practice (w/spotting charges) | 6 |
| Grenades, Practice (w/spotting charges) | 4 |
| Landmine, Practice (w/spotting charges) | 4 |
| Small Arms, Complete Round (.22 cal - .50 cal) | 1 |
| Small Arms, Expended | 0 |
| Practice ordnance (w/o spotting charges) | 0 |
| Conventional Ordnance and Ammunition (Largest single value) | <u>6</u> |

What evidence do you have regarding conventional unexploded ordnance?
Reported to being used during World War II training by Jacksonville Naval Air Station

| | |
|--|----------|
| B. Pyrotechnics (for munitions not described above): | VALUE |
| Munitions (Containers) containing White Phosphorus (WP) or other Pyrophoric Material (i.e., Spontaneously Flammable) | 10 |
| Munitions containing a flame or incendiary material (i.e., Napalm, Triethylaluminum Metal Incendiaries) | 6 |
| Flares, Signals, Simulators, Screening Smokes (other than WP) | 4 |
| Pyrotechnics (Select the largest single value) | <u>0</u> |
| What evidence do you have regarding pyrotechnics? None | |

| | |
|---|----------|
| C. Bulk High Explosives (Not an integral part of conventional ordnance; uncontainerized): | VALUE |
| Primary or initiating explosives (Lead Styphnate, Lead Azide, Mercury Fulminate, Tetracene, etc.) | 10 |
| Demolition Charges | 10 |
| Secondary Explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.) | 8 |
| Military Dynamite | 6 |
| Less Sensitive Explosives (Ammonium Nitrate, Explosive D, etc.) | 3 |
| High Explosives (Select the largest single value) | <u>0</u> |
| What evidence do you have regarding bulk explosives? None | |

| | |
|--|----------|
| D. Bulk Propellants (Not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized): | VALUE |
| Solid or Liquid Propellants | 6 |
| Propellants | <u>0</u> |
| What evidence do you have regarding bulk propellants? None | |

| | | |
|----|--|----------|
| E. | Chemical Warfare Materiel (CWM) and Radiological Weapons: | VALUE |
| | Toxic Chemical Agents (Choking, Nerve, Blood, Blister) | 25 |
| | War Gas Identification Sets | 20 |
| | Radiological | 15 |
| | Riot Control Agents (Vomiting, Tear) | 5 |
| | Chemical and Radiological (Select the largest single value) | <u>0</u> |
| | What evidence do you have regarding chemical/radiological OEW? None | |

=====

TOTAL HAZARD SEVERITY VALUE
 (Sum of the Values for A through E--Maximum of 61) 6
 Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1
HAZARD SEVERITY*

| <u>DESCRIPTION</u> | <u>CATEGORY</u> | <u>HAZARD SEVERITY VALUE</u> |
|--------------------|-----------------|------------------------------|
| CATASTROPHIC | I | 21 and/or greater |
| CRITICAL | II | 10 to 20 |
| MARGINAL | III | 5 to 9 |
| NEGLIGIBLE | IV | 1 to 4 |
| **NONE | | 0 |

* APPLY HAZARD SEVERITY CATEGORY TO TABLE 3.
 ** IF HAZARD SEVERITY IS 0, YOU DO NOT NEED TO COMPLETE PART II OF THIS FORM. PROCEED TO PART III AND USE A RAC SCORE OF 5 TO DETERMINE YOUR APPROPRIATE ACTION.

PART II. Hazard Probability. The probability that a hazard has been or will be created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used Department of Defense (DoD) site.

AREA, EXTENT, ACCESSIBILITY OF OEW HAZARD
(Circle all that apply)

| A. Location of OEW Hazards: | VALUE |
|---|----------|
| On the surface | 5 |
| Within tanks, pipes, vessels or other confined areas | 4 |
| Inside walls, ceilings, or other building/structure | 3 |
| Subsurface | 2 |
| Location (Select the single largest value) | <u>2</u> |

What evidence do you have regarding location of OE? **Target was constructed in the middle of the cove, completely surrounded by water. No evidence was found to indicate munitions being found on or near the shoreline.**

| B. Distance to nearest inhabited location/structure likely to be at risk from OE hazard (road, park, playground, building, etc.): | VALUE |
|--|----------|
| Less than 1250 feet | 5 |
| 1250 feet to 0.5 miles | 4 |
| 0.5 miles to 1.0 miles | 3 |
| 1.0 mile to 2.0 miles | 2 |
| Over 2 miles | 1 |
| Distance (Select the single largest value) | <u>5</u> |

What are the nearest inhabited structures/buildings? **Private residences line the northeast and southwestern shoreline.**

C. Number of buildings within a 2-mile radius measured from the OE hazard area, not the installation boundary:

VALUE

| | |
|---|----------|
| 26 and over | 5 |
| 16 to 25 | 4 |
| 11 to 15 | 3 |
| 6 to 10 | 2 |
| 1 to 5 | 1 |
| 0 | 0 |
| Number of Buildings (Select the single largest value) | <u>5</u> |

Narrative. **A residential area borders both the north and south shorelines.**

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

VALUE

| | |
|---|----------|
| Educational, Child Care, Residential, Hospitals, Hotels, Commercial, Shopping Centers | 5 |
| Industrial, Warehouse, etc. | 4 |
| Agricultural, Forestry, etc. | 3 |
| Detention, Correctional | 2 |
| No Buildings | 0 |
| Types of Buildings (Select the largest single value) | <u>5</u> |

Describe the types of buildings. **A residential area borders both the north and south shorelines.**

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

| BARRIER | VALUE |
|---|----------|
| No barrier or security system | 5 |
| Barrier is incomplete (e.g. in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing. | 4 |
| A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site. | 3 |
| Security guard, but no barrier | 2 |
| Isolated site | 1 |
| A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry; or an artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the area; and a means to control entry, at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the facility). | 0 |
| Accessibility (Select the single largest value) | <u>3</u> |
| Describe the site accessibility. <u>The target was located near the center of the cove and since been removed. The site is approximately 900 feet from the nearest shoreline. It is assumed that the water would constitute a barrier.</u> | |

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

| | VALUE |
|---|----------|
| Expected | 5 |
| None Anticipated | 0 |
| Site Dynamics (Select value) | <u>0</u> |
| Describe the site dynamics. <u>None expected</u> | |

TOTAL HAZARD PROBABILITY VALUE

(Sum of Largest Values for A through F--Maximum of 30)
Apply this value to Hazard Probability Table 2 to determine
Hazard Probability Level.

20

TABLE 2
HAZARD PROBABILITY*

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

* Apply Hazard Probability Level to Table 3.

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

TABLE 3

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

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by USAESCH - Immediately call USAESCH-OE-S--commercial (256) 895-1582/1598.
- RAC 2 High priority on completion of INPR - Recommend further action by USAESCH.
- RAC 3 Complete INPR - Recommend further action by USAESCH.
- RAC 4 Complete INPR - Recommend further action by USAESCH.
- RAC 5 Usually indicates that No DoD Action Indicated (NDAI) is necessary. Submit NDAI and RAC to USAESCH.

=====

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

The RAC Score of 4 reflects on the targets close proximity to the surrounding residential areas. The shoreline seems to be the greatest potential for recovery of any munitions. However, the research team found no record of ordnance being recovered by local residents. The undisturbed land to the east of the target would be another potential area for munitions. But, this land is marshland and access is hindered by the natural conditions.

After being submerged for more than 55 years in the waters of Mill Cove it would be highly unlikely that any practice bomb recovered would contain any hazardous materials.

I04FL037701

DESIGN REVIEW COMMENTS

PROJECT DERP FUDS Mill Cove Bombing Site

X ASR/INPR TEAM

REVIEW ASR TAG OE

DATE 10 April 2002

NAME Mike Patterson (918) 420-8763

| ITEM | DRAWING NO. OR REFERENCE | COMMENT | ACTION |
|------|--|--|--|
| 1. | General | Concur with ASR and HNC Safety for RAC 4, but think NDAI should be considered. The spotting signal used in the Mk5, Mk23 and Mk43 was a blank 10 gauge shotgun shell with black powder, or an inert signal with dye. If Mk15 100-lb practice bombs were dropped, the spotting charge was 3-lbs of black powder. It seems unlikely that either the shotgun shell or the black powder canister would long survive in the water or marsh. No practice bombs have ever been found although there has been extensive building of piers and residences along the shoreline. | 1. Comments noted. Comment noted. |
| 2. | Findings, m para 4.1.1 & 4.1.2 C & R para. 2.2.1 & 2.2.2 | Paragraph 4.1.1 gives brief summary of Mill Cove and states "No other information was discovered concerning activities or training conducted at Mill Cove by the military". Then, paragraph 4.1.2 proceeds to describe how the target was made and what types of munitions were used. These two paragraph contradict each other. Same comment as for findings above | 2. Para 4.1.1, para 2, "No other information was discovered concerning activities or training conducted at Mill Cove by the military." has been removed. Per the disclaimer placed before the Table of Contents, the C&R volume is not available for public release, the corrections to the C&R volume will not be completed. Thomas R. Freeman/CEMVS-EC-P 314-331-8785 |

DESIGN REVIEW COMMENTS

PROJECT Mill Cove Bombing Site, Clay Co, FL

- | | | | |
|---|--|---|--------------------------------------|
| <input type="checkbox"/> SITE DEV & GEO | <input type="checkbox"/> MECHANICAL | <input checked="" type="checkbox"/> OE SAFETY | <input type="checkbox"/> SYSTEMS ENG |
| <input type="checkbox"/> ENVIR PROT& UTIL | <input type="checkbox"/> MFG TECHNOLOGY | <input type="checkbox"/> ADV TECH | <input type="checkbox"/> VALUE ENG |
| <input type="checkbox"/> ARCHITECTURAL | <input type="checkbox"/> ELECTRICAL | <input type="checkbox"/> ESTIMATING | <input type="checkbox"/> OTHER |
| <input type="checkbox"/> STRUCTURAL | <input type="checkbox"/> INST & CONTROLS | <input type="checkbox"/> SPECIFICATIONS | |

REVIEW ASR

DATE 8/16/01

NAME Greg Parsons (256) 895-1589

| ITEM | DRAWING NO. OR REFERENCE | COMMENT | ACTION |
|--------------------------|--------------------------|---|---|
| 1. 2. 3. 4. | General | <p>A review of this ASR reveled the probable existence of 100lb practice bombs on the bottom of the cove floor. It also indicates there are probable UXO/practice bombs in the marsh areas at the West end of the cove. I concur with the findings and recommendations of this ASR. The site is assigned a RAC of 4.</p> <p>ACTION CODES W - WITHDRAWN A - ACCEPTED/CONCUR N - NON-CONCUR D - ACTION DEFERRED VE - VE POTENTIAL/VEP ATTACHED</p> | <p>1. Comment noted.</p> <p>Thomas R. Freeman CEMVS-EC-P 314-331-8785</p> |



**US Army Corps
of Engineers**

HUNTSVILLE ENGINEERING
AND SUPPORT CENTER

DRAFT

Defense Environmental Restoration Program
for
Formerly Used Defense Sites

Ordnance and Explosives

ARCHIVES SEARCH REPORT

FINDINGS

MILL COVE BOMBING SITE

CLAY COUNTY, FLORIDA

PROJECT No. I04FL037701

JUNE 2001

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

200.1e

I04FL037701_01.02_0002

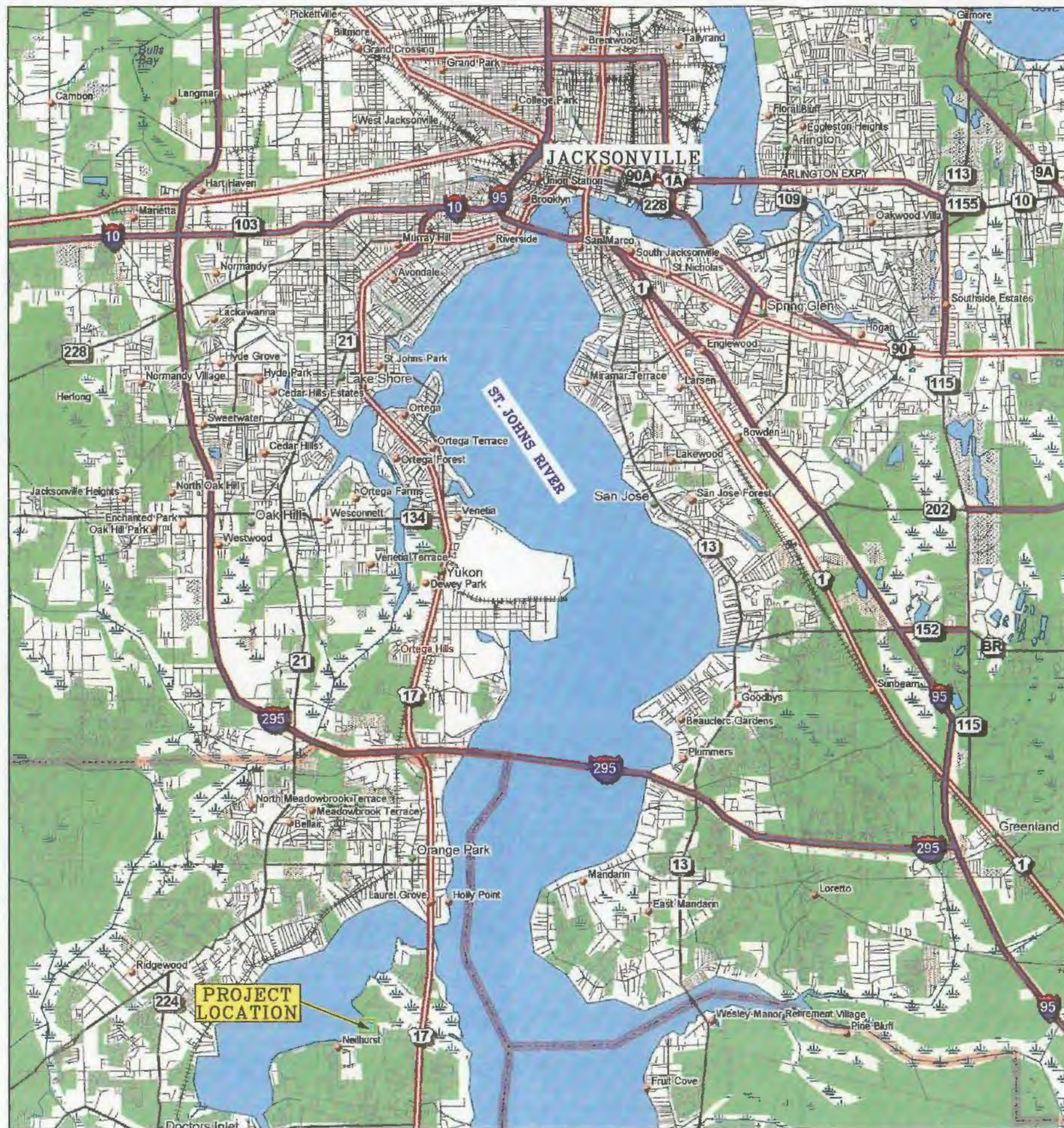


APPENDIX N :
REPORT DISTRIBUTION LIST

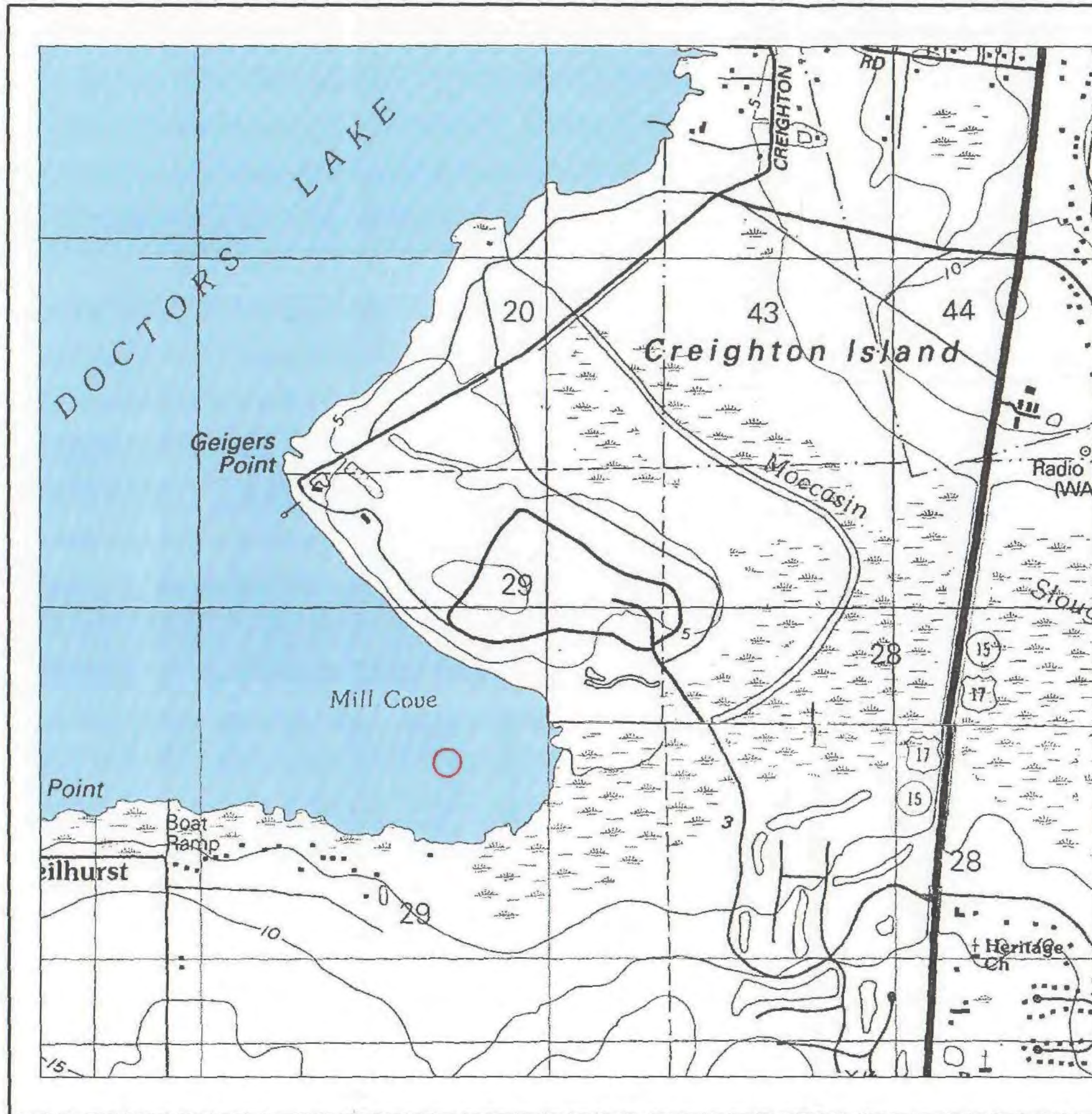
APPENDIX N - REPORT DISTRIBUTION LIST

| Addressee | No. of Copies |
|---|----------------------|
| Commander, U.S. Army Engineering and Support Center Huntsville, ATTN: CEHNC-ED-SY P.O. Box 1600 Huntsville, Alabama 35807-4301 | 2 |
| Project Manager, Chemical Demilitarization, Non-Stockpile ATTN: SFAE-CD-N, Bldg.E4585 Aberdeen Proving Ground, Maryland 21010-5401 | 1 |
| Commander, U.S. Army Chemical & Biological Defense Command ATTN: AMSCB-CIH, Bldg. E5183 Aberdeen Proving Ground, Maryland 21010-5423 | 1 |
| Defense Ammunition Center ATTN: DAC/SIOAC-ESM 1C Tree Road, Bldg. 35 Library Bldg. McAlester, OK 74501 | 1 |
| Commander, U.S. Army Engineer District, Jacksonville ATTN: CESAJ-DP-I (R. Bridgers) 400 West Bay Street Jacksonville, Florida 32232-0019 | 3 |

REPORT PLATES

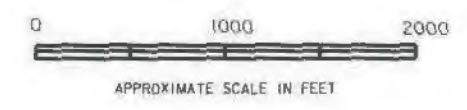



| | | |
|---|---|--------------------|
|  | U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT | |
| | MILL COVE BOMBING SITE ORANGE PARK, FLORIDA CLAY COUNTY DERP-FUDS • I04FL033701 VICINITY MAP | |
| PROJ. DATE: APR. 2001 19-JUN-2001 16:09 | DATE OF MAP: 2001 I:\proj\toev2001\for\lor\TMI7mill_cove\mivc.dcn | PLATE NO. 1 |



LEGEND

- SITE LOCATION
- BOMBING TARGET





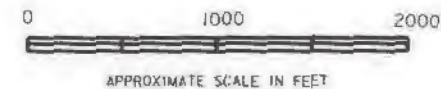
| | | |
|---|--|--------------------|
|  | U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT | |
| MILL COVE BOMBING SITE ORANGE PARK, FLORIDA CLAY COUNTY DERP-FUDS * I04FL033701 SITE MAP | | |
| PROJ. DATE: APR. 2001 15-JUN-2001 13:39 | DATE OF QUAD: VARIOUS t:\oew\oew2001\flor\dat\TM17mill_cove\MillCove.dg | PLATE NO. 2 |

13



LEGEND

-  SITE LOCATION
-  BOMBING TARGET



| | | |
|---|--|-------------|
|  | U.S. ARMY CORPS OF ENGINEERS ST. LOUIS DISTRICT | |
| MILL COVE BOMBING SITE ORANGE PARK, FLORIDA CLAY COUNTY DERP-FUDS * I04FL033701 1943 AERIAL PHOTO | | |
| PRINT DATE: APR. 2001 | DATE OF PHOTO: 1943 | PLATE NO. 3 |
| 05-JUN-2001 13:40 | f:\dow\paw2001\florida\UTM\7mill_cove\43TARGET.D | |